THE

# British Bee Journal

## AND BEE-KEEPERS' ADVISER.

EDITED BY

THOMAS WM. COWAN, F.G.S., F.L.S., F.R.M.S., &c.

AND

J. HERROD-HEMPSALL, F.E.S.

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## FOREWORD.

The year 1917, with its troubles and trials, has passed away, and we hope all our readers, old and new, will have a prosperous season in the coming year. In our first issue, last year, we expressed a hope that before 1917 was left behind the war would be over. Unfortunately, those hopes have not been realised, but we still hope on, as is the bee-keeper's habit, and trust that this year will see the angel of peace once more smiling over this war-weary world.

Owing to various circumstances, bee-keeping has secured an impetus during the past year such as it has never had before, and both bees and honey have realised prices that were undreamt of a few years ago. There is every probability that these prices will be maintained this year, and if the weather is at all favourable, those who are so fortunate as to possess bees will reap a rich harvest.

The "Isle of Wight" disease is still claiming a number of victims; but, on the whole, we think it is now waning. It may be that bees are better able to withstand its attacks, or that the more effective bactericides science has placed at the service of bee-keepers have checked the disease—or possibly, we might even say probably — both factors have helped. Taking things all round, the future of bee-keeping has taken on a more roseate hue than it has possessed of late years.

There may be some difficulty in obtaining hives and other appliances. Those who are wise have already placed orders for what they may require, or will do so at once.

Every year a few of the "old standards" drop off, and during the one just passed we have lost Mons. Ed. Bertrand, the noted Swiss bee-keeper, and in our country Mr. E. D. Till, of Eynsford.

We again heartily thank our readers for the splendid support they have given us during the past year, and for their appreciation of our efforts to give practical help and advice. We are pleased to say that our circulation has improved considerably during the year, and we trust that, although we have at last been compelled to raise the price of the JOURNAL, the circulation may be maintained, and we, on our part, will do our best to make the paper as helpful as possible.

## A DORSET YARN.

The week before Xmas, business letters are inquiries for Xmas roses, "*Helleborus Niger.*" A week or so ago they looked like harvesting thousands of blooms, but there comes a frost—a "killing frost"—they have no protection other than a wall, a week's frost has retarded them, the buds have not opened, only the under surface is yet to be seen; they want a few days of warmth and the petals will reverse, showing the purest whiteness, and the enormous quantity of stamens covered with pollen. Why this pure white flower should have its distinctive name of "Niger" is one of the things beyond my comprehension; true, the roots are a dark colour. Another year I must bring down some glass lights and cover them, not leave them to chance, or lift some of them and take them up to the tomato houses, as we do violets for winter bloom; but the bees would not be able to get at them then, that would be a pity. We have only 6 glasshouses, 5 of them are each 100ft., in one square block; we fill them with violets for winter harvest, growing tomatoes in summer; there would be plenty left for the bees if I lifted half of them, as they increase wonderfully in a few years—a wonderful unit of the vegetable kingdom to send up its floral treasures just at this time. Old-fashioned people are great lovers still of this lovely flower; it is mostly with old people, whose memory of youth looked on this as the only white for Xmas, but now there are pure white chrysanthemums, and white tulips and narcissus can be forced into bloom; the younger generation does not see the beauty of these pure white treasures of winter.

Still, if we have not Xmas roses for Xmas sale, we have the luscious fruits, in the production of which our bees did their share, by visiting the thousands of flowers as they opened, and before they were open I have seen them go in between the half-opened petals of the bloom of Gladstone apples. What a harvest it was! Six cwt. of Orange Pippins from 5 trees, only planted 7 years; "Newton Wonders," fine in colour and large in size; Lane's Albert, big and beautifully striped, with boxes of immense Bramleys, all proved to me the bees had seen that all were fertilised, then the pulpy envelope that covered the seeds swelled out to its fullest capacity. One may justly take a pride in such fruits. As the hills were slippery with ice and dangerous for horses, our good parson loaned his motor to take them to the farmers' market, the coldest ride I ever had, even though I had a coat lined with sheepskin, with the wool left on. The journey did not take long; it was the speed that made it so cold. One could

not help wondering how many in our own loved land would have used their fine car to take a load of apples to market for another's profit, and for a Socialist member of his flock. Motor rides our way are only at election times. It was a new experience to me. This was on the very day a reader of THE BRITISH BEE JOURNAL sent me with Xmas greetings a few verses by Shelley, which are familiar to all who think, as I do, for the welfare of the masses. The second verse has this query:—

"Wherefore feed and clothe and save
From the cradle to the grave,
Those ungrateful drones, who would
Drain your sweat—nay, drink your blood.
The seed you sow, another reaps;
The wealth you find another keeps;"

etc.

Well, I think the world is going to be better. The toiler is coming into his own. The worker, and not the drone, is soon to be the most important. I would not like to infer that our parson is a drone; I am sure he earns every penny of his stipend: he has services enough, he prays for us enough, he looks after the sick, the poor he helps, and now he is helping the Socialist. Our church, in which I have taken a chorister's part the greater part of my life, is going to have church councils, the parson not to be the autocratic ruler of the parish as hitherto.—J. J. KETTLE.

## BLURTS FROM A SCRATCHY PEN.

### OLD BEE BOOKS.

It was a dingy old tome. The binding, of calf, was now worn, sere, and brittle. One time it had been the pride of a skilful workman and an ornament of the owner's library, for the title had been in letters of gold, and a thin line of the same metal edged the covers. But this is all tarnished now. The paper, once white, now is tinted by age. The letters, too, were akin to the rest: V stood for U, the middle S was similar to an F, except that the cross bar was shorter by a half. It had fallen into a schoolboy's hands, for "John Lawrence" was scrawled across the title-page in ink, once black, but now faded, so as to be scarcely discernible. It is a treasure I picked up on an old book-dealer's barrow in the Farringdon Road. London's market for discarded books is in Farringdon Road: now that Booksellers' Row in Holywell Lane is a past history. How many of my readers recollect that bit of Old London, close by St. Clement Dane's? It disappeared sometime in the early eighties. Paris has a market (where I have spent many a pleasant half hour) on the embankment of the Seine. What visitor to that city, who roams it unfettered by tourist agency, does not know those look-up boxes, the length of the river *à côte gauche*.

But what a wanderer I myself am, I who is talking of wandering. I have attempted to picture to you my old book, and it has led me into other lands. Now let me turn back. I have not yet told you of its author, "Herodotus," a Persian, with a Grecian name. He was an ancient globe-trotter, as geography was known in those days, perhaps the most notorious. Few lands, except white-cliffed Britain, that he did not visit, and when I further tell you that he lived and wrote about 484 to 428 B.C., you will recognise that he did very big things, for travelling then was difficult and dangerous. Always, excepting the manuscript of the Old Testament, he seems to have been the most ancient of writers who make reference to bees and bee-products. Should there be one still more old, I should very much like to make his acquaintance; and if any who may be reading this can give me his name, I will use all my endeavours to find his present whereabouts in the library of the British Museum. True it is that one of the Assyrian monarchs adopted a bee as his seal, which of them I cannot say, for I cannot find any confirmation of it in translations of cuneiform inscriptions.

Now what does Herodotus say about bees? He has several allusions, but the two I am up against at the present moment are the following:—(My edition is in Latin, but doubtless there are translations, and a free translation is as follows). "Next to the Zauckes (Libyans) are the Gyzantes, among whom honey is made in great quantity by the bees, but in much greater quantities still it is said to be made by men who work in it as a trade," and again "Xerxes passed from Phrygia into Lydia" (crossed) "the Mœrandan and passed by the city, Callatebos, where men live whose trade it is to make honey of the tamarisk tree and of wheat flour."

Is there any new roguery under the sun? In the tender youth of our bee-keeping, and when we were verdant, we always thought that the "adulteration of honey" was a modern "wheeze," and, according to Otto Hehner, our American cousins were an easy first in the game. He says, in a lecture delivered to the B.B.K.A., in 1884, that "the production of starch sugar had been carried to perfection," and, as was to be expected, corn syrup is actually most frequently found in honey imported from America, although Switzerland is striving hard to carry off the honour."

But we were wrong, very wrong. We did not know history. Now, I calculate,

Uncle Sammy will have to take a back seat. Why, nearly two thousand years before Columbus started to discover America, there were "States" who made a very live business of honey-notions. We will give the *United* States credit for much progress. I doubt very much, for instance, if the ancients knew anything of sulphuric acid as an ingredient. Can we say it is an improvement? And they have deleted the tamarisk tree. Is there anything of the nature of honey remaining?

Now, probably, the very first thing, the very first thought that would occur to most people on reading the extracts from Herodotus I have given above will be, "Wherever did all the honey (?) the Gyzantes and the citizens of Callatebos manufactured find a sale?" I don't think you would even guess, so I may as well tell you, or rather the historian shall. Prepare yourselves for something gruesome, something reminiscent of Hun methods of disposing of cannon fodder. Give all attention. "The Babylonians bury their dead in honey" (Book IV.). There you have it! Fortunately for us, at the present time we can dispose of all the honey we can raise at beneficial prices: but some day or other, if we live long enough, we shall see the end of the war, and there will be a slump in prices. Are we too proud to take a leaf out of an old book? Let us create a new market. The good, old-fashioned, comfortable interment in a nice, snug, lead, oak or elm coffin is getting quite out of fashion. We have cremation and earth to earth treatment of our last remains, at prices, we are informed, "strictly economical." One undertaker, good man, with a thought for suffering humanity, asks "Why live and be miserable, when you can be buried comfortably for fifty shillings?" May I suggest that the "sweetest" mode of sepulture yet remains "Funerals à la Babylon."—J. SMALLWOOD.

MR. J. PRICE.

## APPOINTMENT OF EXPERT TO THE STAFFORDSHIRE COUNTY COUNCIL.

We have much pleasure this week in presenting to our readers the photograph of Mr. J. Price, the successful candidate for the position of Apicultural Expert to the Staffordshire County Council, which was advertised in our pages some little while ago.

There were thirty applicants for the post, but we are sure that the defeated candidates will find comfort in the knowledge that they were beaten by a candidate with such a long and varied experience of bee-keeping. There is also no doubt that his many friends in all parts of the country will wish "honest Joe"

every success and a long occupation of the position. The Staffordshire County Council have shown a most progressive spirit in making such an appointment, so far as we know the only one in this country. It is up to every bee-keeper in Staffordshire to rally round him and make the industry a flourishing one in that county. We are certain that he will leave no stone unturned to attain this object.

The subject of our photograph is a very old friend of ours, a well-known contributor to our pages, and we have had many exciting bee-keeping experiences together. One of the straightest, soundest, most reliable and orthodox bee-keepers in the British Islands, he does not mince matters when giving advice, hits straight from the shoulder in criticising, is candid to bluntness, yet his kindly, unassuming manner makes his genuine desire to render all the assistance possible apparent to those with whom he comes in contact.

He is perfectly loyal to, and a strong supporter of, the B.B.K.A., the JOURNAL and RECORD, and hates the petty selfishness, jealousy and spite exhibited by those who, through ignorance and inexperience, fail in their desire to obtain notoriety in the apicultural world.

His one regret is that his new post will mean the severance of many long friendships which he has formed during his travels.

The following is a short biography of our friend:—Born at Old Hill, Staffordshire, on May 7, 1872, leaving school in his early teens to learn the trade of joiner and wheelwright, eventually starting in business on his own account.

During his early apprenticeship he was initiated into the mysteries of bee life by a great uncle, who had kept bees for over half-a-century. This prompted him to start bee-keeping, and eventually he bought a stock from a local bee-keeper, and placed it in a new hive that he had made. Situated on the green fringe of the Black Country he saw that excellent honey could be procured from the abundance of white clover which grows so freely on the old pit mounds, and for many years as an exhibitor he was very successful, particularly in the extracted honey and beeswax classes. In time he gained his third-class certificate, and a few years after the second. About 1906, after having acted as local expert to the Worcestershire B.K.A. for several seasons, he accepted the position of touring expert for the Suffolk B.K.A., and the same season became connected with Cumberland by which county he has now been engaged for twelve seasons. The name of Price in that county is a household word amongst the bee-keepers, in fact they swear by him in all matters apicultural. He has also held engagements with the Northumberland B.K.A., the Durham and Westmoreland Education Committees, while latterly he has been the Hon. Sec. of the South Staffordshire B.K.A. since its formation in 1913, and has been the chief means of its great success.

In 1913 he secured the final certificate of the B.B.K.A., and the following year at the "Honey Judging Competition," held in London, he secured the Premier Award.

## NEW YEAR'S WISHES.

Please accept my best wishes on the occasion of the New Year for a still more successful career to THE BRITISH BEE JOURNAL, which, in association with THE BEE-KEEPERS' RECORD, has done such magnificent work for the advancement of bee-keeping. Professional and amateur bee-keepers have always been encouraged to contribute to its columns on many useful subjects bearing either directly or indirectly on apiculture. And with the progress of the time, similar progress has been invariably noticeable in the quality of its production. It has, of course, been unavoidable, considering the varied and mixed recruits who enrol in the ever-increasing army of bee-keepers, that some inaccurate statements (so far as our present scientific knowledge is concerned) such as the value of bee toxin in the prophylaxis and treatment of rheumatic fever, and similar statements, have appeared in the past: but it will do credit to the JOURNAL, in the future, if a better censorship on unqualified statements be exercised; and, if need be, a total rejection of such writings should be adopted as an editorial policy in the very interest of the craft. Every modern profession, art, and craft, is now based on scientific lines; therefore bee-keeping should keep its proper place with this progressive development. It should not be inferred from these statements that the writer discourages everything but scientific writing. This is not the case. For I consider the chatty, pleasant articles of Mr. Kettle in the JOURNAL, and the most inspiring and instructive contributions of Mr. Smallwood in the RECORD as literary features of both publications, which should command the greatest interest of their readers. My aim is simply to emphasise the importance of prohibiting the publication of superstitious views of ignorant though well-meaning persons, whose enthusiasm for bee-keeping and their ignorance of general science (in spite of the many modern and inexpensive scientific publications) lead them to the most absurd statements which reflect

ridicule on the paper that publishes them. This caution would be a wise and dignified policy. The language (so long as grammatical errors, and incorrect spelling and punctuation are avoided) matters very little, and the simpler it is the better. It is, after all, a means of expression, and every language in the world could be adapted in many forms to convey it. What really matters are the ideas of the writer and the value of his information. Therefore, valueless, misleading, and ignorant thoughts are not worth even the trouble of typewriting them.

The trivial increase in the price of the JOURNAL is a logical step created by necessities: and one only wishes that this new price should be made permanent or even increased in order to appreciably enlarge at the earliest opportunity the size of such a very useful review, which holds a unique position in the bee-keeping world. —A. Z. ABUSHADY, Ealing.

## THE BEE GARDEN.

THE OFFICIAL LISTS.—(*continued*).

Pumpkin (*Cucurbita pepo*).—There are many varieties of gourds which are merely ornamental, but there are also several which are not only edible but, by some folk, greatly esteemed. I say advisedly "by some folk," since by others they are despised and neglected. One curious effect of this dislike is the addition to the already richly idiomatic Spanish language of the locution *dar calabazas*, to give pumpkins, which throughout the Spanish-speaking world is the current equivalent of to reject a suitor or to jilt one previously favoured. Other idioms in the same language introducing the pumpkin are *tener cascos de calabaza*, to have the skins of the pumpkins, meaning to be a simpleton, and *nadar sin calabazas*, to swim without pumpkins, in the sense of not needing the support of others, being independent.

Pumpkins are allied to the vegetable marrow, and bear roundish fruits which often attain an enormous size, weighing a hundredweight or more, though this is only done by restricting the number of fruits to one per vine.

They may be grown to perfection by precisely the same method as that recommended for marrows or for ridge cucumbers.*

It is well to put out strong plants from pots and protect them until established, but if these are not obtainable the seed may be sown where the plants are to stand, and there will in time be plenty of produce, but, of course, somewhat later in the season than if strong plants had been put out in the first instance. Keep a sharp look-out for slugs, which will flock in from all quarters to feast upon them, but will scarcely touch them after they have been planted a week or so. Any rough fermenting material, such as grass mowings, may be used for making the hills to give them the aid of a warm bed for a brief space of time, for it is a great gain if they grow freely from the first, and the natural heat will soon be enough for them. The edible gourds are useful in all their stages and ages, and if the cultivator has a fancy to grow large, handsome fruits, he can make the business answer by hanging them up for use in winter, when they may be employed in soups in place of carrots or in addition to the usual vegetables, and may, indeed, be cooked in half a dozen different ways. There remains yet one more purpose to which the plants may be applied. Supposing you have a great plantation of edible gourds and marrows and would like a peculiarly, elegant and delicious dish of spinach, make a dish by pinching off a sufficiency of the tops of the advancing shoots and cook them spinach fashion. If properly done, it is one of the finest vegetables ever eaten. As pinching off the tender tops of the shoots lessens the fruitfulness of the vines, we only recommend this procedure where there is a large plantation.

Gourds may be trained to trellises, fences, and walls. In all such cases a good bed should be prepared of any light, rich loam, and it will be none the less effective if made on a mound of fermenting material.

Large specimens will need early and adequate support. The varieties usually grown in this country are the Large Red Etampes or Turks' Cap, with an orange skin, and the mammoth or hundredweight gourd, with a light and dark green striped skin. Of the former I have one, and of the latter three, now suspended by tapes in my greenhouse. These my hopeful alludes to as my new-fashioned hanging baskets, while their, shall I say stable companion, a specimen long green marrow, is known as the "Zepp."

The values assigned to the pumpkin in Mr. Cowan's list are:—Pollen—honey!

I am indebted to the Editor of the *Vegetarian Messenger* for kind permission to make use of the following recipes which appeared in its August issue, page 181.

Pumpkin Cookery.—This vegetable, so extensively used in the Colonies and

* *The cultural directions given in respect of any of the subjects mentioned in the lists are, where possible, taken from Messrs. Sutton & Sons' "The Culture of Vegetables and Flowers," my copy of which is dated* 1895, *and belongs to the sixth edition.*

America, is not so much appreciated in this country as it deserves. If the pumpkins are carefully ripened and stored they will last right through the winter, and are most useful either as a vegetable or as fruit when both vegetables and fruit are very expensive. Pumpkin jam is not to be despised, and as it may be flavoured with either lemon, orange, ginger, dried apricot, or peach, it is a very economical jam for family use. The pumpkin absorbs the flavour so readily that a small quantity of flavouring substance will turn the whole product into peach, apricot, or any other jam, as the case may be.

Pumpkin pies are delicious, and may be an excuse for a rich custard of pumpkin, cream and eggs, or else the plain pumpkin flavoured with a little citric acid or lemon juice and sweetened to taste. The pumpkin is boiled in slices, and, when tender, taken up and the water drained off. The peel is then removed and the flesh of the pumpkin mashed to a fine pulp, adding the flavourings and pouring the mixture into a pie-plate which has been lined with a good short crust. Bake in a quick oven until nicely browned and the pastry cooked. Serve either hot or cold.

Pumpkin fritters are the mashed pumpkin blended with a well-beaten egg and a dessert-spoonful of flour for every breakfast cupful of pumpkin. Sweeten to taste, and add a little lemon juice and a dessert-spoonful of chopped candied peel. Drop a tablespoonful into a well-buttered pan and fry until well browned on one side, turn and brown the other. Drain on kitchen paper and place in the oven to keep hot. Serve piled high on a dish, sprinkling each fritter with powdered sugar, and garnish with slices of lemon.

As a vegetable the pumpkin can be fried in slices, or baked and sent to table with any kind of roast or fried vegetable dish. When boiled it should be well drained, all water being pressed out with a saucer, then mashed with a good-sized piece of butter, pepper and salt to taste. Return to the pan to re-heat, and sent to table immediately.—H. T. C.

To the above, Mrs. Harwood adds the following, which I have often partaken of and can fully recommend.

Pumpkin Omelettes.—Make a batter mixture, as for *omelette aux fines herbes;* boil one inch thick slices of pumpkin until tender, press out all water with a saucer. Pour omelette mixture into a pan, using olive oil to fry it in: lay slices of pressed pumpkin in with a fish slice; pour more of the omelette mixture over. Fry until golden brown, turn and brown other side. Dried eggs can be used in the mixture to replace shell eggs economically.—A. F. Harwood.

## CORRESPONDENCE.

*The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.*

### EXTRAORDINARY BEE-HIVES.

[9607] I thought the enclosed extract from the "Strand Magazine" of February, 1902, would be of interest to your readers.—W. H. Needham.

"In the forests of Mysore there are four varieties of bees, the largest of which is called, in the Canarese language, 'Hjjainoov.' These construct enormous hives of semi-circular form, measuring frequently 5 ft. by 3 ft., under the large, spreading branches of the loftiest trees in the jungle. There are often as many as 100 to 200 hives on a single tree, and when these are disturbed by a species of eagle, which preys upon the larvæ, it is extremely dangerous to go anywhere in the vicinity, as these bees are so aggressive and so persistent in their attacks that they have been frequently known to pursue people for miles; and it is asserted that even if the person dives under water in order to avoid them, they will remain hovering over the surface, and unless he is able to swim under water a considerable distance he will certainly be attacked when he reappears. The honey, although its flavour does not commend itself to Europeans, is much appreciated by the natives. The ladders used by the toddy-men consist of single-notched poles, placed one above the other, and it is remarkable how skilfully they carry out this dangerous operation. The bees are dispersed at night by means of straw torches, and the hives are removed with a sickle and lowered to the ground with a basket attached to a rope."—Mr. J. Anderson, Barquai, Saklaspur, Hassun, India.

### EXPERT'S REMUNERATION.

[9608] Your correspondents (9544) "Not a Candidate," and (9561) Mr. W. Thorne, will probably be interested to learn that the post of expert and lecturer to the Staffordshire Education Committee has been secured by—yes! "a really qualified expert," in the person of Mr. J. Price, Old Hill. When (9544) referred to the salary as being "about the

same as a London 'bus driver earns," I take it he means what the driver *receives?* what he earns would probably prove to be a debatable quantity; at any rate, there appears to have been over twenty others, in addition to the successful candidate, who either considered the salary offered to be remunerative, or, knowing something, took a similar view of the matter to (9560) "Dominie," who stated when discussing the conditions, that, "though often stipulated, they are more often liberally interpreted than enforced," and if the appointed expert has succeeded in securing better terms than those advertised—good. In any case, I hope the county bee-keepers will realise the benefits to be derived from his services, and material results should accrue. In closing, I should like to add my appreciation of the literary efforts of my friend J. J. Kettle, and at the same time to express the pleasure experienced at the re-appearance of "Blurts from a Scratchy Pen," which are a source of real pleasure to—E. JACQUES.


*Queries reaching this office not later than FIRST POST on MONDAY MORNING will, if possible, be answered in the "Journal" the following Thursday. Those arriving later will be held over until the following week. Only SPECIALLY URGENT queries will be replied to by post if a STAMPED addressed envelope is enclosed. All querics must be accompanied by the name and address of the sender, not necessarily for publication, but as a guarantee of good faith. Correspondents are requested to write on one side of the paper only.*

### QUINCE MARMALADE.

[9071] *Re* Mr. Harwood's article "The Bee Garden," in the BRITISH BEE JOURNAL of December 13, I shall be much obliged if you will give the recipe for quince marmalade. There are some large Japanese quinces in the garden here which fruit well every year, but I had no idea that the fruit could be used for marmalade making.—G. F. ORMEROD.

REPLY.—Mr. Harwood has kindly sent the following particulars for making the above.

In response to your request I have asked Mrs. Harwood for her recipe for quince marmalade. Here it is:—

Ingredients: Quinces, sugar optional; lemons, cloves. Method:—Take sound, well-ripened quinces; wipe carefully with damp cloth. Cut into thin slices; put into preserving pan with enough water just to cover the bottom. Add ¾ lb. sugar, loaf or preserving, to each 1 lb. of fruit. Boil slowly until the marmalade sets quickly when tested on a cold plate.

Remove from fire and put into jars. Cover with paper brushed over with white of egg on both sides or with prepared vegetable parchment, adhesive or other covers. Time—three to four hours.

A nice preserve may be made by using equal parts of quince and apple.

Where the presence of the peel is objected to, pare the fruit before slicing; stew only until reduced to a pulp, then pass through a hair sieve; replace in the pan, adding the sugar at this stage, and boil up again until the marmalade sets.

If desired, lemons may be added, and by some the marmalade is considered to be improved, both in flavour and in keeping properties, by having a few cloves, tied in a little muslin bag, dropped in, to be withdawn when the marmalade is removed from the fire.

Mrs. Harwood authorises me to add that any of her recipes are similarly at the service of the readers of your publications.


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E. DORMER (Northroyd).—*Hive Building.*—Instructions how to make a W.B.C. hive are given in the "'Bee-keepers' Practical Note Book," price 1s. 1d., post free, from this office.

J. SCHOFIELD (Huddersfield).—*Confining Queen in an Upper Chamber.*—The plan of placing a second brood chamber under the first, confining the queen to the upper one by means of a queen excluder does not prove satisfactory in practice. The natural position of the honey is above the brood, not below it. The drones are also confined as well as the queen, and in their efforts to get out will cause a lot of obstruction and excitement. Possibly the bees would carry an egg "downstairs" in order to raise a queen, if they decided to swarm.

*Suspected Disease.*

G. F. SMITH (Kettering).—Quite likely the trouble was "Isle of Wight" disease. The adult bees would die off from this cause, and there would not be plenty left to keep the brood warm, and it would be chilled. We cannot say whether it was foul or chilled brood without seeing a sample.

A. WILLIAMS (Wisnaw), W. DAVIDSON (Burton), "BARON" (Blackheath).—The cause of death was "Isle of Wight" disease.

G. B. N. DESMOND (Lymington).—So far as we can tell the bees are healthy.

A. DON (Middlesex).—The bees appear to be healthy. Nos. 1, 2 and 4 are natives; No. 3 natives, with a little Italian.


## BRITISH BEEKEEPERS' ASSOCIATION.

MONTHLY MEETING OF COUNCIL.

The monthly meeting of the Council was held at 23, Bedford Street, Strand, London, W.C.2, on December 20, 1917.

Owing to the Vice-Chairman being detained by a fog-bound train, Mr. A. G. Pugh presided, and there were also present:—Messrs. G. Bryden, J. Smallwood, G. J. Flashman, W. H. Simms, G. R. Alder, J. Herrod-Hempsall and W. F. Reid.

Letters of regret at inability to attend were read from Sir Ernest Spencer, Messrs. T. W. Cowan, C. L. M. Eales, A. Richards, and Rev. T. E. Peters.

The minutes of Council meeting held November 15, 1917, were read and confirmed.

The following new members were elected —Mrs. W. D. Hall, Mrs. G. E. Curtis, Miss M. Lidderdale, Rev. G. B. Stallworthy, Messrs. H. Wilkin and J. R. Young.

The report of the Finance Committee was presented by Mr. Smallwood, who stated that payments into the bank for November amounted to £17 6s. 11d. The bank balance on December 1 was £122 5s. 10d. Payments amounting to £66 1s. 4d. were recommended.

Mr. Smallwood reported on the lecture test for Final Certificate held earlier in the day, and it was resolved to grant a pass to Mr. G. Bryden.

The report on the Intermediate Examination was presented, and it was resolved to grant certificates to the following:—Misses M. Whyte-Johnstone, O. Stuart-Menteith, A. Argall, Messrs. W. Jackson, E. C. Carter and E. Coomber.

A very hearty vote of thanks was passed to Mr. D. M. Macdonald for his kindness in undertaking the work of examiner.

A letter from the Kent Association *re* the "Standardisation of Hives," was referred to the Committee dealing with this matter.

Letters *re* resolutions *re* "Standardisation of Hives" were received from Worcestershire, Herefordshire, Sussex, Staffordshire and Kent Bee-keepers' Associations.

The Secretary presented the offers made for cases, etc., at Golders' Hill apiary. It was considered that these were all too low, and Mr. Pugh kindly undertook to get a friend to view them and make an offer.

Next meeting of Council, January 17, 1918, at 23, Bedford Street, Strand, London, W.C.

## THE BEE GARDEN.

THE OFFICIAL LISTS (*continued*).

Hedging Plants.—The two which fall most naturally into this category are:—(1) Common privet (*Ligustrum vulgare*) and Hawthorn (*Crataegus oxyacantha*).

Privet is a plant for which I have a strong antipathy that has already found expression in these articles, as a reference to that of October 18, 1917, p. 329, will make clear. The varieties most generally in cultivation are *l. ovalifolium* and *l. elegantissima*, the golden privet.

Skeat laboriously derives the word privet from a diminutive in *et* of prim, a provincial word to prime, meaning to trim or prune. I feel inclined to reject this in favour of a more obvious source, the chief use of this plant, outside suburbia, being to indicate—while making the approaches to—the *primitive* sanitary arrangements which, in Arcadie, are commonly found relegated to the furthest end of cottage gardens.

The values assigned to *l. vulgare* are honey and pollen.

Personally, I regard the presence of any variety of *ligustrum* that is allowed to flower, as highly detrimental to the bee-keeper who intends to harvest honey for human consumption as food.

Hawthorn, on the other hand is a plant which cannot be omitted from any review of the charms of rural England. Edward Capern, the Devonshire postman-poet, in his hymn or ode to Devonshire cream, speaks of the "Meadows framed in hawthorn": and, doubtless, on his daily round, the fair meads of glorious Devon took on for him a new beauty when defined, and set off by the creamy blossom of May or the clusters of scarlet haws hanging conspicuous on the leafless hedges at the year's ending.

As a hedging plant, hawthorn or whitethorn has the advantages of cheapness, hardiness, longevity, adaptability to any soil and aspect and great impenetrability

These qualities, combined with the fact that it is indigenous and congruous with any surroundings, make it *par excellence* the plant to use in making hedges in our English countryside.

A very good practice when planting balls or quicks is to erect a post and rail or other fence to protect the newly-set plants until they have made enough growth to be self sufficient.

When clipping a hawthorn hedge it is well to leave at intervals good, straight,

vertical shoots to form standard heads above the hedge. Such heads are not only ornamental, but serve various purposes; among others, that of concentrating birds, such as sparrows, when they can more easily be shot. The values assigned to *C. oxyacantha* are: Honey, 3; pollen, 1.

*C. oxyacantha rosea* and *punicea* are the pink and scarlet varieties respectively, both ornamental, the latter the more so *Præcox* is the Glastonbury or Christmas thorn.

*C. pyracantha*, or Firethorn, is the evergreen shrub with scarlet berries, that one so often sees trained to walls. It lends itself admirably to leading over and round windows, etc. The variety with orange or vermilion berries is *Lælandii*.

It is a great mistake, artistically, to plant either of these against a *red* brick wall, their beauty lying in forming a vivid contrast to the background, which must be arranged with reference to the berries, rather than the foliage. A white wall is the most effective, but they also show well against stones, while the effect is not entirely spoilt by common stock bricks.—A. F. Harwood.

## A DORSET YARN.

In writing last week on heavy crops of fruit through the aid of our bees, I find I am not the only fruit grower in this neighbourhood who keeps bees, and has fruit of fine quality and in enormous quantities. Mr. T. Giles, of Cowsfield Nurseries, near Salisbury, has written to me of his bees and fruit—his Blenheims, Bramleys, and Orange Pippins. The latter I cleared for him in Bournemouth on December 24; they were a very fine coloured lot.

There are plenty of others to yarn on bees and fruits when I am spun out. One often feels that one has laboured the subject bare, but each week something else comes under notice. Though my trees are bare of leaves, there are thousands of buds full of flowers all crowded into their small cases, only waiting for the warmth of spring to once more delight the bees, and show us again that our God is in Heaven. We have His promise that "seed time or harvest shall not cease as long as the sun and moon endureth. I have faith enough to see on those now bare trees the harvest of golden fruit as we have had this last season. I can see them as in Proserpina's Garden in Spenser's "Faerie Queene"; "All laden with fruit as thick as thick might be. The fruits of golden apples glist'ning bright, That goodly was their glory to behold, Like never saw."

When a young garden worker this was a great favourite with me. In the long evenings of winter, when on duty with fires, I read it so often that I cannot forget it—at least, the sense of it, though perhaps not word perfect (we were able to borrow these books from the schoolroom library of the Mansion).

Another verse has it: "Here also sprang that goodly golden fruit, With which Acontious got his lover true, Whom he had long time sought with fruitless suit: Here *che* that famous apple grew," etc.

Some of your readers will tell you I am off the point, as this may refer to the orange, still it read apples. In "Paradise Lost," a few lines on a garden or orchard:—

"This was the place:
A happy rural place of various view;
Groves whose rich trees wept odorous gums and balm;
Others whose fruit, burnished with golden rind
Hung amiable, Hesperian fables true,
If true, here only, of delicious taste."

All this is getting away from the point; but these beautiful writers seem to depict exactly as the trees are in my fancy, even in the bare winter months. Even though the bees are hibernating in their hives this last week's spell of cold weather, one who has read the treasures of English literature can see the beautiful groves and the flowers, can see in fancy—

"All the sweet cups to which bees resort,
With plots of grass and perfumed walks between,
Of honeysuckle and jessamine"—

(This sounds like Tom Moore).

I have found that the memory of beautiful things makes life more pleasant, more happy and enjoyable—one is never lonely. Even the drive to market (now my sons are away), with only the horse to talk with, is never wearisome. One passes the chestnut trees, that a few months back had the glad hum of thousands of bees; the brambles in the hedgerow tell the same story, and the long trailing growths show still another harvest to follow.

It is only in the pleasure resorts of the wealthy that one's pleasant fancies vanish, to see hundreds of men wandering about, to see numbers of women in the prime of vigorous mental and physical ability not doing anything to help produce something for the common weal. Fancy a big, strong woman leading a little dog about! Men not yet fifty with nothing to do but pleasure! The land is wanting labour; the well-fed, well-dressed women could do many things if they had the will; if they do not do any-

thing, someone else has to work harder and live harder to produce the wealth they spend. It is good to hurry back home to the farm where at least "something attempted, something done has earned a night's repose."

One old writer (I cannot place him) said, "Go to the ant, thou sluggard." The idle could go to the bees for an object lesson. Work is the all in all of the community. Store up the food while it is to be found; they never loaf around when there is work to be done. Yet man, made in God's own image, will loaf and live on the best, and see his brothers work hard to produce food for him. If he had some of the communal spirit of the bees he could not loaf, nor could he see the workers' sons taken out in the battlefields of the world, to fight for the world's freedom, without at least offering to take their place on the land and produce their own food and some for those who are fighting for them.

The idle should remember ancient Rome, once mistress of the world; her fall was idleness and pleasure. They might to-day look at Russia—take a lesson from that empire of many nations and tongues; gone all to pieces, when all could have worked for the good of the community, and so worked out their own salvation. Some men are working and giving their pay to the Red Cross; some women are packing cordite, working just the same as our own girls, though born in a mansion; others in our own village are working as nurses at the Voluntary Hospitals, or where there are so many soldiers' beds that the nurses have only one room (for six), all without pay. These are what Sir Walter Scott called ministering angels.

"When care and anguish wring the brow
A ministering angel thou!"

(This is from one of his word pictures of war and strife.) When will the idle see the necessity of all working for the good of the community, look to the bees for an object lesson, see what they do with those who eat and do not work? They show us what is termed "the dignity of labour." Emerson wrote: "What man can do is his greatest ornament; his dignity is enhanced by doing it." This is as I remember it, or at least the sense of it. Here comes again the memory of the beautiful in literature. The old Book that has stood so long as the world's greatest teacher teaches the same gospel of work—"In the morning, sow thy seed, in the evening withhold not thine hand." In this pasage nothing is said of midday, but the same old Book shows us that they bore "the burden and heat of the day."

We have just had one of our big soldier sons home, with fourteen days' leave after three years and four months' continuous campaigning; one who was in that famous Seventh Division, which held the German hordes in the retreat from Mons, and so saved the remainder of the old "contemptible little Army." This, his third leave, has enlightened me of the difference of our land from France. There, the women are working behind the lines, tilling the soil; they, with a few old men, are carrying on till the men come back; they have little food, and that of poor sustaining power, yet all are working, even those who were once well-to-do till the Germans came and despoiled them, and taxed them out of the wealth they had. My son's continuous prayer is that they never may come to our own loved land, where his mother and sisters dwell. No wonder the Frenchwomen idolise the British soldiers, who saved them from the nameless horrors those in northern France have had to endure till wrested from their German captors at the point of the bayonet. His mother's continuous prayer is, "God send him back to me."

At the close of another year I ask all bee-keepers who, even though they may differ from me in my political faith, to believe me, that I am at least sincere in the furtherance of bee-craft and for the welfare of the masses in our own loved land.—J. J. KETTLE.

## MOMENTARY QUESTIONS.

When we speak of microsporidiosis of bees as a gastro-intestinal infection we are, of course, supporting the view held by *most*, though not by all experienced bee-keepers and researchers on this disease. The writer, not being by profession a bee-keeper, and lacking not only the time, but also the material, and the necessary elaborate means, cannot at present express the opinion of an investigator on this important question. Short of a thorough scientific investigation in the light of present experience and knowledge, any abortive or superficial effort, though in a sense possessing some value, could not be seriously held as a conclusive evidence. From the study of the misfortunes of others, and the various views expressed by different authors and scientists, as well as from a consideration of the unpublished opinions of some experts, who either do not care, or do not venture, to bring their views to light, I come to the following conclusions:—No one who carefully examines the theories and beliefs associated with the names of Zander, Graham-Smith, Imms, Malden, and many others, will fail to appreciate that there are three main schools of thought regard-

ing malignant dysentery of bees in relation to their other diseases.

(1) One school, to which many bee-keepers belong, seems to believe in this disease as a distinct illness of an *infective nature*; and, hence, quite logically, advises the observation of cleanliness in manipulation, and the use of disinfectant methods in prevention and treatment. Such advice could not have done any harm if it did not effect much good. There is, however, an accumulation of evidence to show that it has actually done some good to bees showing symptoms not unlike those of "Isle of Wight" disease. Not least in value, according to this method, is the feeding with "medicated" syrup and candy. Zander's *Nosema Apis*, as the actual cause of infection, is not widely confirmed. If such a confirmation is obtainable it would obviously make all the difference, both in prophylaxis and treatment of this malady. We cannot treat a disease on a sure basis without knowing beforehand its pathology (and also its bacteriology, if it is of a microbic nature). Now, if *Nosema Apis* is the actual offender, and if it is true that it has very resisting spores, which are often present in stagnant pools, etc., two questions at once arise. The first is a thorough testing of *all* the known modern non-toxic antiseptics that seem suitable to use in the apiary, with the view of determining the least noxious and the most effective one in dealing with this offender. The other is to consider the improvement of the water supply to the bees. It is useless to be content with giving advice regarding the cleanliness of the apiary and the use of a clean water fountain when every observant bee-keeper will honestly testify to the fact that the bees will reject the fountain water, even if warm, in preference to that from a heap of manure! I have rarely seen any of my bees calling at the water fountain in my garden, though placed in a conspicuous position; yet I have repeatedly noticed many of them go to the roof gutter, presumably to drink from the rain water. I cannot believe that it is a difficult contrivance to give the bees their pure water supply *inside* the hive itself. When I make this suggestion, and many others, I trust I may be pardoned by those conservatives who never believe in new methods; for I might be led astray by the progressive spirit of my profession, which is always in a revolutionary state. It is, of course, ridiculous to make dreamy suggestions; but suggestions based on the study of facts and on keen observation deserve pronouncement, whether they prove ultimately to be valuable or not. And it is the duty of a standing Research Committee, if bee-keepers will ever be fortunate enough to have one, to investigate the benefit of every sensible suggestion. But supposing that a different type of organism, say, a non-sporing one, such as a coliform bacillus, is found to be responsible for the trouble, this will again influence our choice of antiseptics and will show that our problem is not so serious as in dealing with a spore-bearing organism. In any case, a complete, impartial and a truly scientific inquiry on this matter is badly wanted. It should be the work of a well chosen committee of both practical bee-keepers and capable scientists, and not of a single observer confronted with many problems, some of which may be beyond his capacity. Whether the Government or the principal Bee-keepers' Associations are entitled to move first it is not easy for me to judge.

(2) Another school, headed by Malden, looks upon malignant dysentery as chiefly a *toxæmia*, due to the absorption of products of decomposition from the colon. Allied to this school are those who regard the essential cause a state of *malnutrition*, favouring the development of metabolic poisoning. The researches of Malden certainly do *not* give weight to the infective theory; and it should not be forgotten that normal bees must by nature harbour organisms in their intestinal canal, and that before a certain organism has to be held responsible for a particular disease, certain criteria must be fulfilled. No wonder, then, that some well-enlightened bee-keepers belonging to this school strongly object to the "medication" of sugar supplied to bee-keepers, both on the ground of unnecessary expenditure and for fear lest the antiseptic used might be harmful to the bees. Supposing this theory is correct, the actual cause of toxæmia desires their careful investigation. Is it due to an occasional error committed by the bees in dieting themselves, namely, by feeding on an excess of protein? Or is it due to their inability to cleanse themselves for long periods, through unfavourable weather? Or is it due to both factors, in combination with others, so far not sufficiently appreciated? For it is well known that dysenteric bees often suffer from distended abdomens, which, when gently squeezed, allow a yellowish brownish material to be voided. This, when examined microscopically, is found to contain numerous pollen granules, far in excess of what is normally observed in the intestinal contents. I cannot see any harm from mixing the bee food with a reasonable amount of a non-toxic antiseptic, especially with one which has proved beneficial in human medicine

for *internal* use, such as Yadil; but I fail to see why the Government should compel expert bee-keepers to buy candy medicated with Bacterol, and not with Flavine or Izal, for instance. And why should it trust so much the fruit growers and so little the bee-keepers, especially when the two sections are dependent for their mutual success on one another? Clearly, the interest of the country, from the point of view of food production, is dependent on extending that generous trust to bee-keepers, some of whom happen to be jam makers in addition, and are, therefore, curiously enough, as pointed out recently by a writer, trusted in one capacity and distrusted in another! This wasted effort of the Government could be made more profitable if directed to the appointment of a departmental committee to re-investigate the nature of "Isle of Wight" disease and similar maladies, and to study the views of the different schools of bee-keepers, with the object of arriving, if possible, at a triumphant conclusion.—A. Z. ABUSHADY.

*(To be continued.)*

## THE QUESTION OF POLLINATION OF FRUIT IN RELATION TO COMMERCIAL FRUIT GROWING.

*By C. H. Hooper, F.R.H.S., Member of Scientific Committee of the Royal Horticultural Society.*

In a recent (July 12) article in THE BRITISH BEE JOURNAL "Red Cross" asks for a summary of available information on the above subject, and gives, as a text; "Growers of Lane's Prince Albert will hesitate to believe this variety self-sterile, coming into flower, as it does, after the majority of market apples have finished blooming; yet what a reliable cropper it is."

Having made many trials in fruit pollination, and having endeavoured to keep in touch with other experimenters, I propose to try to fulfil his request. It is a strange fact that Lane's Prince Albert is self-sterile, as are so many of the best varieties, but this variety has proved itself self-sterile not only in pollination trials, but in orchard practice, where this variety is planted in block, without other varieties, it is found to bear very little indeed; it is even more strange that Bramley's Seedling should not set fruit with its own pollen under experiment, yet shows less disadvantage than most varieties when planted alone, or almost alone, in orchards. These two varieties—*Lane's Prince Albert* and *Bramley's Seedling*—cross-pollinate well, as probably do most varieties of apple, although Cox's Orange, Beauty of Bath, and Gladstone seem more particular than most apples as to their cross-polleniser.

### APPLES

Most varieties of apples, even if they may be classed as self-fertile, as a rule crop far better if fertilised with pollen of another variety.

Among apples that show themselves *more or less fertile* may be mentioned Irish Peach, Golden Spire, Stirling Castle, Lord Derby, and occasionally White Transparent, Tower of Glamis, Duchess of Oldenburgh, Egremont Russet, Devonshire Quarrendon, Summer Golden Pippin, Christmas Pearmain, Domino, Washington, Ben's Red, Red Reinette, Lord Grosvenor, Early Victoria, Ecklinville, Allington, King of the Pippins, Peasgood's Nonsuch, Pott's Seedling, Gladstone, and Newton Wonder. These are recorded as occasionally self-fertile from trials of probably several hundred varieties of apple: it is possible, if one makes hundreds of trials, that the majority of varieties may eventually set a fruit, but if only one fruit sets and matures with its own pollen out of several hundred blossoms, the variety is for practical purposes self-sterile.

Most of the other varieties are *self-sterile*, including Astrachan, Ribston Pippin, Lord Suffield, Hoary Morning, Warner's King, Nonpareil, Striped Beefing, Sturmer Pippin, Fearn's Pippin, Belle de Pontoise, Duchess's Favourite, Bismarck, Cox's Orange, Beauty of Bath, Hambling's Seedling, King of Tompkin's, Beauty of Kent, Cellini, Worcester Pearmain, Seaton House, The Queen, Rival, Alfriston, Lady Sudeley, Loddington, Blenheim Orange, Waltham Abbey, Prince Albert, Grenadier, Hollandbury, Lady Henneker, Cox's Pomona, Golden Noble, Annie Elizabeth, Williams' Favourite, Mère de Menage, Sandringham, Graham's Royal Jubilee.

In choosing varieties of apple to plant together, one should avoid planting a

very early-flowering kind with a very late-flowering variety; mid-season flowering kinds can be planted with either.

A carefully-recorded list of the average order of flowering of 235 varieties of apples is to be found in the Journal of the Royal Horticultural Society for December, 1911, pages 350 to 361.

The following notes are the results of observations in orchards in different parts of England made by several observers.

*Bismarck* crops well generally. The pollen of Barnack's Beauty seems specially favourable.

*Warner's King* sets well with pollen of Cox's Orange.

*Beauty of Bath* has been found to crop well with Allington Pippin, Lane's Prince Albert, and Gladstone; but Gladstone did not crop well with Beauty of Bath.

*Cox's Orange Pippin* has been found to crop well where planted with either Worcester Pearmain, Duchess's Favourite, King of the Pippins, or James Grieve.

*Worcester Pearmain* is generally considered to be the most remunerative dessert apple; although self-fertile to only a certain degree, it is usually a good cropper.

*Bramley's Seedling* sets well with almost any variety; Cox's Orange and Lane's Prince Albert are good pollenisers for it.

*Lady Sudeley* crops well interplanted with Gladstone.

*James Grieve* crops well with Cox's Orange, also with Stirling Castle, and is found to be a good polleniser for other varieties.

*Gladstone* crops well with Cox's Orange and Worcester Pearmain.

*Peasgood's Nonsuch*—often an uncertain bearer—crops with Wellington.

*Grenadier* is not always found to crop well, but apparently Lane's Prince Albert and Early Victoria are good varieties to plant with it.

*Lord Derby* is to some extent self-fertile, but crops better if cross-pollinated; it crops well with Graham's Royal Jubilee.

*Lane's Prince Albert* has been found to crop well with Lord Derby, Stirling Castle, Grenadier, Beauty of Bath, Cox's Pomona, Gladstone, and Bramley's Seedling.

*Annie Elizabeth* is said to be well-crossed pollinated by Warner's King.

*Newton Wonder*, though somewhat self-fertile, does not always crop well; Lane's Prince Albert and Lord Derby seem to be good varieties to plant with it.

*Other varieties that have been noticed to bear much pollen and are probably good pollenisers* are in approximate order of flowering:—Bismarck, Ribston Pippin, Washington, Lord Suffield, Cox's Orange, Charles Ross, Beauty of Bath (flowers specially liked by bees), Allington Pippin, Lady Sudeley, and The Queen; whereas Newton Wonder, King of the Pippins, and Irish Peach appear to produce but little pollen.

The Royal Horticultural Society's Pocket Diary for 1917 gives the following list of varieties which cross-pollinate each other satisfactorily:—Bramley's Seedling and Newton Wonder; Bramley's Seedling and Grenadier; Lord Derby and Beauty of Bath; Lane's Prince Albert and Allington Pippin; Worcester Pearmain and James Grieve; St. Edmund's Pippin and Ribston; Cox's Orange and Sturmer Pippin; Allington and Worcester Pearmain; James Grieve, King of the Pippins, and Blenheim Orange; Bismarck and Lord Derby; Lane's Prince Albert and Grenadier; Cox's Orange and Lord Grosvenor.

The Horticultural Branch of the Board of Agriculture has been studying this subject among orchards in different parts of the country, and has collected much information on the subject, and it will gladly give advice to any grower on the subject, and is pleased to receive any carefully observed facts that may be helpful to growers.

In apples very little of the pollination is done by wind; the work of pollination and cross-pollination is chiefly done by hive bees and the various bumble bees. The "Isle of Wight" disease has greatly lessened the proportion of hive bees throughout the kingdom, therefore the schemes for re-stocking with healthy bees in clean hives is of great importance to fruit growers, as the wild bees are outside the control of man.

*(To be continued.)*

## WEATHER REPORT FOR THE YEAR 1917.

WESTBOURNE, SUSSEX.

Rainfall, 28.42 in.
Heaviest fall, 2.58 on June 28th.
Rain fell on 182 days (av. 180).
Below average, 1.61 in.
Sunshine, 1,563 hrs.
Brightest day, June 4, 14.8 hrs.
Sunless days, 61 (average 61).
Below average, 246.4 hrs.
Maximum temperature, 83, on on June 17.
Minimum temperature, 17, on February 3.
Minimum on grass, 11, on February 7 and December 19.
Frosty nights, 93 (average 72).
Mean temperature, 48.0.
Below average, 0.7.
Maximum barometer, 30.694 on March 16.
Minimum barometer, 28.817 on August 28.

L. B. BIRKETT.

## WEATHER REPORT.

WESTBOURNE, SUSSEX

DECEMBER, 1917.

Rainfall, 1.62 in.
Heaviest fall, .71 on 16th.
Rain fell on 16 days.
Below average, 1.05 in.
Sunshine, 50.4 hrs.
Brightest day, 3rd, 5.3 hrs.
Sunless days, 6.
Maximum temperature, 53, on 1st.
Minimum temperature, 21, on 20th.
Minimum on grass, 11, on 19th.
Frosty nights, 21.
Mean maximum, 40.1.
Mean minimum, 30.8.
Mean temperature, 35.4.
Below average, 4.4.
Maximum barometer, 30.521, on 3rd.
Minimum barometer, 29.607, on 9th.

L. B. BIRKETT.

# CORRESPONDENCE.

## DEALING WITH BEE DISEASES.

[9609] Your correspondent (9597) has very properly emphasised the point which I made in my paper read to the County Conference of Kent Bee-keepers reported in your issue for December 10.

The irruption of the war into our views of life, and its increasing and accumulative effect upon our domestic conditions, has rendered more than ever urgent the adoption of some measure of concerted action to deal with the question of bee-disease.

That such action should be of legislative origin is highly desirable, I readily admit.

But in view of the traditional delay which waits on any attempt to move along that particular path, I would urge as forcefully as I can an acceptance of the fact that legislative action is not indispensable.

In these days it has become almost habitual to view matters from the point of view of the common good. The adoption of that point of view has settled many thorny controversies of the past. I do not think that bee-keepers are lacking in the new attitude. I am of opinion that bee-keepers to-day could be easily induced to adopt a suitable scheme of disease control if presented by a body which was free from any suspicion of officialdom, of lack of sympathy or of imperfect knowledge of the subject.

An ideal body of this nature exists in our B.B.K.A., and if bee-keepers throughout the country would agree to such action on its part, the B.B.K.A would, I feel confident, give its attention to this matter.—FREDK. C. HODGSON.

## BEE-"KEEPING" OR BEE-"STARVING."

[9610] Judging by the letters you have recently published some of your readers have been badly smitten with "Sugaritis."

What has become of the honey their bees stored last season? and would there have been all this "weeping, wailing and gnashing of teeth" over lost stocks had the respective prices of honey and sugar been reversed last July?

Mr. Hills (9606) is quite right. "There *is* evidently something wrong with the craft," but the Government and Messrs. Pascall are in no way responsible for that something, that I can see. Apparently, the excellent advice you gave last autumn *re* winter stores has passed unheeded.—W. H. WHITE.

# Notices to Correspondents

AMATEUR (New Southgate).—*Working for Increase.* (1) There are several methods, but you cannot do better than follow the directions given in the "Guide Book," page 94. To make three colonies from two, remove five combs containing brood and eggs from one, shaking all the bees off them back into the hive, place these combs in a new hive, and fill up both hives with frames of foundation. Remove the other stock to a new stand, and place the new hive where it stood. The flying bees belonging to the hive that has been moved will return to the old stand, populate the new hive, and rear a new queen, or a queen may be given them. The operation should be carried out on a warm day when bees are flying freely. (2) No definite time can be given, but probably the beginning of May will be the earliest it can be done. The hives should be

crowded with bees, drones flying, and nectar being collected abundantly. In some cases it may be the end of May or early June before the stocks have reached this condition. (3) Nothing outside the ordinary precautions when handling bees. Divide the combs first, and close up both hives, then move the other stock, be careful not to injure the queen, and do not open the entrances too wide for a day or two; leave them about 3 ins. (4) As near the first of the month as possible, generally the 3rd or 4th. This month it was later than usual, and was sent out on the 7th.

P. G. Lock (Wandsworth).—*Ventilation when Moving Bees.*—At this time of year leave the quilts and blankets on, and give bottom ventilation. Tack a piece of perforated zinc over entrance after removing slides.

Novice (Cambridge).—*Spring Cleaning.*—It is not *necessary* to transfer bees to another hive, but it is far the best and most convenient method of cleaning hives and frames in the spring.

There is very little difference taking everything into account. Extracted honey is easier to work for than comb honey. Produce what you have the best market for.

W. S. Smith (Palmer's Green).—*Bees not Taking Candy.*—Probably the colony that has taken the candy is strong, and the other weak. Is the candy directly over the clusters of bees?

The B.B.K.A. subscription is due on January 1 each year.

*Suspected Disease.*

F. Edgeler (Catford).—The trouble is "Isle of Wight" disease. The material is bits of wax from the cappings bitten off by the bees. It will not be advisable to confine the bees, but move the hive as far away from the others as possible. You might also lift the brood box off the floorboard, scrape the latter down, and then apply a strong solution of Bacterol or Izal, one part, and water two parts. Dry off the surface moisture, and replace. Burn dead bees and débris.

J. R. Deighton (Darlington).—Cause of death was "Isle of Wight" disease. The bees were not Italians, but hybrids. Probably the Italian queen you introduced was deposed, and the young one mated with a native drone. We are afraid the bees were not cured, but the disease was still there and has reappeared.

H. A. Y. (Emsworth).—(1) Probably a number were lost in foraging so late. (2) No. (3) Yes. It will be safer to disinfect them first.

## Special Prepaid Advertisements.

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*Will advertisers please read these Rules carefully in order to save trouble, as they will in future be strictly adhered to.*

**Trade** *advertisement of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at* 1*d. per word as* **"Business"** Announcements, immediately under the *Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of* 3*s. per* ¼*in., or* 5*s. per inch.*

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FOR SALE, eight W.B.C. Hives (Taylor), new last season, never used; owner unable secure swarms, and now leaving district. Each hive consists floorboard on legs, outer and inner body box, 10 frames full sheets, crate sections full sheets, two ckes and roof, painted; also 500 each of four-way and two-way grooved sections, 5 lbs. foundation cut for sections. Sold separately or together, f.o.r. What offers?—Box 10, British Bee Journal, 23, Bedford Street, W.C.2. a.9

WANTED, 10 or 12 Taylor's Combination Hives, also large Ripener, Wax Smelter, Honey Knives, Knife Heater, Uncapping Tray and Smoker. Must be in good condition, rust free, and cheap.—State price delivered to F. J. BATES, Dorset Villa, Morgan's Vale, Downton, Salisbury. a.10

FIVE 28lb. Tins Pure Light Cambridge Honey, 196s. per cwt.; sample 4d.—J. YOUNGER, 6, Maid's Causeway, Cambridge. a.11

A MAN Wanted, used to Bees and Land. Full particulars. State wages expected.—YOUNG BROS., 42, James Street, Cambridge. a.12

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NUCLEI.—Can accept no more orders till end of June. All inquiries taken in strict rotation Don't forget stamped envelope.—CLARIDGE, Copford Apiary, Colchester. a.4

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**Run Honey in bulk. Sections per gross.**
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## SENDING REMITTANCES.

Will subscribers, and others, please bear in mind when sending remittances that though the most cordial relations exist between ourselves and the B.B.K.A. the latter has no business connection with our papers. All cheques or money orders for B.B.K.A. should be made payable, and sent, to the secretary, and not mixed up with our accounts. Many people appear to be under the impression that our papers are owned by the B.B.K.A., judging by the number of cheques we receive including in the one amount subscription to the B.B.K.A., insurance, and subscription to one or both of our papers, or remittances for books. It would be just as reasonable when sending a cheque to the grocer to make the amount large enough to pay the butcher's bill as well, and expect them to adjust the matter. We have even on several occasions received cheques to cover subscriptions to both the Journal and one or other of the county associations. This kind of thing causes a lot of needless trouble and delay in adjusting accounts, and in future if cheques are sent for these mixed accounts we may feel obliged to return them to the drawer for the amounts to be separated.

*As the* JOURNAL *is now 2d. per week, we shall be greatly obliged if those readers whose subscriptions expire during* 1918, *will send cash to cover the extra 1d. per week, or let us know if we are to adjust the number of Journals sent to those covered by the subscription already received.*

## A DORSET YARN.

The first week in the New Year, very cold, no bees to be seen, all are covered up warm. We can safely look for them to winter well, must make or buy new brood chambers; the latter is best, as they are all standard size. The outer cases can be easily cleaned, but where the brood is to be cradled it is well to be on the safe side and guard against disease.

The only flowers that are open at our 50-acre farm are Christmas roses (*Helleborus niger*). We grow them because of the great demand for Christmas decoration: they have slowly opened in spite of the intense cold: they readily sell at 6s. to 12s. per gross. The plants are hardy, and where they do well a single crown will increase very quickly; in a few years twenty to a hundred flowers may be gathered from each. They always retain their foliage, which is strong and leathery, and which protects them from the intense cold; they never take kindly to lifting, they resent it, and do not yield so many flowers until they are well rooted again.

At Henbury House, near by, they are very large and vigorous; the plants are 3 ft. apart and they nearly meet; there is scarcely room for one's boot between them, without treading on the flowers; the yield of flowers is enormous. They are planted on the east side of a 12-ft. wall—they do not do on the west side; they seem to resent the strong sun on the south and west side of wall. I cannot tell if the bees get nectar, in addition to pollen, from these flowers, but I have seen them carrying in pollen to the hives at the time they are in bloom. If not gathered at Christmas the flowers will last till March—at least, some of them will; the pollen lasts a long time on the stamens, of which there are a very great number, all carrying abundance of pollen, of a pale sulphur colour.

The cold weather has stopped the violets out in the open.

We are filling up the manure yard with loads of leaves. Three women are raking them up in Merley Woods; we have had them several seasons now; some are this year's and some are other years in a state of decomposition. We consider they add potash to the soil, especially the half-decayed ones. The leaves are of all sorts and conditions: big chestnuts and planes, ash and beech, oak and elm, with a great quantity of laurel and a few lime. One piece of wood near the mansion is very beautiful, even in dull winter months. Interspersed with the deciduous trees are some immensely tall sequoias (*Wellingtonia gigantias*) from some of the first seeds that were sent to this country from the famous woods of California, some gigantic red woods (*Taxodium sempervirens*) (also from America), with hollies and laurel, not as they are usually seen, a few feet high in hedges, but growing up between the other trees, twenty and thirty feet high.

I always surmise our bees come out to this wood when the laurels and hollies are in bloom, as they fly in such great numbers in that direction. Here, when the cold north-east winds blow, not a breath can be felt. The soil never freezes be

neath this carpet of leaves, one can sit and eat one's humble fare of bread and cheese without feeling cold as one would in the open fields in winter. Sylvan beauty always appeals to me, and this spot, with gigantic rhododendrons and the swift-running brook in the valley, with its margin of green by the side of the forest, is very picturesque. It must have been something like this in early summer, which is described in Wiffin's Garcilasso—

" Him to soft slumbers call
The babbling brooks, the fall
Of silver fountains, and the unstudied hymns
Of cageless birds, whose throats
Pour forth their sweetest notes:
Shrill through the crystal air the music swims,
To which the humming bee
Keeps ceaseless company,
Flying solicitous from flower to flower,
Tasting each sweet that dwells
Within their scented bells:
Whilst the wind sways the forest, bower on bower,
That evermore in drowsy murmurs deep
Sings in the air, and aids descending sleep."

These loads of leaves, mixed with the ejectamenta of horses and cows, make a valuable manure for all crops. We find that the more we enrich the soil, the greater the crop. If it is beans and peas, or subjects which the bees visit, the greater number of flowers we get and the greater bulk of fruit from them.

This winter-time, when land is locked with frost, at our little farm it is, to use the Latin term, " In magna copia rerum " (great variety of employments), sawing and splitting firewood, carting manure, as well as each day's regular duties—the cows have to be milked, their food prepared (swedes and turnips pulped and mixed with chaff), hay to be cut from the stack for feeding horses, as well as cows—this is every day's duties. I think I have made out a case, " Great variety of employments."

I am not a Latin scholar, though I have learned a little, as the names of plants have so much of it. It was Sallust, a writer of old Rome, that I learned some from. I read there that " some men have plenty of eloquence, but little of wisdom." Have always been afraid of being one of them, have tried to gain whatever knowledge I could, not to be a wind-bag of words only. If our Editors can find room for further writings from the Violet Farm about the bees, the flowers, and fruits (that is, unless the readers of the JOURNAL are, to use a slang term, about " fed up " with the Violet Farm), I will try and carry on.—J. J. KETTLE.

## THE BEE GARDEN.

THE OFFICIAL LISTS (*continued*).

FRUITS.—Four kinds of bottom fruit are mentioned in the list:—Red currant (*Ribes rubrum*), Black currant (*R. nigrum*), gooseberry (*R. grossularia*), and raspberry (*Rubus Idæus*).

If the common bramble (*Rubus fruticosus*) and common barberry (*Berberis vulgaris*) be classed as fruits, then we have a round half-dozen plants producing edible berries.

About the bramble, its varieties and hybrids, I have already said my say, and must refer my readers to the issues of November 1 *et seq.* for notes on these and on the barberry. It is with the four first-mentioned that I propose to deal briefly here.

The space to be allotted to bush fruits in the garden or plot will be decided by everyone according to his or her circumstances. I would only point out now that whatever one plants, whether fruit or vegetable, should be the best procurable. Superiority in size, colour and flavour are qualities which afford encouragement to their achiever, while prolificacy is the justification of labour and outlay.

In the garden one may plant what one chooses: on the plot it is not always so, and before investing in bushes or canes for the allotment it would be well to examine the terms and conditions of tenure in order to avoid legal difficulties or the loss of one's fruit by enforced surrender of the ground on which they stand.

The policing of the allotment against grown-up pilferers and juvenile marauders is also a matter for careful consideration. Winged ones are equally troublesome in garden or plot, needing eternal vigilance as the price of ripe fruit anywhere.

*Red Currant.*—This, like the white one (*R. album*), bears its fruits chiefly at the base of the shortened shoots of the previous season's growth, and the pruning will therefore be different from that required by the black currant, which sets the bulk of its fruit on the one-year-old shoots. All the latter needs in the way of pruning is the thinning out of the older wood, the new growth being retained. Red and white currants, on the other hand, will need summer pruning, the leaders being cut back to about a foot and the laterals to three or four inches. Winter pruning will then consist of further cutting back the leaders to six inches, the laterals to one inch from the base. Both operations must be repeated every year. Never prune during frost.

*Gooseberry.*—This subject also needs summer pruning, July being the month

indicated for this work, which consists in shortening the young shoots to a foot in length for leaders and four inches for laterals. To facilitate picking, it is important to keep the centre of the bush open, and with varieties of pendant habit the outer branches, which droop, should be cut back so as not to have fruit at their ends soiled by rain splash. The winter pruning should be left rather late, when it will generally be found that the birds have done a good deal of it already, they being very fond, the finches in particular, of the tiny buds. Spraying with soap and quassia, or black threading may be done as preventives.

*Raspberry.* — Any attempt to secure fruit the first season after planting will be ill-advised, as all the root action is needed for the development of the canes for the year after, so cut them back hard after planting and strong growth will result. When canes have fruited, cut them right back, keeping only the young ones. These leave at a length proportionate to their strength, sacrificing any spindly, pithy ones entirely. Merely tip the very strongest, cut the medium ones back a third and weak ones as much as half.

As to the varieties to grow, doubtless no two authorities would exactly agree; certainly no two nurserymen. I, a mere amateur, dilettante if you care to use the word correctly, would not so far presume as to dictate my own preferences for adoption by others who, in many cases—Comrade Kettle for instance—know infinitely more about the matter, both practically and theoretically, than I can hope to do. So, then, I will play for safety by giving pride of place in black currants and gooseberries, to the varieties which have been specially recommended by the Fruit Committee of the R.H.S., whose 3d. booklet, revised to war-time conditions, gives valuable hints on their choice, planting, and subsequent treatment:—

Black Currants:—
Boskoop Giant.
Baldwin's Black.
Lee's Prolific.

Gooseberries:—
Broow Girl (yellow).
Whitesmith (white).
Lancashire Lad (red).
Crown Bob (red).
Whinham's Industry (red).

Having no such guide before me in the matter of red currants and raspberries, I make, for what it is worth, the following recommendations:—

Red Currants:—
Comet.
Wilson's Long Bunch.
Littlecroft Beauty.

Raspberries:—
Baumforth's Seeding.
Superlative.
Fillbasket.

Black currants are liable to infestation by a mite which attacks the buds, causing them to swell. From this symptom it is known as big bud mite, and so great are its ravages that many acres of black currants have had to be grubbed up and burnt as incurable. Boskoop Giant is considered resistant to this pest, but it is well to keep an eye on the bushes and pick off and burn any buds attacked.

The apiarian values assigned by Mr. Cowan are:—

Red currant, honey 1, pollen —.
Black currant, honey 1, pollen —.
Gooseberry, honey 2; pollen—.
Raspberry, honey 3, pollen 1.

I trust that my friends in the composing room will not turn a 1 into an ! as they did in the case of the pumpkin in a recent issue.

In the same number, a recipe for quince marmalade should read:—Ingredients: Quinces, sugar; optional, lemons, cloves. Sugar would be optional only to a facial contortionist.

A. F. Harwood.


*Greetings.*—A Happy New Year to all brother and sister bee-keepers! After a period of semi-hibernation I once more, like the bees, on the approach of a new season, rouse up to take part in the work of a new volume. Foul brood and "Isle of Wight" disease have made many lukewarm, very many more callous in the pursuit, and too many have quite forsaken the gentle art which well deserves the appellation of "the poetry of agriculture." So great a number have recently asked me if I have given up apiculture that I am constrained to say No! and again No!! Have I not, in the past, subscribed to M. Maeterlinck's dictum that "To him who has known them and loved them, a summer where there are no bees becomes as sad and as empty as one without flowers or birds."

My past season has been a good one, and the result from the two, as yet, small apiaries in which I am interested remind me of the palmiest days of the years that are gone. As increase was desired, and obtained, no average take can be recorded, but it may suffice that individual takes of

80 lbs. were secured. Honey sections were sold up to 1s. 9d. for clover and 2s. 3d. for heather—again a reminder of the good old days of 30 years ago! Some heather sections were resold at 3s. each.

*Honey Depots.*—If the recently re-constituted Scottish Bee-keepers' Association has not done much else deserving a commend, they have, in the institution of honey depots in Perth, Dundee and Edinburgh, with the prospect of others in Glasgow and Aberdeen, conferred on many bee-keepers what has proved a boon and a blessing. (Go thou, British, and do likewise!) Having tested the matter personally, I am pleased to say the prices proved equal to the best going. This is the crux of the matter as far as successful bee-keeping is viewed by nine out of ten who engage in the pursuit, whether they view it as a business or as a hobby. The labourer is worthy of his hire, and the apiarist deserves full pay, while if it brims up and runs over so much the better. In the happy times yet ahead of you younger members of the craft, this question of co-operation in disposing of the honey crop *must* take a foremost place. Don't wait until the arrival of peace; begin now—this very year. County Associations and the Central Association should bestir themselves at their first meeting, and I call upon members to table their motions, see that they are seconded and carried—*nem. con.* if at all possible.

*Inspecting Hives.*—From the very day this appears the process of examination can go on, at first tentatively, then occasionally, and later with comparative steadiness and regularity. Don't jump to the conclusion that I am advising opening any hive for many weeks yet, but I advise to keep them under surveillance by outside observation. A very great deal may be gleaned of the interior condition by the conduct of bees at the entrance on any fine day. Later, as the days go on lengthening, breeding starts in the interior of the cluster in small patches at first. Gradually these extend in size and number. Then you can diagnose how bees are progressing, and it may be well to estimate in what grade each colony should stand. Naturally, they divide themselves into three classes—very good, good, and fair. Leave the first and possibly the second to take care of themselves meanwhile, but keep a sharp look out on No. 3. These are the ones the careful bee-keeper may aid as soon as weather turns milder. Under his fostering care they often develop gradually, until they fall into the first line, when the honey flow opens. Left to themselves they would have gone under. Too frequently, nowadays, there is a fourth class, where there is no colony and only the empty hive. Deal drastically with these would be the kindest advice, as they may harbour disease.

*Using the Blow Lamp.*—This reference to disease leads to my last paragraph of this contribution. "Kill to cure" is the safest motto if there are reasonable doubts. Dispose of the combs and thoroughly clean out the hive. Use the *blow lamp*. A false impression prevails that the hive is injured by this treatment, but this is a fallacy. Some advise to *char* the hive, and the term gives a false impression. The operation is perfectly effective when the surface of the wood is only a little browned. Germs and spores are tenacious of existence, but the extreme heat of a blow flame will leave no germ of life on the surface touched by its touch. Any other means of extinguishing them has not a look in with this powerful destroyer. Be thorough in your treatment, however, and leave no fraction of an inch untouched. Treat all seams and joinings systematically, a second time. The floor-board, hive front, and flight-board should receive particular attention, and it may be well to give all these parts a double dose. Before using the lamp a scraper should be used until every part is clean as a new planed board, and after the lamp has done its duty give all possible parts two coats of good oil paint. Disinfectants may be used after all this, but not before.

## TIMBER FOR BEEHIVES.

Some months ago, at a meeting of the B.B.K.A., the question of timber for bee-keeping was mentioned and the steps to be taken to secure supplies. Since then the scarcity has become more acute, and to get a supply of foreign-grown timber is now practically impossible. Five pounds' worth at a time is all anyone can get without a permit, and that only given to favoured customers; even the small quantity the bee-keeper who makes his own hives needs, will be denied him. In this letter I purpose showing a source of supply which can be got, and which, with care, will be fairly satisfactory. In the first place, the qualities required in hive-making timber have to be considered. A timber with the minimum amount of resin, not given to warping, that will stand exposure to the weather when painted, and free from objectionable knots. Yellow pine fills all these requirements, but long before the war it was left out owing to price and scarcity, and the yellow deal of the London market was the principal timber used. A great many hives were made of what is called "Baltic white pine"— that is the name it goes

under in the timber trade in Scotland; "Spruce," which is the proper name, is reserved for American white wood goods. A good serviceable hive can be made with it, and when well made and painted it will give reasonable satisfaction. Most, if not all, the hives I have come across in the shops in Glasgow, Edinburgh, and other centres were made from it, but that wood is now a rapidly diminishing quantity, and not to be got for hive-making. I would hardly recommend the home-grown spruce, although it is the same timber grown in a different soil. There is the yellow deal, or Swedish red wood, the best that was imported. The worst feature of it was the amount of sap in the deals, but careful selection could overcome that difficulty: it also warps a bit, but the steam-chest in the joiner's shop would overcome that difficulty, and in the amateur's hands a little water and the kitchen fire would bring it to reasonable shape. That timber not being available, we must look for a supply in the home-grown article. The same timber is at hand in Scotch fir, and with careful selection as good results can be got from it as from Swedish red: a case of the same timber grown on different soil and also in different climatic conditions. We have all had our prejudices against the timber of our own country, although it was just as good quality as any we could import. Of course, we had the Swedish red sent over seasoned ready for use. The Scotch fir was felled, manufactured, and put on the market soaking wet, or, rather, with all its natural sap, and sometimes not too well manufactured, sold at a cheaper price and used only for inferior work, and we were content to pay the foreigner an increasing price for an article which was steadily falling off in quality. Since the war stopped our supplies from abroad, being in the timber trade I have repeatedly turned to the home-grown article for supplies, and when one selects and manufactures carefully, one gets as serviceable goods as ever were imported. Here may I digress and explain the process of manufacture. In the home wood mills the trees are carted to the mill, which is generally in the vicinity of the forest, dropped on to a circular saw bench, squared off to size from a mark on the bench, which if it is within a quarter of an inch, generally to the big side, it is fairly good cutting. The Swedish merchant sends his goods across cut, generally, with a frame saw, and a whole cargo will not vary 1-16 of an inch from its size. The same can be done here, and most of our foreign wood mills are getting in their supplies, and manufacturing themselves—a great deal of trouble, they say, but to keep going they are glad to do it. But to return to our Scotch fir. Timber felled now,* and cut to size, it will be seasoned and ready for hive-making by the end of January; no permit is required for it, the hive-makers will know where to go to get it; but what I would do would be to select my logs in the forest, take them to a saw mill, and get them cut to the scantling wanted; piled in an airy shed, and when required they would be there, equal in quality to the best yellow deal that was ever offered on the London market. It can be used for making frames, and all parts of a hive. Last week I cut up a dozen logs for joiner's purposes, and when seasoned it will take the place of yellow pine and cypress; it is to be used for all painted work for which they were used, and take the place of timber, which now cannot be got. Sections will also be scarce. If any appliance maker has the plant to make them, he has in lime trees the same timber as the American bass wood—which I think is also sold as cypress. Our own lime tree is neglected; perhaps in the days to come we will cultivate our own resources more, take the pains to meet the requirements of ourselves in a reasonable manner, and not make a present of our trade, which should be done at home, to our enemies, and some very questionable friends. J. C. A.

*This article was received several weeks ago.—EDS.


***The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.***

## BULLFINCHES AND BEES.

[9611] Thank you for insertion of my inquiry, *re* toxic nectar plants, and which has put right the question of *Azalea Pontica*.

Now, although referring to your edition of December 27, 1917, I must thank our friend, Mr. J. J. Kettle, for giving me an opportunity I have looked forward to for some 30 years to put *in print*—needless to say, I have not kept it to myself—the explanation of seeming wantonness on the part of *bullfinches* in parti-

cular, in clearing off the flower buds of *any* fruit trees. To be explicit—

Thirty years ago I took a crown place in the centre of the New Forest, literally surrounded by the forest, and, therefore, all birds had a free hand. Well, my first year there, the bullfinches plucked every bud from gooseberries, plums, nectarines and pears, in my so-called kitchen garden, but ever afterwards I had most luxurious full crops. I did not shoot the bullfinches, but in the winter and when the buds were dormant, I threw powdered quicklime all over the bushes, etc., and against the trained trees on the walls, and so into all crevices—and so not only killed the lichen on the bark, which, with loose bark on branches, harbours insects, but renders the taste of buds distasteful to birds. I noticed that the finches did not swallow the buds, but only searched for insects in them, and so I thought that if they found one insect in one bud it would make them keen to hunt for more. I found syringing clogged the syringe.—Major R. W. Heathcote, New Forest.

## THE PRODUCTION OF SECTIONS.

[9612] In Mr. W. J. Sheppard's article, B.B.J., December 27, he gives a method by which the bee-keepers in the Kootenays get sections and frames in one rack.

I can vouch for this method being a good one, having used it for some time. I use a plain hanging frame for the sections, 1½-in. wide, with top and bottom bars of such thickness as to bring the underside of the bottom bar level with the underside of the shallow frame.

In an ordinary shallow frame rack I get six sections and five shallow frames (wide spacing about 1½ in.).

I rarely put in a super but what is fitted up in this way, and find the method a great success.

I have adopted a method of working mixed section racks as well as mixed shallow frame racks. It is well known that frequently bees will sulk or swarm rather than enter the first rack of sections. They seem to dislike the little boxes with narrow bee-ways. My method is to take out the centre row of sections and in their place put a shallow frame with drawn-out comb (if possible).

With a 2-in. space in the centre of the rack, and a comb hanging in it, there is no doubt about the bees coming up to work on it, and once there they will stay and work on the sections. The fact of getting them up at once and started storing both saves valuable time and prevents swarming. This should be a boon to section producers. The method is very simple, requiring no mechanical work and no alterations to the section rack whatever, not a nail nor a cut.

Should any bee-keepers be interested in the method I should be pleased to publish the particulars, or to send one of my racks to, say, an Association, so the members could examine it themselves.

To distinguish it from any other method I will call it the "Ionic" method of section rack.—W. Ion, Healing.

## "ISLE OF WIGHT" DISEASE: THOUGHTS AND SUGGESTIONS.

[9613] My experience of this unfortunate disease, in common with others, has been that the bees generally contract it after the honey flow in August, and that it is the strongest stocks and best workers, which are also as a rule most inveterate robbers, that bring the trouble home and start crawling. We know that a microscopic animal parasite called *Nosema apis* is found in great numbers in the chylestomach and intestine of the bee; now, as the bees get the infection principally in the autumn after robbing, I think the source of the evil must be looked for in the hives robbed out where the bees, from some cause or other, have died and left behind combs with honey and pollen which has undergone fermentation and become putrid with mould: unfortunately, there exist too many of such hives all over the country, and most owners hope that some day a swarm may come along and re-populate their empty hives. I know of a case in point where this actually did happen—a swarm came along one fine day in May: the hive was teeming with busy life again for a month or so, when all at once, right at the begining of the honey flow, there was a dead stop: supers were deserted and crawlers increased from day to day—their fate was sealed: the colony went the same as their predecessors, and in the autumn the hive was robbed out by neighbouring hives and the disease sown broadcast once more. Now, how did these bees contract the disease? My contention is that the spores lay dormant in the old combs, that the bees, forming the swarm, when they took possession had sound food with them to start with and went foraging at once, but all the brood raised subsequently in the old combs became infected and succumbed to the disease as soon as the "planonts" reached the "meront" stage. A few years ago I had a similar experience with an apparently healthy stock—there were no outward signs till a swarm issued and then the ground was covered with crawlers and the swarm ultimately perished. In view of these facts, I would suggest that our scientific bee-men, who should first of all be entomologists and practical bee-keepers, turn their attention

from the laboratory to the hive itself, and make an analysis of the contents of old combs containing fermented honey and putrid pollen, to establish beyond doubt the fact that the bacillus being the source of the disease exists in the spore state in the old combs. On proof being obtained, I would recommend scientific research as to the best treatment, to effect a cure on different lines, of, say, three stocks on diseased combs placed at a distance of at least eight miles from existing apiaries, as a sort of isolation hospital, and, as to the use of remedies and treatment, this might be left to the discretion of the investigator, but to my mind, it cannot be right to draw deductions from the effects of anti-septics upon the human system, as that of the insect does not quite bear comparison. We are warm-blooded, whereas bees, as all insects, are cold-blooded, or rather their vital fluid is, and they require oxygen and warmth to keep them alive. I may be wrong, but think it must stand to reason that the influence antiseptics have upon the human system cannot produce similar effects upon the fluid and digestive system of insects, and, consequently, other agents must be employed to produce analogous results. I would suggest to try a remedy in the form of an aperient strong enough to free the chyle stomach and digestive system from *Nosema apis*, and enable the bees to void their fæces, and as a counteracting tonic, perhaps protein might be given in syrup in order to build up the system and enable the digestive organs to supply the vitalising and formative material called blood.

In throwing out these suggestions, I might say that I should be only too happy to be able to carry out any experiments under the advice of a scientist, but, unfortunately, my time does not permit. I trust, however, that someone more fortunately placed may be able to act upon my suggestions, and by his efforts confer a lasting boon upon our Busy Bee and all who take an interest in apiculture and its products.—O. Puck.

[The above letter was received before the article in B.B.J. for January 10, "Momentary Questions," by Dr. Abushady, was published.—Eds.]

## *RE* PASCALL'S BEE CANDY.

[9014] I cannot understand the rabid way the Government has been pitched into for arranging where we can get our excellent *medicated* bee candy—where can one get it cheaper and pure? I have fed my bees on it for two years, and my twenty-two hives are sound and well.

I think the Government were perfectly right in *preventing* the sugar being used in any other way than for bees.—Major R. W. Heathcote, New Forest.


## USING MOTOR CYCLE TO VISIT OUT APIARIES.

[9072] I shall be obliged if you can give me any information or advice on the following point of law and bee-keeping.

I have about 25 stocks of bees in three out apiaries, ranging from five to eighteen miles from where I live.

There is a railway runs near two of them, but not the third one.

Until now I have used a motor cycle (for which I hold a petrol licence) to visit these apiaries.

I have now been informed that if I use it this year for that purpose I shall be summoned. I consider this very hard, and should be glad of any advice you can give me on the matter. If I have to travel by rail and break business time to do it (which I certainly should have to), I shall be out of pocket with my bees. It is not advisable to have all my bees in one place near home on account of "Isle of Wight" disease. Should it break out in one apiary it could be better dealt with to prevent spreading better than if the stocks were all together. Petrol.

Reply.—We sympathise with you, as we are motorists ourselves. It is impossible for us to advise you, as the Act is left for the local magistrates to interpret as they think fit, so that the decisions in prosecutions are as variable as the British climate. You had better consult the police, and if they say you will be infringing the law, then there is no other course left for you than to use train or horse conveyance.

## RE-QUEENING.

[9073] I have a hive containing six frames — five covered and one part covered; would you advise me to get a neuclei of, say, three frames, or leave them as they are? I think they require re-queening, because they did not fill up the frames as they should have done When should I re-queen? They have a little honey, but I am feeding.—J. D. Kirkham.

Reply.—The colony would build up quicker if a nucleus with a young queen was united to it. This, or re-queening, should be done as early as possible in the spring, but you will probably be unable to get either a nucleus or a queen until towards the end of April.

## Notices to Correspondents

A. S. BAGGOTT (Hereford).—*Introducing New Blood.*—We do not think you need worry about doing this. As man has no control over the mating of the queens, in-breeding probably does not occur to the extent it otherwise might do. If you do introduce new blood get a queen, but be careful she comes from a disease-free apiary. It is somewhat difficult to get all the qualities you desire. Italians would most likely suit you. Re-queen at the earliest opportunity. If your bees are healthy and good workers we advise you to let well alone. For dealers see our advertisement columns.

MISS M. CUDWORTH (York).—*Avoiding Loss of Bees.*—If the bees are all dead on the combs, with abundance of stores and have been "crawling," we are afraid the cause was "Isle of Wight" disease, and not any mismanagement on your part. Extract the honey from the combs, if they are clean. It is quite wholesome for human consumption. Melt the combs down for the wax, burn the refuse, the frames and the quilts, and disinfect the hives before using again. Give the ground round the hives a heavy dressing of builders' quicklime, and, if possible, dig it over. We prefer the "British Bee-keepers' Guide Book," 1s. 6d., post free from this office for 1s. 8½d.

*Suspected Disease.*

E. H. E. PIZEY (Send), MRS. WILSON (Sidcup), MRS. HALES (Sidcup), W. A. K. (Surrey), and WODEN (Wood Green).—Death was due to "Isle of Wight" disease.

NOVICE (Llandudno).—The trouble is "Isle of Wight" disease. The candy will not now be stored, but the bees will consume it as needed. You can do very little for them at this season. On a mild day you might remove the floorboard, scrape off all dead bees and débris, and burn them, wash the board down with a strong solution of Bacterol or Izal, and replace it.

AMATEUR (Warrington).—"Isle of Wight" disease. Dutch.

## Special Prepaid Advertisements.

**Two Words One Penny, minimum Sixpence.**

**Trade** *advertisement of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at* 1d. *per word as* **"Business"** Announcements, immediately under the *Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of* 3s. *per* ½*in., or* 5s. *per inch.*

*PRIVATE ADVERTISEMENTS are only intended for readers having* **Surplus Stock** *to dispose of.* **Driven Bees, Nuclei,** *and* **Queens that are reared or imported for sale,** *are Trade Advertisements, and can only be accepted under trade terms.*

*Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.*

*Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.*

### PRIVATE ADVERTISEMENTS.

**200** one lb. screw-top Jars of Light Honey, 2s. 3d. per lb.—EDLINGTON, 268, Newland Avenue, Hull. a.13

FIVE 28lb. Tins Pure Light Cambridge Honey, 196s. per cwt.; sample 4d.—J. YOUNGER, 6, Maid's Causeway, Cambridge. a.11

A MAN Wanted, used to Bees and Land. Full particulars. State wages expected.—YOUNG BROS., 42, James Street, Cambridge.

WANTED, Stock Bees, free from disease, in frame hive.—Full particulars and price to DR. BRIGHTMORE, Burford, Egham, Surrey. a.14

WANTED, small Fireproof Safe; state size and particulars.—"A. G.," BRITISH BEE JOURNAL Office, 23, Bedford Street, Strand, W.C.2. a.15

A FEW dozen good sections of Honey, each in cardboard case, 2s. each.—HINE, Fourways, Hemyock, Devon. a.16

WANTED, quantity Light Honey, Bottles or Tins.—NORTH, Cressing, Braintree, Essex. a.17

WANTED, one or two Simmins' Double Conqueror Hives, complete, perfect condition; also two best make W.B.C. Hives.—Particulars and price to A. G. GRAY, Dean Wood, Newbury. a.18

WANTED, Bee Books, "Modern Bee Farm."—BRAND, JUNR., Mains, Hatton, Cruden, Aberdeenshire. a.19

**FOR SALE ¼ plate Koilos camera, with Goerz Dopp anastigmat f/6.5 lens, can be used either for hand or stand work, twelve single dark slides and film pack carrier. The whole packs in stout block leather sling case, 9in. long, 6in. deep, and 2½in. wide; also light brass telescopic tripod, in leather sling case, all in excellent condition, and used by me to take the illustrations in "Helpful Hints" and "Continental Wanderings." The outfit for sale in one lot for £6; reason for selling have bought a Reflex. A splendid opportunity for anyone wanting a good reliable camera. Will send on approval; Deposit.—HERROD, "B.B.J." Office, 23, Bedford-street, Strand, W.C.**

### BUSINESS ADVERTISEMENTS.

COMFORTABLE APARTMENTS for Brother Bee-keepers visiting Douglas. Terms: Tea, bed, and breakfast, 3s. 6d.; or full board, 5s. per day.—HORSLEY'S, Merridale House, top of Castle Drive, Douglas, Isle of Man.

MESSRS. STONE & SON, LTD., Chemists, Exeter, are buyers of English Beeswax, in large or small quantities. Write, stating quantity and price required. a 3

NUCLEI.—Can accept no more orders till end of June. All inquiries taken in strict rotation. Don't forget stamped envelope.—CLARIDGE, Copford Apiary, Colchester. a.4

TO CLEAR, 50 Racks, taking 24 sections, soiled, 1s. 6d. each; six Lee's, No. 48, new, 2s. 6d. each; four W.B.C., hanging frames, unused, with frames and dividers, 4s. 6d. each.—Box 11, BEE JOURNAL Office. a.20

**HONEY AND BEESWAX PURCHASED.**
**Run Honey in bulk. Sections per gross.**
**HONEY FOR SALE.**
**Cuban, Californian, English, Irish.**
**Free tins and cases, carriage paid. Cash with order. Samples, 3d. Prices on application.**
**A. GORDON ROWE, 28a, Moy Road, Cardiff.**

# BURTT, Gloucester, FOR BEE APPLIANCES.

*ILLUSTRATED CATALOGUE FREE ON APPLICATION*


## SEASONABLE HINTS.

From the present time until the bees are able to gather nectar from the early flowers is the most critical period, so far as stores are concerned. The great majority of the losses from starvation occur during the first three months of the year, February and March being the worst of the three. The bees have, for the past three months, been living on the food stored in the combs for winter use, and unless there was a good quantity at the beginning of the winter the supply will be running dangerously low, just at the time when it is most needed. If breeding has not already commenced, it will do so very shortly, especially if the mild weather prevailing as these notes are being written continues for a short time, and as the quantity of brood increases the demands on the stores will become heavier. Do not allow the bees to starve. It is bad policy even to let them have only just enough to scrape through until the spring, as the result will be to check breeding, and thus keep the colony weak.

Bear in mind that it may be the strongest colonies that are on the border of starvation, this condition being actually due to their strength. A strong colony may consume less stores, comparatively, than a weak one, the latter having to use food to keep up the temperature, which is done by the number of bees in the former. A strong lot will also have more brood to feed than a weak one. If there is the slightest doubt as to the amount of food—and there should be ample for all needs—keep a supply of candy over the frames, when one cake is consumed give another. There is still a supply of candy, but it is not unlimited. The expense may be reduced if several bee-keepers who only need small quantities "club" together, and get it all in one lot, thus reducing the expense both in the price of candy and the carriage.

On mild days the bees will be able to indulge in a much needed "cleansing flight," when the hives and their surroundings will be more or less spotted with excrement. Some of the new additions to our ranks may be somewhat uneasy at seeing this, but there is no cause for alarm, rather is it a sign that all is well. If the bees are suffering from "Isle of Wight" disease they will be unable to fly and rid the bowels of the fæces accumulated during the time stress of weather has confined them to the hive. It is natural for them to void the excrement when on the wing.

Keep hive entrances clear of dead bees, and see that the quilts are dry after the storm of snow and rain; any that are damp should be dried, or replaced by dry ones, and if the roof is leaky it should have attention.

Rearranging the apiary, if necessary, should be done if possible before the end of the next month, as after that bees usually have frequent opportunities for flying and locating their home. Preparations for the coming season, such as making, repairing, or painting hives, preparing supers, etc., should be continued, or if all this is done one's knowledge may be extended by reading good bee literature.

## BRITISH BEE-KEEPERS' ASSOCIATION.

The monthly meeting of the Council was held at 23, Bedford Street, Strand, London, W.C.2, on Thursday, January 17, 1918. Mr. W. F. Reid presided. There were also present:—Miss M. D. Sillar, Messrs. J. N. Smallwood, G. Bryden, G. F. Fanuch, A. G. Pugh, T. Bevan, W. H. Simms, A. Richards, J. Herrod-Hempsall (Association representative), E. Ff. Ball (Bucks).

Letters expressing regret at inability to attend were read from Messrs. T. W. Cowan, C. L. M. Eales, G. W. Judge, and J. Steel.

The minutes of Council meeting held on December 20 were read and confirmed.

The following new members were elected, making over one hundred for the current year:—Misses Dean, H. H. M. Coates, C. T. Herford, G. Elliott, Messrs. B. T. Abell, D. R. Kelsey, W. Shepperson, and T. H. E. Watts-Sylvester.

The report of the Finance Committee was presented by Mr. Smallwood, who stated that payments into the bank for December amounted to £31 19s. 9d.; the bank balance on January 1 was £105 9s. 5d. Payments amounting to £22 3s. 9d. were recommended.

The annual report and balance-sheet for 1917 was presented and passed.

It was resolved to hold the annual meeting, but no conversazione, on Thursday, March 21, 1918, at 4 p.m., in the Council Room, 23, Bedford Street, Strand, London, W.C.

A communication was received from the Gloucestershire Association that they are in favour of the standardisation of hives.

Next meeting of Council, February 21, 1918, at 23, Bedford Street, Strand, London, W.C.

## A DORSET YARN.

Still filling the manure yard with leaves; the work on the land is all prospective. We are looking forward to bumping crops in 1918. It is astonishing how even a small dressing of humus to the soil adds to the weight of crops; in many instances the weight is doubled. Where we grow crops that are food for man, as well as animals, this year, above all, they must be weighty, but crops for bees will not be missed; so load upon load of leaves are hauled into the muck-yard. The girls in the woods, collecting them beneath these gigantic forest trees, at a distance look like fairies, or nymphs (they are very fair to look on), so small they look by the side of the giants of the forest, particularly when the branches lift off their head-dress, and woman's "crowning glory" falls all around and over them.

In the one of Keats's writings—he was praying for inspiration—he says:—

"'Twill bring me to the fair
Visions of all places; a bowery nook
Will be an elysium—an eternal book
Whence I can copy a lovely saying
About the leaves and flowers: about the playing
Of nymphs in woods and fountains: and the shade
Keeping a silence around a sleeping maid:
And many a verse from so strange influence
That we must ever wonder how and whence
It came."

The same beautiful writer (unless my memory is at fault) said:—

"Many and many a verse I hope to write,
Before the daisies, vermiel-rimmed and white,
Hide in deep herbage; ere yet the bees
Hum about globes of clover and sweet peas."

We who have read the beautiful strings of words can always see the beautiful, though words of we tillers of the soil cannot describe the sylvan beauty as these great writers have done; but we can see them, and enjoy their intrinsic beauty both in winter and summer. Wordsworth wrote:—

"Nature never did betray
The heart that loved her; tis' her privilege,
Through all the years of this our life, to lead
From Joy to Joy; for she can so inform,
The mind that is within us, so impress
With quietness and beauty, and so feed
With lofty thoughts, that neither evil tongues,
Rash judgments, nor the sneers of selfish men
Shall e'er prevail against us, or disturb
Our cheerful faith, that all which we behold
Is full of blessing."

In these warm, sheltered woods everything is full of promise, the laurels already showing their racemes an inch and a half long; the pollen flowers of the hazels are lengthening, though not yet showing colour, the former rising upyards, the later pendulous. The huge lime-trees have their scarlet buds already swelling at the extremity of growth. All these, to the bee-man, are sure signs of food in plenty for our little workers in their season.

The limes, walnuts and tulip trees in the park of this estate are a tremendous height: the limes are of great girth at the base, and, where the cattle cannot get to them, their immense branches have come down to the ground. It is no wonder that bees do well near such wonderful trees, for their numbers are many, and all are big ones.

The distinguished owner (Squire Levett) is justly proud of these fine trees. I have seen him looking at their great trunks, have watched his eyes rising upwards, and outwards, at their great branches, and their wonderful ramifications. One can see that he loves Nature as much as anyone I have ever met. Here the squirrel has no fear of man. In these laurels sleep the many large battalions of starlings that in winter always keep together in the fields by day, and come to the warm woods by night to sleep, and here the owls call to each other that there is food for their midnight repast (bad for the starling). Here are blackbirds and thrushes, making merry with the berries of holly all day and every day, so many there are, without fear or hindrance. The "coo" of the pigeon and the screech of the jay—one is thrilled by the voices, and in the words of one of Scotia's sons:—

"I knew the voice, I knew it was thine,
O liberty divine!
Therefore my heart did greet it.
For I too was free."

As one sees the loads of leaves go home, one can see, in prospective, the extra weight of crops that will result from them. When in the yard we throw the liquid manure from out of the tanks over them, and then turn the whole over, with all the manure from the cows and horses. The leaves of themselves would be of poor value, but when treated with the urine of cows and horses they are very valuable for the production of food.

The War Agricultural Committees have power to farm the land themselves, if the owner does not; they are going to carry out the teaching of the parable of the talents. He who will not, it will be taken

from him, as the earth must bring forth the increase in all food crops; it is for us few who keep bees to see that they also do the most they can by giving them the means to store the surplus.

Now is the time to prepare: now is the time to read up the guide books: then one will see that the many racks for sections are ready for the honey flow, plenty of wired frames ready for the young colonies and for the surplus honey. Last winter I made 30 extra racks for sections, so as to have plenty to put on as they filled the early ones. See that the sections are ordered early, all frames purchased and fixed together during the winter evenings, but I do not advise anyone to put in the whole sheets of brood foundation if the workshop is a very cold one, or indeed if the weather is very cold, as the wax is liable to break, it must be done in a warm room: a quicker and better job is the result of the warmth, at least, that is my experience.

In the spare time on winter evenings we get on with the seed. Beans, the white haricots I had sent from America, are a dainty dish; we get them shelled out (I have not enough to have them thrashed by machine), they will be ready for sowing when the end of April comes, and we have plenty to cook for ourselves in the meantime. I have started broad beans myself before five in the morning (as soon as the animals are fed) in order to get off by an early train a consignment to the Lake Country.

I should like to see the grounds of Mr. Martin, his bees and his flowers, and the romantic country in which he lives; the wonderful lakes where the great men of letters used to stay. The place must be full of memories of Ruskin, Wordsworth, Tennyson, and others. There is a lot in old England I still want to see.

I had a picture postcard from the Lake Country a week before Christmas, with the American flag flying alongside of the Union Jack on the top of one of its hotels. We shall soon see more of these two flags together, now that the American people are flocking to this country.

One American lady wrote me from Bucklands Hotel, Brook-street, her appreciation of apples, honey, and butter, and, to use her own words, "I am afraid I exceeded the ration limit for breakfast with the good things from the Violet Farm." All this is by the way. Your readers will see I can blow my own trumpet well. After all, this is the part of our Empire that I am trying to make productive, and if by writing the details of production, it helps other bee-men who have land, then it is not written for naught. The more the land is tilled, the better for crops, the more free from large pieces, which extra ploughing turns up to the air and frost, then, as the days lengthen, the sun's rays can get down into the soil to warm it, then "the land that was desolate becomes like a 'Garden of Eden.'" The produce you have to sell is good, and prices are remunerative: no better commendation can a grower have when the cheque comes than: "Send on some more like the last." He who has his bit of land to work for himself can be near his bees in the honey season, where he that has to go to the office or factory cannot get the pleasure he would do each day. He would only have his Sundays to see them, and if it is wet (as many of them are) he would not see much of them.—J. J. KETTLE.

## THE BEE GARDEN.

THE OFFICIAL LISTS.—*Continued.*

The only timber tree to figure in the lists is the Bastard or False Acacia, *Robinia pseud(o) acacia*, a native of the United States, known in America as the locust tree. The values assigned are:—Honey, 3; pollen, 1. There is a striking fitness in the singling out of this subject for inclusion, since there is, surely, no other tree that equals it in apiarian value or that is destined to play so important a rôle in sylviculture or arboriculture from the bee-keeper's point of view.

Both Root, in the "A.B.C., and X.Y.Z.," and Dadant, in his revised "Langstroth," emphasise the importance of the locust tree, the latter saying, page 380, "The common locust (Fig. 122) is a very desirable tree for the vicinity of an apiary, yielding much honey when it is peculiarly needed by the bees." Groom, in "Trees and their Life Histories," says of its blooms, "the filaments of only nine stamens are united to form a tube, which is open along the back where the solitary separate stamen stands. This slit in the tube provides for the escape of the abundant nectar, which is secreted by the inner surface of the face of the tube. A yellow or green spot at the base of the back petal (standard) guides visiting bees to the outflowing nectar."

The florescence is in June, from the axils of the leaves. The flowers, in long pendant racemes have much the habit of laburnum, but are larger. If we give to laburnum the name "golden chain," then robinia should assuredly be called "silver chain," for a matured tree in full bloom, under a summer moon, or, indeed, in any light, is a faërie sight.

At Heathrow, where I had two magnificent ones before the house, nothing gladdened my eyes at the end of my daily four-mile walk or cycle-ride from the station so much as the rosy-pearl masses of

bloom as I caught sight of them from down the lane.

Nor were the bees less appreciative. Their hum, localised and centred in the crowns of those twin trees, was the most fitting accompaniment to my week-end labours in the garden. The scent of the flowers, exquisitely refined, was the most delicate caress the south wind laid on me. Nigh, all our English sentiment for trees centres round the oak. In the land, erstwhile the home of toys and fairy lore, now the den of atavistic megalomaniacs reverted to the cave-man type, the linden gathered about it a special sense of affection. The great leafy crowns offered a welcome shade, and the flowers embalmed the sheltered seats of generation after generation of villagers, who looked upon the linden as something almost sacred, certainly as a friendly confidant of all their secrets, plaints, and woes.

The Parisian, even the most inveterate lover of the boulevards, has long loved to get away, by any route or means, to that unrivalled plaisance the Bois de Boulogne, or to the Jardin des Plantes, there to make love, or literature, or an exhibition of himself—*Sous les acacias*. By the way, it was Jean Robin, *pépiniériste-herboriste* to Henri IV. of France, who first obtained seed of the false acacia from Virginia, and his son, Vespasien Robin, founder (1626) and director of the Jardin des Plantes under Louis XIII., son of Henri IV., who first cultivated the plant in Europe. The name robinia enshrines the memory of father and son alike. The original tree, planted out in 1635, was still standing in 1892 when it was 75 ft. high.*

In France no honey is more highly prized than that obtained from the robinia, its delicacy being indicated by its description as "le miel des dames." Unfortunately, much of the harvest from this source is spoilt by admixture of nectar from *ailanthus glandulosa*, Japan varnish tree or Tree of Heaven, which is grown as an ornamental in the same neighbourhood.—A. F. Harwood.

* For the guidance of anyone who would like to pay it a visit during his or her stay in Paris, I may say that it stands on the left of the Allée des Tilleuls (lime walk), just behind the ornamental shrubs.

## THE QUESTION OF POLLINATION OF FRUIT IN RELATION TO COMMERCIAL FRUIT GROWING.

*By C. H. Hooper, F.R.H.S., Member of Scientific Committee of the Royal Horticultural Society.*

(*Continued from page* 14.)

### PEARS.

The following is an attempt to give an account of the results of investigations so far into the pollination of pears.

The majority of pears show themselves to be self-sterile, or very nearly so in pollination trials, and many varieties seem to show a preference as to pollen.

It was the non-bearing of trees in a large orchard of Williams' Bon Chrétien (Bartlett) that first started the study of fruit pollination by the United States Department of Agriculture.

The following varieties have been found to a slight extent *self-fertile*:—Conference, Durondeau, Duchesse d'Angoulême, Colmar d'Eté, Hacon's Incomparable, and Marguerite Marillat; and in America, Duchesse d'Angoulême, Beurré Bosc, Beurré Diel, Doyenné d'Alençon, Flemish Beauty, and White Doyenné. Whilst among the apparently *self-sterile* are Beurré d'Amanlis, Beurré Superfin, Catillac, Emile d'Heyst, Jargonelle, Josephine de Malines, Louise Bonne of Jersey, Williams' Bon Chrétien, Olivier de Serres, Bellissime d'Hiver, Pitmaston Duchess, Beurré Alexandre Lucas, Clapps' Favourite, General Todleben, Winter Crisanne, Marie Louise, Dr. Jules Guyot, Beurrê Diel, Citron des Carmes, Uvedale's St. Germain, St. Luke and Souvenir du Congrès.

*Conference* is probably the most self-fertile of the pears we grow; the self-pollinated pears that mature are sometimes cucumber shape, without seeds, instead of being bell-shaped. Mr. F. J. Chittenden, Director of the Royal Horticultural Society's Gardens, tells me that self-fertilised pears of Durondeau, Hacon's Incomparable, Marguerite Marillat, and others are precisely similar. Conference seems to fruit better on the quince than on the pear stock.

*Dr. Jules Guyot* fruits well among other pears, and seems to do better on the pear than on the quince stock. Doyennê du Comice and Williams' Bon Chrêtien seem to be good pollenisers for this variety, judging from pollination trials at Malvern.

*Williams' Bon Chrétien* is nearly self-sterile here, only occasionally maturing fruit with its own pollen, and should be planted with other varieties; in pollination trials fruit set and matured with pollen of Le Lectier, Winter Crisanne, and Fertility but failed to mature fruit with pollen of Clapp's Favourite, Dr. Jules Guyot, Pitmaston Duchess, and Souvenir du Congrès. In the U.S.A. Beurré d'Anjou and White Doyenné are found to be good pollenisers for this variety; and in Victoria, Australia, Bailey's Bergamot is a good variety to interplant.

*Pitmaston Duchess* is a variety that in many places fails to fruit well, and is for practical purposes self-sterile. In a plantation at Framlingham, planted in the proportion of six Pitmaston Duchess to one Catillac tree, a fair crop was reported. Williams' Bon Chrétien pollen has given good results in my own pollination trials with this variety in both years, and also at Malvern; but fruit did not mature with pollen of Duchesse d'Angoulême, Dr. Jules Guyot, or Doyenné du Comice. Louise Bonne of Jersey is recommended as a good polleniser from experience in Herefordshire.

*Doyenné du Comice.*—This beautiful pear, in some places, often does not crop well; at Chart Sutton, near Maidstone, it fruits only fairly well in different plantations with Pitmaston Duchess, Conference, and Fertility, there only being about a quarter crop in each case. With Emile d'Heyst, Souvenir du Congrès, and other pears it fruits well in a five-acre pear orchard at Teynham, near the sea-coast.

Mr. G. P. Berry, Horticultural Inspector of the Board of Agriculture, tells me he has found this variety fruit well where interplanted with Glou Morceau.

*Clapp's Favourite* fruits well among a mixture of pears, but where planted next to a long row of Conference at Borden very little fruit matured. In pollination trials, fruit set and matured with pollen of Josephine de Malines, but failed with pollen of Marie Louise, Fertility, and Dr. Jules Guyot. Clapp's Favourite is found to be a good polleniser for other varieties of pear grown under glass.

The following pear trees have been noticed to carry plenty of pollen:—Uvedale's St. Germain, Emile d'Heyst, Williams' Bon Chrétien, Clapp's Favourite, Catillac, General Todleben, and Pitmaston Duchess.

The following kinds of pear were noticed to carry but little pollen:—Vicar of Winkfield, Durondeau, Conference, and Beurré Hardy.

An average of seven records gives the approximate order of flowering as:—(1) Beurré Hardy, (2) Duchesse d'Angoulême, Beurrê Clairgeau, (3) Beurrê Diel, (4) Beurrê Bosc, (6) Marguerite Marillat, (7) Beurré Superfin, (8) Williams' Bon Chrétien, (9) Durondeau, (10) Jargonelle, (11) Pitmaston Duchess, (12) Catillac, Louise Bonne of Jersey, Souvenir du Congrès, Clapp's Favourite, (13) Doyenné Boussoch, (14) Dr. Jules Guyot, Beurre Giffard, (15) Doyenné du Comice, (16) Marie Louise d'Uccle. Different varieties of pear are in flower from about thirteen to twenty-four days (average eighteen days), full flower fifth to eleventh day after commencement (average eighth day). As with apples, the earliest flowering pears have shed their petals by the time the latest flowering commence to flower, so it is preferable to plant those that flower about the same time near one another.

*(To be continued.)*

## MOMENTARY QUESTIONS.

*(Continued from page 13.)*

(3) The third school assumes an *indefinite attitude*, believing neither of the former opinions, and holding that, so far, *no serious* investigation has ever taken place. They would like to see that the various diseases of adult bees are examined *in relation to one another*, and they cannot yet convince themselves that under the title of "Isle of Wight" disease there do not exist several diseases of undetermined nature, presenting many common symptoms. It is known, for instance, that in 1906 Mr. H. M. Cooper, the hon. secretary of the Isle of Wight Bee-keepers' Association, described the disease clinically in terms similar to those given to the so-called "Bee Paralysis." Since then many cases are on record, presenting almost similar symptoms, and proving finally not to belong to the same disease. Is it possible,

after all, that they all *do* belong to the same disease, but of different virulence, and consequently of different issue? No sensible person could possibly be hostile towards this minority of bee-keepers who come to such a conclusion, not as a result of prejudice, but from long observation and deep thinking. On the other hand, such a hostility is justified towards those in responsible quarters who, within the sounds of the guns and the loud call for food production and food economy, are enjoying a profound apathy towards apiculture, and are absolutely indifferent to the renewal of research for the *final* solution of the discouraging problems in bee-keeping, the foremost amongst which is that of bee diseases.

I have arbitrarily classified these three main theories, contributing personal remarks to each of them, though I am inclined more to support the theory of infection, but not without a belief in parts of the others. Such an inclination and belief is in reality *not fully* justified in the light of present knowledge. It is, however, a temporary and a reasonable view, to be maintained or discarded according to the results of the more accurate investigations, which we all are now looking forward to.

To complete this narrative, I must refer again to the second theory suggesting a toxæmia, from absorption of accumulated intestinal poisons, as the leading factor in the production of malignant dysentery. Now, granting this is truthful (and there is some evidence to show that it is at least a contributing factor), how could this evil source be avoided. On theoretical grounds, as well as on practical ones that need further observation, I have no little faith in the artificial heating of hives. To raise the temperature of the hive to a high degree in winter is a most harmful procedure, which is sure to predispose to dysentery; but to raise the temperature *mildly* so as to avoid an excessive sleep among its occupants, without causing an undue activity should be anything but harmful. It would raise their vitality, avoid their likelihood to starve in a bitter winter in sight of their stores, and would encourage them to cleanse themselves regularly outside the hive, if kept in a warm conservatory, or in their detention chamber in case the hive is directly heated. Perhaps, in both cases, a detention chamber is advisable. It is not likely that short cleansing flights in a warm winter shed are going to affect the much-needed comparatively long life of the autumn bees, in order to carry the colony to the spring. Such a limited activity is not like the almost 24 hours' activity of spring and summer bees. Again, from limited observations, I am inclined to think that the state of the atmospheric temperature is an important factor in determining the length of the breeding period. This year many bee-keepers complained that their queens ceased laying in September. With a weak stock which I possess, I continued artificial heating both day and night through nearly the whole of October, and I witnessed *large* quantities of pollen taken in, which makes me imagine that it was gathered under *the breeding stimulus* and not only for future use. I ceased to apply this heating by the beginning of November, and in a few days I noticed on the alighting board some eggs and larvæ brought out, presumably dead as a result of a chill. The observation, in conjunction with the following comparative inactivity of the pollen gatherers, in spite of the existence of bee flowers, and the occasional favourable nature of the weather, made me attach some importance to the effect of the temperature on breeding. I still warm a hive when the weather is severe, but this is done in a rough way. I imagine that if uniformally adopted during the whole autumn and winter on scientific lines, it would revolutionise the period of breeding, and would, perhaps, aid in the creation of many artificial swarms. Bees in subtropical countries enjoy no winter sleep, and although bee-keepers there do not make good use of their bees from following old useless methods, they do not suffer during the winter the heavy mortality among the bees borne by apiarists in England. This hibernation of bees is consequently not a natural desire, but rather a natural adaptation, forced by climatic conditions. Again, the way in which bees feed themselves during the winter is an adaptation to climatic conditions; the bees on the top row are in the warmest position, and consequently possess sufficient energy to pass the food to those below them. Once the weather is sufficiently severe to restrict this limited energy and to crystallise the honey the whole colony is faced with starvation. I repeat, therefore, that the question of the artificial heating of hives *on scientific and economical lines*, is worthy of the thoughtful consideration of experienced bee-keepers, not only for the stamping out of dangerous diseases that spread chiefly during the cold season, but also for the vital purpose of saving the lives of many stocks. Bees, in a sense, may be the best packing for bees; but this is a crude method which does not solve the foregoing problems.—A. Z. Abushady, Ealing.


*The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.*

## A MEAN TRICK.

[9615] I refer to the Roll of Honour in your issue of August 30 last.

My neighbour and fellow bee-keeper, Lce-Corpl. A. Chudley, of Hanwell, who is now serving with the Egyptian-Palestine Forces, asked me, before his de-departure, to close down his hives at the proper time. This I did, giving to each stock a cake of candy.

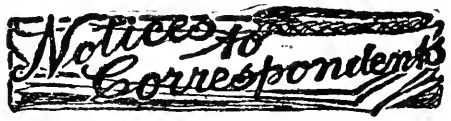
A short time since, Miss Chudley, his sister, called on me and told me that, having examined the hives to see whether a further supply of candy were necessary or no, she could find no candy on any one of them. Thereupon she supplied all with a fresh cake, and wondering whether the bees would take to it, examined again a few days later, when, to her surprise and dismay, she found that all the candy last put on had been stolen, the quilts being in disorder.

I hesitate to think that any bee-keeper can have been guilty of this repeated act of theft, which I cannot suitably qualify in your columns. Rather would I believe that some ingenious but degenerate candy fiend, hard hit by the price of confectionery, has hit upon this means of continued indulgence.

If I be wrong, and, after all, it be a keeper of bees who has thus robbed a worthier member of our craft, well, I don't wish any harm to his bees but as to their owner—my New Year wishes for him are seasonable and in keeping with his act.—A. F. HARWOOD.

## A REPORT FROM HANTS.

[9616] The season 1917 in this part of Hants, as regards the amount of surplus honey gathered, has been varied. Bee-keepers whose bees had the swarming fever during May and June have had little or no honey, and, in many instances, to my knowledge, have dead and starving stocks. My take, with very few swarms, reached seventeen hundred pounds from fifteen stocks, spring count, chiefly extracted honey. Sections with me were practically a failure, having finished up with five hundred that were drawn out in comb and partly filled (a valuable asset for 1918). I have now twenty-two stocks in fair condition and healthy. Regarding "Isle of Wight" disease, I have had my full share, but feel sure the disease is on the wane in this neighbourhood. Has any reader experimented as I have done during four successive seasons with excellent results? Make a nucleus of two or three frames of brood and bees from a healthy stock, and introduce the queen from the diseased stock to the nucleus, the diseased stock to be destroyed. I have had no recurrence of disease in stocks treated thus. I am inclined to think the queen is never diseased, and can be turned to good account if a stock is found to be affected in spring. I purchased a queen from a diseased stock from a friend in March, 1915, for half-a-crown, and treated as above, with the result I took one hundred and ninety-seven well-filled sections and an artificial swarm. I have now seven stocks headed by descendants from the same queen, and no trace of disease. I should like to hear if it has been tried by other bee-keepers, and with what result. I have had a fair share of the pleasure and profit (not forgetting the hard work, my apiary being two miles from home) that is to be derived from bee-keeping, having been sixteen years "among the bees," and a reader of the BRITISH BEE JOURNAL since 1902. Wishing it and its readers a prosperous New Year.—HORACE H. HALL, Upham, Hants.




*Correspondents desiring an answer in the next issue should send questions to reach this office NOT LATER than the FIRST POST on MONDAY MORNING. Only SPECIALLY URGENT questions will be replied to by post if a STAMPED addressed envelope is enclosed. All questions must be accompanied by the sender's name and address, not necessarily for publication, but as a guarantee of good faith. There is no fee for answering questions.*

A. DON (Enfield).—*Quilt and top of frame damp.*—It will be moisture from the bees that has condensed above the unoccupied portion of comb, and will not be likely to do the bees any harm. It would be advisable to substitute a cork cushion for the one made of flock.

T. O. D. (Wellingborough).—*Reversal of "Demaree" plan (B.B.J., December 27, 1917, p. 406).*—The plan should work as well in this country as in British Columbia.

J. C. B. (Teddington).—When the questions are deemed of sufficient general interest and we have the space to spare, they are published in full under the heading of "Queries and Replies." This will be done oftener when we are able to add more pages to the *Journal*.

*Suspected Disease.*

"BEVERLAC" (Yorks).—Cause of death was "Isle of Wight" disease.

"ROSE" (Kent).—Several of the bees were suffering from "Isle of Wight" disease. You are doing quite right in collecting and burning dead bees and liming the ground. Medicate any food given, and on a mild day you might remove the floorboard, scrape off on to a piece of paper all dead bees and débris and burn them. Apply a fairly strong solution of some bactericide such as Bacterol or Izal to the board, and replace it after wiping off the surface moisture.

"EBOR" (Dorset).—The trouble was "Isle of Wight" disease. The safest plan is to burn the combs, frames and quilts, or the combs may be melted down for wax and the refuse burnt. The hive may be disinfected by scorching with a painter's lamp. See "Using the Blow Lamp," page 20, of *B.B.J.* last week.

E. P. FRANKLAND (Cornwall).—"Isle of Wight" disease is developing. It is not advisable to spray bees and combs at this season, or to give syrup. The other measures you suggest—removing the other hive and cleaning floorboard—are good. See reply to "Rose."

MISS POCKLINGTON (Lincs.).—Several of the bees were suffering from "Isle of Wight" disease. See replies to the three previous correspondents.

W. E. PEARSON (Edgbaston).—We do not find disease in the bees sent.

R. D. (Kent).—The bees are native, with a little Italian blood, and appear to be free from disease.

## Special Prepaid Advertisements.

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*Will advertisers please read these Rules carefully in order to save trouble, as they will in future be strictly adhered to.*

**Trade** *advertisement of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at* 1d. *per word as* **"Business"** Announcements, immediately under the *Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of* 3s. *per* ¼*in., or* 5s. *per inch.*

*PRIVATE ADVERTISEMENTS are only intended for readers having* **Surplus Stock** *to dispose of.* **Driven Bees, Nuclei,** *and* **Queens that are reared or imported for sale,** *are Trade Advertisements, and can only be accepted under trade terms.*

*Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.*

*Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.*

### PRIVATE ADVERTISEMENTS.

THE FLAVINES offer you a good chance of immunity from disease troubles in 1918 at a cost of 1d—6d. per apiary. Our Circular will tell you how to use them, and a stamped, addressed envelope will bring it to you.—S. H. SMITH, 30, Maid's Causeway, Cambridge. a.3

FIVE 28lb. Tins Pure Light Cambridge Honey, 196s. per cwt.; sample 4d.—J. YOUNGER, 6, Maid's Causeway, Cambridge. a.11

A MAN Wanted, used to Bees and Land. Full particulars. State wages expected.—YOUNG BROS., 42, James Street, Cambridge. a.12

WANTED, quantity Light Honey, Bottles or Tins.—NORTH, Cressing, Braintree, Essex. a.17

WANTED, one or two Simmins' Double Conqueror Hives, complete, perfect condition; also two best make W.B.C. Hives.—Particulars and price to A. G. GRAY, Dean Wood, Newbury. a.18

FOR SALE, 1 gross 1 lb. screw-top Jars of Light Honey, 2s. per lb.; sample, 4d.—FRUSHER, Crowland, Peterborough. a.21

WANTED to book Bees, Dutch preferred, stocks or swarms, for delivery when ready.—RECTOR, Donhead, St. Andrew, Salisbury. a.22

FOR SALE, Hive, 17½ by 16¾ inside measurements, extra lift, and rack of sections complete; recently painted; 25s.—58, Cromwell Road, Beckenham, Kent. a.23

WANTED, a few dozen Standard and Shallow Frames, Metal Ends and Foundation.—COE, Prince Street, Wisbech. a.24

WANTED, a stock of Bees on Standard Frames, from a disease-free apiary; delivery in spring. Also a Ripener.—Price and particulars to MORRIS, 13, St. John's Road, Putney, S.W.15. a.25

WANTED, Bee Books, "A.B.C. and X.Y.Z.," also "A Modern Bee Farm."—NICHOLSON, 136, Station Road, Westcliff-on-Sea. a.26

WANTED, Typewriter, in good condition.—Particulars and cash price to SALE, 118, Adnitt Road, Northampton. a.27

WANTED, two to four W.B.C. Hives by good maker, complete and perfect condition.—Particulars to Box 12, B.B.J. Office, 23, Bedford Street, Strand, W.C.2. a.28

TO CLEAR, Section Racks, 60 taking 24 sections and 20 taking 21 sections, 2s. each; 200 Shallow Frames, nailed together, 1s. 6d. per doz.—BOX 11, BEE JOURNAL, 21, Bedford Street, Strand, W.C. a.29

### BUSINESS ADVERTISEMENTS.

COMFORTABLE APARTMENTS for Brother Bee-keepers visiting Douglas. Terms: Tea, bed, and breakfast, 3s. 6d.; or full board, 6s. per day.—HORSLEY'S, Merridale House, top of Castle Drive, Douglas, Isle of Man.

NUCLEI.—Can accept no more orders till end of June. All inquiries taken in strict rotation. Don't forget stamped envelope.—CLARIDGE, Copford Apiary, Colchester. a.4

W.B.C. HIVES.—START WITH THE BEST.—Hand-made Hives on Mr. Atkinson's "Sheath" principle (see B.B.J., December 13, 1917), 19 ins. by 21 ins. dimensions, brood box, three lifts, shallow frames, and W.B.C. section rack, complete, 45s., carriage paid.—CLARIDGE, Copford Apiary, Colchester. a.20

**HONEY AND BEESWAX PURCHASED.**
Run Honey in bulk. Sections per gross.
**HONEY FOR SALE.**
Cuban, Californian, English, Irish.
Free tins and cases, carriage paid. Cash with order. Samples, 3d. Prices on application.
**A. GORDON ROWE, 28a, Moy Road, Cardiff.**

# BURTT, Gloucester, FOR BEE APPLIANCES.

*ILLUSTRATED CATALOGUE FREE ON APPLICATION*


## OBITUARY NOTICE.

MRS. GILES.

We regret to announce that Mrs. Giles, the wife of Mr. R. Giles, of Etwall, died very suddenly on January 10.

Mr. Giles has been chairman and vice-chairman of the Derbyshire Bee-Keepers' Association for over 30 years. He has done good service for the Association during that time, and we are sure our readers will join with the members in sympathy with him in his great loss.

## BEE CANDY.

REDUCTION IN PRICES.

We understand that Messrs. Pascall, in consultation with the Board of Agriculture and the Ministry of Food, have arranged as a special concession to bee-keepers needing candy this spring, to reduce the current prices by approximately 10 per cent., and a 5-lb. box will be supplied at 3s. 9d. (9d. per lb.), and postage 8d.

## A DORSET YARN.

The sharp snap of frost has gone. Once more we can see the bees round the entrance, dragging out their sisters who have died. The alighting board is covered with cappings of comb, which shows that they do not go to sleep (like the dormouse) in very cold weather. More than half of my lot have shown themselves since the frost. Shall we look for another good set of fruit in 1918, as the bees will be many in numbers to see to the fertilisation? I have lost (this last five or six years since the disease came into Dorset) a lot in winter, or, rather, in the autumn, so do not expect to winter them all. Letters from other bee men say that they, too, have already lost some of their stocks, which is very disappointing, when all of us hoped that the worst phase of the disorder had passed.

The blacks that I bought at a farm sale at Wareham in the autumn of 1916 (all bar-frame hives) are looking the most lively. They are easily seen through the small piece of glass that is laid over the top, when the warm covering is lifted. These gave me the purest white finished sections last year, and have never yet sent out any "crawlers." What is strange to me, this lot had such a lot of drones, yet they are apparently the strongest in number, and the most active. It looks as if the extra work to feed so many of the males made the workers more fit to withstand the winter. I know in man work never hurts; it may be the same with the bees.

I saw in Parkstone a large tree of arbutus still in flower, also the scarlet fruit hanging. The November flowers on the tips of the young growth had finished, but sheltered among the leaves are a second batch of blossoms. Nature is sure to make provision for carrying on the race, in case the frost had spoiled the first lot of flowers.

At no time of the year is the country bare of flowers. There is always some unit of the vegetable kingdom giving its treasures to delight the eye of man. On the walls of the rectory, which is close to the farm, the yellow jessamine (*Jasminium nudiflorum*) is now, and has been a long time, covered with blossoms on quite a large part of one side of the house. Readers of Milton will remember these flowers formed part of the sylvan dwelling of Adam and Eve in "Paradise Lost."

"Thus walking hand in hand alone they pass'd
On to the blissful bower; it was a place
Chosen by the Sovereign Planter, when He framed
All things to man's delightful use—roses and jessamines
Rear'd high their flourish'd heads."

When the bees can get it warm enough to leave their hive homes, there is something that they can visit quite close to them. This variety is not so widely known as the white flowering one of summertime. It may be the summer one to which Milton referred; it certainly is the one Cowper writes of:—

"The jasmine throwing wide her sweets,
The deep green of her unrivall'd leaf."

"Who that hath reason and his smell
Would not 'mong roses and jessamine dwell?"

When a young man, I waded through three histories of India. The last one had several volumes, and touching the religion of the Hindoos the jessamine was used very largely in their sacrifices. They delighted in fragrant flowers. 'Tis said the Turks use the wood to make their long-stemmed pipes.

This family of plants is not plentiful enough to be of much help to the bees, but the yellow one, blooming on a wall, as it does from November to March, is one of the few that there are always ready for them in the dull season. Indeed, any flower that gives early pollen to the bees is a great help to them. The veteran Dorset bee man, Mr. Tilley, of Dorchester, is convinced that the cause of the "Isle

of Wight " disease trouble is stale pollen. He advocates pea flour as a substitute for pollen in times of scarcity; that is the reason I extend the Christmas rose—it has such abundance of pollen in the dull season.

The work on the farm is arranged by the weather. When the land is free of frost we plough it; when hard frozen we cart manure. All young fruit trees are looked over to see that the extending branches are leading out in the required direction. We never advocate hard pruning. Some trees, as hacked about by man, are hideous monstrosities, not the graceful, elegant tree, such as Nature delights to make if left to herself. Some varieties of apples, like Beauty of Bath, Gladstone, Newtown Wonder, and Lane's Albert, etc., when quite young trees, will form a flower bud on the tips of the young wood. The first four or five years we always remove these, as when they fruit the young growths are arched over with the great weight of the fruit. Then the tree loses the nice symmetrcal form it should have. It is the same with some pears, but most of them grow into symmetrical specimens without any help of man and his pruning knife.

Those who grow for profit soon find out it is weight that tells. Develop the tree well, thin the fruit along the branches when the set is too much for them all to grow large. Trees that are stopped back like hedge plants can never look the clean, graceful unit of the vegetable kingdom as Nature willed them. I have read somewhere that " Fruit is the most perfect union of the useful and the beautiful that the earth knows." It sounds like Ruskin, for he wrote, " Of all the lovely things that grace the springtime in our temperate zone, I am not sure but that the blossoming of the apple tree is the fairest." Dante writes of their fragrance, " less than that of roses, and more than that of violets." We are still planting apples, pears and plums. We want plenty of blossoms for the bees in the early season; the fruit will follow as a natural sequence. I anticipate a great demand for fruit next season. Stocks of jam are short now, and with the scarcity of butter, fruit preserves will be wanted, as the Army are such great buyers. Fruit, with bread, keeps man's system more fit in campaigning. There will be many now who will be unable to get flesh foods. They will find themselves in better health from the lack of it. Peas and beans are fine foods for energy; they give one back the elasticity of young manhood. We grow them largely, especially broad beans. We fill large sacks of them in autumn, when the pods are dry. They always keep well (they carry over a good time in the summer when green). We shell them and soak in water 10 to 15 hours, boil till tender, take off the outer skin, which is tough, add a little butter, pepper and salt. A milk pudding sweetened with honey, or syrup, a baked apple, and you have a simple meal; no waiting in long lines for what you eat. Grow more of the commodities you want; store them for the winter. The bees teach us this. When will our people learn of them and store the surplus for winter? We sell great quantities of beans green, but always keep enough for the winter, to use for food and for seed. We leave five rows 300 yards long; from them we do not gather any in summer, these send up several young lateral growths from the base, and are in bloom the greater part of four months, so the bees can look them over and over again. From now on to March, or early April, they can be planted in lines up to 2ft. apart, each seed about 6in. in the lines. Do not overcrowd them. We plough most of ours in.

Going back to food and energy. Each morning this week up at four, at work the whole time till five p.m.; evenings at home, one or two evenings at rehearsal and one at a concert. Water and feed cows and horses before bed. To-night (Friday) after tea at six p.m., Parish meeting about a Co-operative Coal Club; service in the same room at seven. At 7.45 parish meeting about additional allotments. As chairman of the Parish Council, one has to pilot these measures through. Having fed up horses and cows, now add this paragraph, and then sleep—I can speak for myself about energy with simple living.—J. J. KETTLE.

## BLURTS FROM A SCRATCHY PEN.

*Old Bee Books—The Bible.*

One so often hears of honey and honeycomb in the Old Testament that, naturally, one would think that bees must be mentioned equally as frequent. Yet it is not so. I can only find four instances. Of course, it is quite possible I may have been somewhat careless in my search and missed others. Yet, such as they are, they would seem to confirm the bad reputation these bees of Eastern Asia have always had. Every now and again, in the ancient historians, an allusion to them crops up. Thucydides, for instance—I believe it is in his Anabasis—speaks of them scattering an army of Greeks. Herodotus has a similar tale. To wander a little further away into India, there are well-recorded accounts of soldiers who have had the temerity to attack the hanging nests of the great bees to be found there, and have been ignominiously defeated. How well, therefore, does this quotation

from Deuteronomy i., 44, fit in: "The Ammonites chased you as bees"; and, again, from Psalm cxviii. 12: "They compassed me about like bees." Considering the Old Testament only from a literary view, not as historical, or religious, we are struck with the boldness of its metaphors, with its rapid, almost immediate, transitions from one of these metaphors to another, but above all by its wondrous posey, heaven inspired, and clothed in the imaginative language of races whose temperament is heated by a burning sun. Yet how perfectly do these two verses illustrade what we know of angry bees. "They compassed me about." Which of my readers has not had a lively time with a colony? Of smoke, or carbolic, they have then but little fear, and their instinct for weak points in one's costume is absolutely marvellous. I count not the stings on one's hands; those are a matter of course, and must be taken as fair punishment in fighting. But I certainly do think there is something Hunnish, in the craftiness and thoroughness with which forlorn hopes of storm troops will creep up each sleeve and each trouser leg. But those are simply the flank attacks. The main is on one's centre, where another battalion will creep underneath one's buttoned coat and vest, under the bee veil, and so to one's face. If that is not compassing one about it is intensely like it; and as for chasing, it is certainly not very edifying, nor consistent with our ideas of bravery in man, to see a man of six feet in height, and well and strongly built, chased by a few insects half an inch in length, into the shelter of a thick bush, he, all the while, frantically waving his arms about his head and shouting. Is not this a true picture? How many times have we not seen it, and, laughed?

There is another allusion in Isaiah vii, 18, which has some interest: "The Lord shall hiss for the bee in Assyria." For this article, the context only interests me, to the extent of showing the reason of the hissing. It is a metaphor, illustrative of calling the Assyrians. Now the distance seems very great, but has this any relation to the modern "tanging" of bees? In both instances the hissing and the "music" of the frying-pan beaten with the door-key are to attract the notice of the bees. Many animals seem to be influenced by musical sound; for instance, many dogs howl an accompaniment when they hear a band, or a piano, play. This fact seems to have attracted the notice of other ancients, for Aristotle, "De animalibus historia," says: "The bees seem to be delighted with a noise, and therefore by the beating of earthen pots, and the tinkling of brass ones, they make them to congregate over the hive." I am well aware that the modern reason for the "tanging" is to announce a claim on the bees that are in the act of swarming. It may be so, but in all these examples, hissing, beating of earthen pots, or of frying-pans, the idea is to attract the attention of the bees, to tell them you want them to settle, or to come to you, and, therefore, it seems to me that there is the same thread of ideas running through.

I have still the fourth mentioning of bees, and my space is getting short, therefore, I must treat it in as few words as may be possible. It is from Judges xiv. 8: "A swarm of bees in the carcase of the lion." It is a modern tendeney to treat this as a fabulous tale. It is by no means impossible. We all know it has passed into a bye-word, "the vagaries of swarms." We all know they will settle in the most unlikely of places. In fact, it may almost be said, no place is sacred from a settling swarm. There is therefore a very probable chance that a strong, vigorous swarm of bees did settle in the interior of the rent lion. Forage is extremely plentiful in the land where this occurred. Even in our temperate clime any bee-keeper, if experienced, knows of cases where swarms have built combs and deposited honey in three days. How much more possible is it then in a hot climate such as Palestine?

One word more. This article may happen to fall into the hands of some of our boys, and bee-keepers who are with the Expeditionary Force in Palestine. If they could pick up any information as to modern bee-keeping in the land where they are doing their duty, it would be supremely interesting.—J. Smallwood.

## THE BEE GARDEN.

### The Official Lists.—*Continued.*

Now that the subject of tree planting is receiving attention, it is essential for bee-keepers to use all their endeavours to secure that varieties which have a honey value should be well, if not adequately, represented. This can best be secured by pointing out the economic value of such varieties, their beauty, and the method of cultivation. Whether as pure forest, *i.e.*, of one variety only, in mixed forest, as park trees, as specimen ornamentals in pleasure grounds, or for the formation of avenues, there is no tree more worthy of attention than robinia.

One bad fault it has: it is very wind brittle. This unfits it for use in exposed situations.* For avenue planting it should be backed by lime or chestnut as a wind-

* This brittleness, apparently so incompatible with the strength claimed for the wood, is explicable by the mode of ramification and also, chiefly I think, by the fact that whereas in the States it grows in poor, sandy soils, here it is planted in richer ground, thereby becoming less sturdy and tough in fibre.

break. Evelyn, in his "Sylvia," recommends it as "deserving a place among our avenue trees, adorning our walks with its exotic leaves and sweet flowers; very hardy against the pinching winter, but not so proof against its blustering winds." It is, indeed, strange to note how little robinia has been used in and around London in the many public parks and gardens. Walker, in his "Saturday Afternoon Rambles Round London," in which he devotes much space to trees, does not even mention it.

Writers on forestry differ widely in the amount of attention they bestow on robinia. Nisbet, in "British Forest Trees," confines himself to mentioning, apropos the chronology of his subject, that robinia was introduced during the seventeenth century. Johns, in "The Forest Trees of Great Britain," justifies its inclusion in the following words: "It is entitled to a distinct notice among British trees, from its having been one of the first trees introduced into England from North America, from its common occurrence, from the large size which it attains, and from the value of its timber."

The timber value of robinia is very high. It offers a unique combination of strength and durability. For making trenails, the pegs or pins used to fasten ships' planks to the ribs, it has practically ousted oak. It is also used for axletrees of timber wains and for other parts in carriage-building, while the smaller grades are employed as fencing stakes, hop poles, and, in the South of France, as *échalas* or vine props.

As a park tree its value is enhanced by the fact that the sweet fallen leaves are keenly relished by deer. All parts of the tree are sweet—leaves, inner bark and root, the last especially, yielding, as it does, a sweet extract like liquorice or sarsaparilla.

Robinia is a subject that requires light, and on this account is not particularly useful for underplanting; but on the other hand, it affords good returns upon a short rotation, owing to the rapid growth of its coppice shoots—often 10 ft. in the first season—and the use which is made of its timber for fuel. The tendency is for the tree to produce a short bole which divides into rising branches at a moderate distance from the ground. Groups of robinia are capable of attaining the same height as the surrounding forest or as the belt of other growths used as a wind-break for them.

As a hedge plant robinia acts well; after being severely cut back, it comes up from the root in prickly masses, the twigs intertwining to a certain extent.

As the period of active growth lasts, in the case of young plants, until the commencement of early frosts, it frequently happens that late shoots, not thoroughly lignified, get frost-bitten. In this case the shoots affected should be cut back to the healthy part.

Propagation is generally by root suckers, which are very freely made, the root system being wide-spreading. This root system, by the power it has of reaching food material at a distance, and by the extraordinary demands which it makes upon the soil, accounts for its success in places where other trees fail completely.

It is for this reason, specially well adapted for the planting and fixation of steep banks and slopes, such as railway embankments, tips and raised approaches to bridges.

A. F. Harwood.

## THE SPIRIT OF RESEARCH.

I have given my last article the hopeful title "Momentary Questions," from, perhaps, a justified optimism, and not because I do not look upon the questions there discussed as being of a momentous nature. They are, of course, vital questions, upon the ultimate solution of which much depends. But to judge from the present state of bee-keeping in this country, as faithfully represented by the Editors of the British Bee Journal, in their 1918 Foreword, we may safely look to a brighter future, and to a quick extinction of at least some of the evils from which no apiary could be absolutely guaranteed as immune. For me, it is a pleasant thing to read criticisms from a sober mind, and a courteous pen, which have a complete disregard for personalities, and a total consideration for the common good. Such discussions are very helpful, and they certainly serve to bring more and more forward valuable facts, and to advance any worthy cause rather than to retard its interests. I can hear the call for research actually rising, and can see its spirit on the point of reviving! Hence my joy, and my appeal to every thoughtful champion of our dear friend, *Apis Mellifica*, to show his sincere appreciation and friendship in a practical way by aiding this movement for a continuous scientific research, for the welfare of both the honey bee and her dependent "keeper."

Were an *active* Research Committee to be established *early* this year (preferably of an official or a semi-official character), and including not only the entomologist and the practical bee-keeper, but also the bacteriologist and the general scientist, and forming connections with various consultants whose technical views might be sought whenever necessary it may not be too much to hope that among the early fruits of its labours in the *current* year would be the

most convincing declaration as to the nature of "Isle of Wight" disease and allied maladies, also the soundest methods for their prevention and treatment. Re-investigation of this matter is absolutely essential, in view of the many doubts and personal views which are hanging over us. Once the *infection* theory is firmly re-established, much could be done through the influence of the Standing Research Committee referred to (especially if made *representative* of the central B.K. Associations *all over Great Britain* as well as the Board of Agriculture) to introduce legislative measures for prevention of infectious bee diseases, and not without adequate safeguards against hardships, and injustices to unfortunate members of the craft. Such a Committee would be also in a position to sift all suggestions and theories, and arrive rapidly, and in quite an impartial way, at definite conclusions. Granting that malignant dysentery is an infectious disease, whose period of maximum prevalence is during autumn and winter, such an authoritative Committee, which should enjoy the complete confidence of all bee-keepers in the British Isles, would not fail to indicate, as a result of its careful investigation, the exact or probable factors that aid in the spread of this disease, also how to avoid them under various conditions, and how to fight against the infection once prevention has failed. Isolation of infected stocks would then be an obvious necessity, and the detention chamber would secure a reconsideration of its forgotten merits, amongst which may be mentioned *the protection of a weak colony against robbery, and the safe exclusion of a source of infection*. To the writer, the use of an aperient in such a time as the autumn (to say nothing of the winter, when the bees are more confined to the hive) does not appeal, and this for the following well-known reasons. In the first place, the frequent use of an aperient (whether in association a protein food is given or not) is not a tonic to the gastro-intestinal system; and it must not be forgotten that natural constitutional strength is decidedly the most important factor in combating an infection. In the second place, to give an aperient to diseased bees, which are in a helpless state regarding flight, would not help to improve the sanitation of the hive, and thus the surroundings of the bees *inside* their home hive will simply guarantee their permanent infection, and possibly their ultimate fatality. In the third place, bees under the influence of a laxative, are naturally compelled to take frequent cleansing flights, and possibly without regard to the state of the weather: the result is that many of them will never return again to their combs.

*(To be continued.)*

## BEE NOTES FROM DERBYSHIRE.

There has been a lot of very interesting news in the B.J. this last few weeks from different writers, such as Mr. Kettle's "Dorset Yarn," and Julian Lockwood's march through the promised land. I should have been just as eager as he was to have tasted that honey, even if the old girl was coming for me with a big stick. Let us hope he will soon be back among his own bees, having those big takes of honey which he would have had this year if honey has been as plentiful in Norfolk as it has been round here.

There is also great credit due to our New Zealand friend in giving us an account of how he moved an apiary over 300 miles; our taking a few hives to the heather is nothing compared to that.

One seems to miss Mr. Woodley's "Notes by the Way" and "Cappings of Comb," and a few other writers. So I am just going to try to fill up a little blank space with a few things I have noticed in the bee line since last March.

About that time I had cause to be working near Dover for a few weeks, and as I travelled about I was taking particular notice as to the number of bees round there. I saw very few, but plenty of empty hives. I might have gone by some and not seen them, but on one road from Barham to Sandwich, 10 or 11 miles, I passed one hive in Nonington and one near Eastry Church. What a weight of honey must have vanished into thin air from off all those pieces of good clover and sainfoin I saw around there! I have often wondered this summer how those two hives have gone on.

One other thing I forgot to mention: I should certainly have liked to have seen Ripple Court—the name so well known to all B. J. readers as the home of Mr. Sladen and his Golden bees. I was coming from Deal through Northbourne one night when I saw the name, "Ripple Court—two miles," on a guide-post; and that was as near as I got. The bees certainly don't have to fly over many hedges in that part; it is like going over Beeley Moors, crossing some of those fields, and if there was one place more than another where I would liked to have planted a dozen bee-hives, it was *on* that road-side from Northbourne to Betteshanger.

Well, to come back to Derbyshire, which I did the last Saturday in April, to find one of my two hives very bad with the "Isle of Wight" disease. I set to work and sprayed it with Dioxogen, and in a week I did it again: after that I saw very few bees crawling, and, the weather being superb, they seemed to be making fair headway, although they were reduced to a double handful. Note, this hive had

stood by itself all winter; the bees were a cross, more yellow than black, and the finest queen I ever saw.

Well, at this time I had to bring my hive of "Goldens," which was a couple of miles away, and stand by the side of No. 1. Bad policy, some would say, seeing it was free from disease. I did not think one could give some bees "Isle of Wight" disease, try as one might, but one can—as I have found out since. It was a fairly strong lot, and they seemed to take to the change all right, but they did just what I expected they would do the first cool day that came—they set on to rob No. 1 out, it being a weak lot.

I was potato-planting at the front of the hive, and I saw them start. As I had no carbolic acid handy, I fastened No. 1 up, so the bees could not get in or out. I kept them fastened up two days; then, as it had turned warm, I let them out again, and they did not bother that day.

The next day it was hot, and when I went to look at them they were at it again. I thought, "Well, you will get 'Isle of Wight' disease now, as you have been stealing that honey," and they had killed about all the bees in No. 1. The queen was wandering disconsolately about the comb; for a good job they had not killed her. If anyone had come up just then I would have given them that queen as useless to me, but nobody was near, so I did the next best thing. I exchanged hives, and gave No. 1 all the flying bees from the "Goldens"; that gave the queen enough bees to cover three frames of comb, and there were 10 lbs. of honey left in the hive. She was three days before they took to her to make her lay; then she set to with a will to turn those 10 lbs. of honey into bees. It was like putting a small swarm to her.

Of course, I sprayed them both after that lot, and for six weeks I never saw a crawler. Although the "Goldens" had five frames of comb full of brood when I exchanged them, No. 1 hive was full up on eleven combs first. It has not been my lot to see such combs of brood full from top to bottom bar, and from end to end, with only about an inch of honey in the corners, for some time.

As it was getting into July, I could not expect much honey from clover. I thought, "What a stock to take to the heather," but now "Isle of Wight" disease showed signs of coming again, so I took the combs out to spray them one by one, when, to my horror, I found foul brood had set in very badly; in fact, I never saw it worse. It seemed to all come in a fortnight. I thought if Dioxogen would cure "Isle of Wight" disease, I would try it on foul brood; so I sprayed it all among the brood and eggs. Honey was coming in from the clover, so I put the super on, and they got about 15 lbs. The super had been on ten days, when I took it off again, and took all the combs out of bottom of hive and sprayed them—bees, brood, and eggs. That was the last week in July. I can't say at the moment what it has done for the foul brood, but I have not seen a crawler out of that hive since. Had the weather been anything like it was the last week in July they would have got 50 lbs. of heather honey, but as it is they have got from 15 to 20 lbs. in an eleven-frame super.

It was nearly all sealed over when I was up there on August 27, with the super crowded with bees. To see that lot then anyone would hardly believe there were crawlers by hundreds outside the hive the last Sunday morning in April, and when I sprayed them the next day they seemed to come out for a cleansing flight, and they were about all crawlers in a few minutes. Some writer says his were up flying again in two hours after spraying with Dioxogen. I am doubtful on that, for I sprayed the bees on the ground, but I think they were about all dead next day, so I turned the earth over them.

*(To be continued.)*

## CORRESPONDENCE.

***The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.***

### NOTES FROM VICTORIA, B.C.

[9617] I wish to thank you for the BRITISH BEE JOURNAL, which arrives quite regularly in spite of the long journey and disordered shipping. The paper is so interesting that I find it much too small. The "Dorset Yarns" are eagerly read by both myself and wife. According to Mr. Kettle, I would think that Dorsetshire holds out many possibilities to bee-keepers. 'Tis a pity though that the

land is so securely locked against the bee-keeping type of people. We hope for a change all over the world regarding land distribution when peace times come again.

The too well-known "Isle of Wight" disease in the British Isles is unknown in this part of the world. To an outsider it seems peculiar that the "Ruling Powers" have not taken steps towards eradicating the disease. In this Province bee diseases—as are all diseases in both agriculture, horticulture and livestock—are supervised by Government inspectors. These inspectors are specialists in their particular lines. Should a bee-keeper discover foul brood in his or her apiary a report must be made to the inspector, when necessary steps will be taken to combat the disease. The inspector also makes periodical calls for inspection if he deems it necessary. He has the power to burn the whole apiary if foul brood be in it. I believe the scarcity of sugar will be a blessing in disguise to bee-keepers in the British Isles, because they will have to feed more honey to the bees, which is their only true food. With the feeding of so much medicated syrup (sugar syrup), especially during the spring time, it is a wonder to me that the bees have any stomachs left. With the advent of strict, penalising supervision, and more natural feeding, I believe a good start will be made toward the combating of the "Isle of Wight" disease.

Regarding standardisation of hives, it seems to me that the possibility of such a thing is just as easy as the standardisation of frames. I suppose the Parent Association would have to take a ballot through the county associations both as to type and size, and the thing would be done.—C. Woolley.

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## NOTES ON A YEAR'S WORKING.

[9618] As I have done in previous years I write to tell you how my bees fared during 1917.

I started the year with three stocks, and, my space being limited, I was pleased to get through the year without any swarms. I have now got another half acre of ground, part of which I have set apart for an apiary, and I hope gradually to increase to twenty stocks or so.

Things went very well with me till the end of July, when I took off all supers, hoping that, as in other years, the bees would store enough after that date for their own winter requirements. But after the beginning of August I doubt if one of the three stocks stored a pound. I fed honey back to them and gave candy, and at present all three stocks are alive. Following a heavy snowstorm and 16 deg. of frost there was a rapid thaw last night, and to-day (January 10) the thermometer rose to 42 deg. in the shade, and the bees got a cleansing flight in the middle of the day. As there was still snow round the hives and the wind was cold and fairly strong, a number fell and apparently perished in the snow. But after they had been there some time—more than an hour to my certain knowledge—I picked up about thirty and warmed them. All revived except two, and on releasing them near the hives the majority returned.

Like many of your readers I have been greatly interested in "A Dorset Yarn," and I was very pleased to see recently the photographs and description of Mr. Atkinson's hives because, as the result of a desire to get a more simply constructed hive, I had designed one on exactly similar lines which I am having made locally. I am having flat roofs covered with calico, and I can see myself saving hours of time when painting. I may say that I am working entirely for simplicity throughout, and after another year's experience I hope to have several more or less interesting results to give to your readers.

I enclose my balance sheet for the year. Though I have only charged the honey consumed in the house at 1s. a lb., I could have sold it all locally at 1s. 6d. without any difficulty, as I had several requests for honey which I was unable to satisfy.

| | | | |
|---|---|---|---|
| Capital Account— | | | |
| Balance from 1916 ... ... | £8 | 0 | 9 |
| Goods in 1917 ... ... ... | 0 | 10 | 0 |
| | 8 | 10 | 9 |
| Depreciation at 25 per cent. ... | 2 | 2 | 9 |
| Balance forward to 1918... ... | 6 | 8 | 0 |

Profit and Loss Account.

| | | | |
|---|---|---|---|
| Receipts— | | | |
| Sale of Wax ... ... ... | 0 | 11 | 8 |
| „ Lamp and Feeders ... | 0 | 11 | 0 |
| „ Honey (87 lbs.) ... ... | 6 | 5 | 0 |
| „ Honey to House (67 lbs.) | 3 | 7 | 0 |
| 3 Stocks at 15s. ... ... ... | 2 | 5 | 0 |
| | 12 | 19 | 8 |
| Expenditure— | | | |
| 3 Stocks at 15s. ... .. ... | 2 | 5 | 0 |
| Rent ... ... ... ... | 0 | 6 | 6 |
| Candy ... ... ... ... | 0 | 16 | 10 |
| Frames, Foundation, &c. ... | 1 | 3 | 3 |
| Paint ... ... ... ... | 0 | 7 | 1 |
| Queen ... ... ... ... | 0 | 5 | 11 |
| Sundries—Post, Advt., Izal, &c. | 0 | 12 | 8 |
| Depreciation of Capital ... ... | 2 | 2 | 9 |
| Balance—being Profit .. ... | 4 | 19 | 8 |
| | £12 | 19 | 8 |

(Rev.) M. S. Page.


BREEDING FROM GOOD QUEEN.

[9074] I have a stock of bees with very good queen which was far in advance of other stocks last year both in honey gathering and non-swarming. It is my wish during next season to make as many stocks as possible from this one to keep the strain.

I don't wish to weaken a lot of other stocks in doing it, but would prefer to use this one, and, say, one other to make the increase. Whatever increase I made I should require it to build up strong and gather sufficient stores for next winter, as feeding to any extent except with honey is out of the question. If you will give me the best method to carry out this work I shall be greatly obliged.—INCREASE.

[We should recommend you to place the good stock in a hive, as illustrated Fig. 44, page 70, BRITISH BEE JOURNAL, March 2, 1916. You can then obtain as many queen cells as you desire from it for placing in nuclei or in dequeened stocks.]


*Correspondents desiring an answer in the next issue should send questions to reach this office NOT LATER than the FIRST POST on MONDAY MORNING. Only SPECIALLY URGENT questions will be replied to by post if a STAMPED addressed envelope is enclosed. All questions must be accompanied by the sender's name and address, not necessarily for publication, but as a guarantee of good faith. There is no fee for answering questions.*

G. M. ROSLING (Paignton).—*Value of Gorse for Bees.*—It yields a fair amount of pollen, and a little honey.

I. W. B. K. (Kent).—*Tying Combs into Frames.*—The frames should be quite filled, no space left either top or bottom. Fit the largest pieces in first, then cut pieces from the other combs to fill all spaces.

MISS JOHNSON (Suffolk).—*Feeding Skep.*—(1) Yes. (2) Place a cake of candy over the hole in top of skep. If there is not a hole, cut one about 2½ ins. diameter. Cover the candy first with the piece of grease-proof paper in which it is wrapped, and then with felt or carpet. You will be able to see through the paper when the candy is all eaten. (3) That is so. Giving plenty of room may check it. (4) No. (5) Place them over frames of foundation in the spring.

*Suspected Disease.*

A. R. (Moreton), MISS E. C. KENION (Rock Ferry), LLANDOVERY (Wales).—"Isle of Wight" disease.

J. JAKEMAN (Dorset).—Cause of death was starvation.

A. J. RAYMENT (Oakleigh Park), DUCK (Bridlington).—So far as we can tell the bees are not diseased.

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### PRIVATE ADVERTISEMENTS.

WANTED, good, strong, healthy Stock of either Dutch or Italian Hybrid Bees.—State price to ERNEST L. COOPER, ESQ., Barrow-on-Soar, Loughborough. a.30

WANTED, Bee Hives and Appliances, free from disease.—ABREY, Newport Lodge, Melton Mowbray. a.31

WANTED to purchase Stocks of Bees on Frames, or Skeps.—SMITH, "Corner House," Hockley Heath, Warwickshire. a.32

FOR SALE, Geared Honey Extractor, medium size, good condition, well packed, 50s.—NELSON, St. Peter's Road, Staines. a.33

FOR SALE, W.B.C. pattern Hive, unused and unpainted, £2; also Cottage Hive, £1 5s.; purchaser to take away.—BLENKARN, 58, Cromwell Road, Beckenham. a.34

TO CLEAR.—200 Shallow Frames, nailed together, soiled, 1s. 6d. per dozen; 12 Queen Excluder Zincs, 16 by 16, 1s. 9d. each; 6 Porter Escape Boards, 2s. each.—Box 11, BEE JOURNAL, 21, Bedford Street, Strand, W.C. a.29

SIX 56-lb. tins finest Clover Honey, 1s. 8d. per lb.—CRAWFORD, Apiaries, Castlederg, Co. Tyrone. a.36

HEALTHY Bees wanted, either in skeps, frame hives, or on combs.—DYCKE, Flackwell Heath, Bucks. a.37

"FLAVINE EXPERIMENT No. 1, 1918."—Two Hybrid Stocks, wintering on six frames each in W.B.C. Hives, are now showing signs of "I.O.W." Disease. On the first warm morning both stocks will be sprayed over the tops of the frames with warm Flavine fluid (½ grain to one quart of water). An excluder will be put on No. 1, the stronger stock, and a super of drawn-out shallow combs. These combs will be sprayed with Flavine fluid containing a little honey. In the evening No. 2, the weaker stock, will be placed on the shallow frames and everything covered up warmly. No smoke will be used, and the work done as quickly as possible. These bees are in the garden of Horace Darwin, Esq., The Orchard, Cambridge. All operations will be performed before witnesses. For the benefit of all concerned the results of the above experiments will be published in these columns.—S. H. SMITH, 30, Maid's Causeway, Cambridge. a.43

WANTED, a copy of Cassell's "Pictorial Practical Fruit Growing," edited by Walter P. Wright.—WILLIAM ION, Eastfield, Healing, Lincolnshire. a.44

INVALID Soldier, restarting apiary, would be glad to hear of Hives, Bees, and Appliances, cheap; also Books.—STEEL, Spring Gardens, West Ashling, Chichester. a.45

**40—50** SECTION CRATES for sale; perfect order; warranted free from any disease. What offers?—CRUICKSHANK, Station Master, Grantown-on-Spey. a.46


## A ROLL OF HONOUR.

Although bee-keeping is considered a minor pursuit, we venture to say that it has provided more fighting men than the usual average of any industry. To place on record the part the members of our craft have played in the present war we propose to make a "Roll of Honour," and shall be pleased if our readers will forward us the NAMES and ADDRESSES, together with the REGIMENT and RANK, of any bee-keeper serving his King and Country at home or abroad; also if killed or wounded.

We print a further list of names to those sent in, and shall be pleased to have other names as soon as possible.

Gunner E. Jackson, Frith Farm, Wincanton, Somerset.—A Battery, 93rd Bde., B.E.F., France.

Spr. G. A. Weetman, Harlaston, Tamworth.—R.E. Died of heat stroke in Mesopotamia, July 30, 1917.

Spr. (Interpreter) R. Tildesley, Bolebridge Street, Tamworth. — R.E., B.E.F., France.

C. H. L. Needham, Hemel Hempstead. —Cadet Wing, R.F.C.

## A DORSET YARN.

It is good to see the bees once more round the hive entrance when the days are warm; they are flying strong, and their song has a good tone—Blacks, Italians, and Cross-breeds. Shall have some of each to carry on for another year, and can look forward to another season of delightful increase and production. It all adds to the pleasure of rural life. It stimulates the desire for further extensions, invigorates the body for further exertion, because there is nothing without labour. As we plant the new lines of raspberries, we feel that we are doing it all for production: the bees will get a share, and hand it on to us in the finished article (the delightful honey), and the luscious fruit that follows can be eaten by man, or sent to the "smashers" for jam-making. Rasps make the finest preserve that I know; it is also one that always keeps well—well, no, this is not always the case in our store; if *I* have to get a pot down for use it is rasps. They would soon be all used if I was quartermaster of the stores. It always, in cooking, gets more firm than does strawberry, which preserves it longer.

Was pleased to read Mr. Harwood's extract from Mr. Cowan's list of the value of rasps as given there. My knowledge has been mostly by observation, and I have only written such that has come to me in the work of the fields, and what we have had in the B. B. JOURNAL for many years, and that has been a liberal education in bee-craft; my memory has been fairly good up to now.

There have come to me many cards and letters putting me right on the quotation "Go to the ant, thou sluggard." The first came from our own parson, the second from Mr. Claridge, with quite a reproof for my lapse of memory—"Oh! oh! oh! I *am* surprised at you"; the last on January 20, from the Rectory, Alrome, Hull. When one writes in a hurry it is like other rushed work, never so well done; still I apologise to them all, for I had thought I knew something of the Bible after so many years a chorister. Shall have to give up quotations, unless one is sure of the writer; still other letters tell me it adds to the value of the yarns, and it is very difficult to please all.

Have read somewhere, "Wise men write, and fools repeat." It sounds like Carlyle. Still, the man who remembers happy sayings is mostly happy himself. I believe God meant us to be so. It is easy to be happy when all the good things of life are obtainable, with those you love best at home with you.

We get all we want on our little farm, and are happy in our work—happy because God has put in the hearts of others to go and see our soldier sons in the Military Hospitals. A good American lady from New Jersey State paid a visit to my youngest son in Bethnal Green Military Hospital Cambridge Road, London, E. A lady from the Dorset Society in London also went to see him. They are happy in doing this; their only reward is to see others happy. Was it not old Thucydides who wrote: "We gain friends not by receiving benefits, but by conferring obligations"? My son writes that they made him long for the time when they can come again; it was such a happy time.

The Christmas roses now are delightful: these few warm days have worked wonders with them, many thousands of blossoms at one time. The bees have already found them. There is only a wall between them, and they will have a feast this year, as we have not sold many flowers this season. Bees are not in a hurry to fly far away, I notice, in these early pilgrimages, so this lot of flowers being so close must be a real treat for them.

We still have on the roadsides a great quantity of yellow gorse. It has never been bare of flowers this winter, and in

some cottage gardens the lauristinus has had flowers since November. There is still something to delight the eye, something to "mark time" till the early flowers of spring are with us once again.

Work on the farm this week has been at a standstill: rains have swamped the soil, and we never like to work it thus. The Stour has overflowed, and the green meadows in the valley are covered for many miles. We are emulating the bees by storing firewood for future use.

The Government tree cutters are felling the oaks: they only want the bole, as all the top is useless to them, but it is fine for fires: it will be useful sometime. The bees will not have so many forest trees to look over for many years to come. A cottager friend of mine thinks that bees get a lot from the oak. I have not noticed it, though have seen them round the evergreen one, *Luureus Ilex*, but never in such numbers as limes, poplars, and chestnut.

In the spacious gardens of Canford last week I saw a huge plant of *Chimomanthus Fragrans* on a high wall. Every particle of growth was covered with its richly-scented blossoms; like the jessamine I wrote of last week it blooms before the leaves come, and its colour is a bronzy yellow. I have not noticed if it is of any use to bees (I have had a large plant sent me, so I soon shall). If scent is an attraction to them, this should be most alluring. In early manhood, when working in the gardens of the wealthy, I always noticed that this plant was first favourite with the young daughter from the mansion. It was then that I had first read Milton. I used to picture her as he wrote of Eve in the garden:—"Eve separate he espies, veiled in a cloud of fragrance where she stood."

Then and now it is the same: I have always pictured the characters from among our own people. Lines I had read came to me as she walked among the flowers:—

"Put on your brightest, richest dress:
Wear all your gems, blest vale of ours!
My fair one comes in her loveliness,
She comes to gather flowers."

It is the same when we sing the gems from the great "Lone Poets." "So round about the starry throne, in glory crown'd," when we have "Triumphed over death and thee, oh time." We picture the heavenly Jerusalem, where "there is no need of the sun by day, or the moon by night." Soon we shall have the "songs of the bees," who always sing most when producing the most, like the hen, who makes the most noise when she has produced an egg; some of our bees have the robber's song; they are cleaning out the stores of those that have gone under. One warm day there were so many at each hive, it looked as if every one of our lot had lived through; but I am sure it is the robber's song, it is not the "song of content," as Maeterlinck wrote. Each fine warm day, as one comes in from the fields to meals, the song of the bees is delightful music to him who loves them, and different cadences are quickly defined. This last week it has been music everywhere. The thrush has taken up his rostrum for singing each day (they are very conservative, always in the same place). I am not quite sure if he sings for real gladness, or to entice the females to come to him; some of his song is "Pretty pet, pretty pet, come here now, pretty pet, pretty pet." He seems to be calling them to the fruit farm, where there will be plenty of food for the young.—J. J. KETTLE.

## THE BEE GARDEN.

THE OFFICIAL LISTS.—*(Continued.)*

The following shrubs are all fairly well-known subjects. I shall, therefore, deal very briefly with them:—

| | Values. Honey. | Pollen. |
|---|---|---|
| Berberry (*Berberis vulgaris*) | 2 | 1 |
| Broom (*Cytisus scoparius*). | ? | ? |
| Rose of Sharon (*Hibiscus syriacus* syn. Althæa frutex) | 1 | 1 |
| Fuschia ... ... ... | 2 | — |
| Golden Bell (*Forsythia suspensa* [*pendula*] | 1 | 1 |
| Goat's Leaf Honeysuckle (*Lonicera caprifolium*) | 3 | — |
| Tartar Honeysuckle (*L. tartarica*) | 2 | — |
| Flowering currant (*Ribes Sanguineum*) | 2 | — |
| Snowberry (*Symphoricarpus racemosus*) | 3 | — |

Of berberis something has already been written in the issue of November 29, 1917, and to what appears there I would only add here an American writer's recommendation of this subject as a hedge-plant. "A hedge-plant," he says, "to become popular, must be perfectly hardy and easy to propagate. It should also be vigorous enough to grow well in ordinary soil without manure. It should be thorny, to keep cattle off, and low enough to require little or no pruning. The common barberry combines these qualities better than any plant that I am acquainted with. It is remarkably hardy, thriving well in a great variety of soils, and is said to live for

centuries. It has a shrubby habit, growing from 6 to 10 ft. in height, yellowish, thorny wood, leaves in rosettes, yellow flowers in drooping racemes, and scarlet, oblong berries, very acid, but making delicious preserves. We have a barberry hedge in our grounds at Wallingford, Conn., 24 rods long and nine years' old, from the seed. Two rows of plants were set, the rows 1 ft. apart and the plants 1 ft. apart in the rows, set alternately to break joints. This hedge has been clipped a little, two or three times, to keep it even, and is now 6 or 7 ft. high, with a firm, compact base, perfectly impervious to the smaller animals, and stout enough to turn ordinary farm stock. An important item, as regards this plant, is its habit of sending up suckers from the bottom, by which, in a few years, it comes to have a base 6 to 12 in. in diameter." Broom is a common British plant, growing to a height of 10 ft., and producing its golden flowers from April to July. There are three or more forms of this species. *C. andreanus*, a variety of it, was found wild in Normandy in 1886, and named after its discoverer, M. André. It differs from the type in the coloration of the keel of the flower, which is red or crimson instead of yellow. *C. albus*, the white broom of Spain and Portugal, bears its long racemes of snowy blooms in May. *C. praecox*, a creamy-yellow flowering variety, also blooms in May. All the varieties are of easy culture, and are increased from seed, which is abundantly produced, as is the case with all the leguminosæ, or by layering. Some of the choicer and rarer varieties are propagated by grafting on seedling laburnum.

Any soil or situation seems to suit brooms, and hence it is specially useful where other subjects fail, such as on dry sand banks by the sea-side, or in towns.

Groups of cytisus look well, whether of one variety or mixed, and in a shrubbery the effect of its gracefully swaying head emerging from the general level of evergreen and other bushes is charming, above all, in May, when the slender shoots are one mass of blossom.

The Syrian Mallow, identified with the biblical Rose of Sharon, was introduced in 1596, and has proved itself a great acquisition. As may be supposed from its origin, it likes a sunny, warm position, and if accommodated in this respect, will thrive in almost any root medium, but does best in a rich soil, where it may attain a height of 10 ft. There are some in the Victoria Embankment Gardens, opposite the Savoy and Cecil Hotels, which stand quite this height and flower well every August and September. There is a considerable range in colour, running from white with a blotch of magenta at the base to blue streaked with crimson. Increase is best made by grafting them on to a section of their own root.

My little daughter, Althæa, having adopted it in preference to *A. rosea*, hollyhock, as her name-flower, I got the variety Jeanne d'Arc for her, and it is well worth its place. The nurseryman from whom I obtained it says that a sandy soil, generously enriched, is the ideal one for it. The hardy fuchsia, *F. macrostemma globosa*, grows, in many parts of England, into a 6-ft. shrub, and produces its lovely crimson flowers from July to September. It is only on the South Coast, however, that it is perfectly hardy, and there it flourishes exceedingly. If its original home be indeed Tierra del Fuego, this would explain its liking for the saline kiss of old ocean and its preference for a light soil.

In less favoured localities it dies back every winter, and the roots need the protection of a covering of leaves or other dry material.

Friccarton is a seedling from the preceding, and has proved one of the most beautiful and hardy of all. There is even a hedge of it on the northern heights of London that stands the coldest winters quite unprotected. Like its parent, it flowers from July to September.

A. F. Harwood.

*(To be continued.)*


THE WINTER CLUSTER.

In the almost Arctic weather prevailing while this article is being penned (mid-January) humans are glad to remain in a warm room, and even there desire to be as near the fire as possible. Our thoughts naturally travel to the apiary and fix on the bee cluster in each hive. How, with the temperature below zero, do bees manage to exist? What source of heat do they possess? How can they keep up the temperature?

To answer our queries we must, with the mind's eye, go back nearly four months to the period of winter packing, say, about the last days of September. It would have been observed, when engaged in this interesting operation, that the strongest colonies covered all the ten frames. In less strong hives the bees did not show on the outside of outside frames, and in weaker colonies the whole of the outside frames were unpeopled,

and perhaps not very many were found on the next two. If a further inspection of the brood body were made a little later it would be revealed to the observant eye that not all parts of these six or eight frames were covered, as in every instance the top and bottom corners, the frame ends, and the top and perhaps bottom parts would have been found vacant. The bees, in fact, had begun to cluster, forming something like an oval ball. The mass of bees had assumed a formation somewhat similar to what they adopt at swarming; but the greater length was not found along the perpendicular line, as in the swarm cluster, but lay along the length of the frames. It would be noted, too, that near the centre the bees were more packed than in the outer layers. As the cold strengthened the ball would still further contract, and the mass still further solidify, with the queen in the centre.

This (so-called) solid ball is never still, never asleep, for an almost constant movement is going on, on a principle highly conducing to safe wintering. The outs are regularly exchanging quarters with the ins. The whole derives two benefits from this transference of individuals. The outside layer does not suffer from the colder temperature to the extent that their vitality is impaired, consequently few bees, and these only the weaker ones, die of cold. The second benefit the community derives from the interchange is that the bees transferring into the inner parts carry stores of honey for themselves and the neighbouring bees from the cells abutting on the outer layers of the cluster, for all this time the exterior layer has been in direct contact with their winter stores. A wise and prescient instinct has taught bees to so arrange the food cupboard as winter approaches that stores will be easily available all round the oval ball to every bee there, and by transmission to every bee. Both of these factors have a very direct bearing on the question of safe wintering.

It will be easily appreciated that the close clustering will preserve the generated heat, and it must be patent to all that the nearness of the supplies of heat-giving food, honey, will preserve the bees in a healthy condition. Moreover, these conditions permit the bees to stoke readily, and thus enable them to raise the heat to keep the temperature at a point necessary for their preservation.

Two causes may serve to dissipate the heat, and so break up the ideal cluster, viz., bad food, and undue disturbance. Bee writers urgently advise that during the long winter, bees should be left severely alone, and this is well. They also counsel that all stores should be fed before the approach of October, in order that supplies may be well ripened, and all cells capped before the approach of severe cold. The honey or syrup left exposed becomes quickly granulated, in which form it cannot be a healthy food for semi-hibernating bees confined for weeks, or even months.

Hives during winter should be protected from the intrusion of animals or human disturbers—dogs, cats, poultry, cattle, mice should be rigidly excluded from their neighbourhood. Their owner should not bump the hive when raising the roof; he should not kick the legs when examining. The packing should not be roughly disturbed when having a glance at the frames, or when placing on a cake of candy, or when exchanging dry cloths for damp ones. Snow should be very gently, if at all, removed from the roof or the entrance. Snow in most cases acts as a warm blanket, protecting the hives from intense cold, piercing winds, or drifting snow, and is thus a grand means of preserving an equable temperature in the interior.

It is now recognised as a sound rule in bee-keeping that well-ripened stores, sealed early, afford the best winter food, as a moderate consumption of these does not prove an injurious tax on the bees' digestive powers even during a long period of inaction. Poor stores, on the other hand, injure not only the individual, but the community. They may even bring on dysentery, compelling the bees to take a flight in unseasonable weather, thus depleting the cluster, and making it less fit to pull through the spring. Woe betide the cluster where stores are insufficient, or where they are not available. Our forefathers took measures to aid the bees by cutting winter passages in the combs. Later many advised overhead "struts" to enable the bees to pass from one comb to another, by means of sticks crossing the frames, or by a cake of candy which, when tunnelled, provided a roadway. Most now trust to ample stores given early, so that the bees can place honey in position to suit their own prescient discretion. This, with a strong colony, ready to transfer stores whenever a mild day permits them to make a re-arrangement, saves the situation. It is difficult to say what the bees consider the ideal temperature which will enable them to enjoy the highest degree of comfort. Attempts to discover this failed to give anything like satisfaction in our hives wintered outside. Even in hives stored in cellars the use of the common thermometer causes so much disturbance that it must produce discomfort to the bee cluster. As I have remarked before, bees are best left undisturbed during the greater part of the winter six months.

# THE QUESTION OF POLLINATION OF FRUIT IN RELATION TO COMMERCIAL FRUIT GROWING.

*By C. H. Hooper, F.R.H.S., Member of Scientific Committee of the Royal Horticultural Society.*

(*Continued from page 29.*)

## PLUMS.

The John Innes Horticultural Institution has made special study of the pollination of plums, first under Mr. W. O. Backhouse, and late under Mr. Gerald O. Sherrard; but the war has stopped recent trials, and the latter results are not published, the experimenters having enlisted.

In general the pistils of plums are found to be receptive three or four days before the stamens shed their pollen; the pollen from the anthers is shed gradually, in succession, not all at one time.

Most of the varieties of plum flower nearly enough at the same time for cross-pollination, except very early and very late-flowering kinds; Grand Duke flowers very early, Black Diamond early and Pond's Seedling late.

The different varieties of plums (judging from the trials at Merton) seem to be about equally divided between those that are more or less self-fertile and those that are self-sterile, but there is great difference (as in other kinds of fruit) as to the degree of self-fertility.

Experiment divides the plums into self-fertile, nearly self-sterile, and self-sterile.

*Self-fertile.*—Victoria and Czar fruit nearly as well self-pollinated as cross-pollinated, but this is exceptional; Denniston's Superb, Monarch, Early Favourite, Reine Claude Violette, Myrobella, Giant Prune, Early Transparent, Reine Claude de Bavay, Prince Englebert, Early Favourite, Gisborne, Oullin's Golden Gage, Golden Transparent, Pershore, Magnum Bonum (red and white), Kentish Bush, Warwickshire Droopers, and the various Damsons are more or less self-fertile.

*Nearly Self-sterile.*—Setting about one fruit in a hundred with own pollen: Rivers' Early Prolific, Mallard and Stint.

*Self-sterile.*—Histon Gage, Early Orleans, Sultan, Kirke's Blue, Coe's Golden Drop, Coe's Violet, Washington, Late Transparent, Ickworth Imperatrice, Early Greengage, Old Greengage, Reine Claude d'Altham, Wyedale, Grand Duke, Jefferson, Pond's Seedling, Curlew, Prune d'Agen, Bryanstone.

As to varieties that are apt to be shy bearers, *Coe's Golden Drop*—the nicest of plums, yet most difficult to fruit; it likes a sunny spot against a wall, and fruits best where several varieties of plums are grown close to it, and there are plenty of bees. Pond's Seedling and Early Rivers are recommended as pollenisers. At Merton it was found to set well with pollen of Reine Claude Violette, Rivers' Early Prolific, Prune d'Agen, Monarch, Wyedale, Denniston's Superb, Early Mirabella, and Reine Claude d'Altan; but it was found not to set fruit with pollen of Jefferson nor is Jefferson fertilised by Coe's Golden Drop.

*Early Greengage* and the *Old Greengage* do not interpollinate, but set well with pollen of Victoria and Pond's Seedling.

*Wyedale* sets well with Rivers' Early Greengage and Coe's Golden Drop.

*July Greengage* set and matured very fine fruit with pollen of Old Greengage, also with Rivers' Early Prolific.

*Greengage* is in many places a shy cropper. It seems, however, to crop well among Egg plums at Pershore. At Wisbech, in an orchard composed of one of greengage to two of Early Orleans, both sorts cropped well, also with one greengage tree to four Monarchs. At Faversham, in a three-acre orchard, planted with two greengage to one Pond's Seeding, the crop of gages was magnificent, the Ponds also cropping well; in another two-acre plantation at Faversham, of greengage with Kentish Bush in equal proportion, a very heavy crop was obtained from each. On one acre at Faversham, planted with Victoria and greengage in equal proportion, the crop was fair on each variety. Czar appears to be a good polleniser for greengage. In the Merton pollination experiments Rivers' Early Prolific, Czar, and Monarch were found good pollenisers for greengage.

(*To be continued.*)

## THE SPIRIT OF RESEARCH.

(*Continued from page 37.*)

Of course, it is only fair to add that the effect of the outside temperature could be neutralised by removing the hive of the diseased colony to a slightly warm conservatory, after taking the desirable precaution of fitting the hive itself with a detention chamber. Under such circumstances the bees are both isolated and placed under favourable conditions for treatment, at the cost of the little trouble given to the bee-keeper in having to clean the detention chamber frequently in the evenings. But I have never seen such a proposition given. Again, even if we suppose that no such harm, as already indicated, could possibly arise from circumstances resulting from such a treatment, I sincerely doubt that it would have any other consequence than the exhaustion of the invalided bees unless the aperient happens to be a good antiseptic in addition, and used for a short time. For it is well known that organisms multiply *very rapidly*, and, in the words of Professors Robert Muir and James Ritchie, "a bacterium may reach maturity and divide in from twenty minutes to half an hour. If division takes place only every hour, from one individual after twenty-four hours, 17,000,000 similar individuals will be produced." So it is only a reasonable deduction that under such conditions the production of gastro-intestinal sterility in the bee, by means of an aperient is simply an impossibility, especially as the tissue cells themselves are invaded by the parasites. Such an idea could not be entertained for a moment by a scientific mind. *Scientific* research on agriculture depends on investigations in both the apiary and the laboratory, and not in one alone. Such research, as a matter of fact, has been retarded by the lack of scientific men interested in the advance of bee culture, and by the absence of modern laboratories *devoted* to such work. *Clinical observations, and laboratory investigations go hand in hand.* They are inter-dependent, and should not be made to replace one another, though a laboratory examination is very valuable in settling a doubtful clinical diagnosis. Its tests are of a confirmatory nature. The preliminary tests for disease, on the other hand, should be clinical observations in the apiary itself.

Evidently some bee-keepers do not understand why antiseptics and disinfectants are indicated in the infectious diseases of the bee. No comparison is ever made between its anatomical and physiological conditions and those in the human being, and no deductions could be made from pure human medicine to apply to the bee. Most antiseptics do not act on the human system but on the organisms which they are intended to injure or destroy. Most of them are not physiological drugs, and could not be compared in their effects on the system with such preparations as vaccines and sera. In their choice, the guiding factors are (1) their germicidal power as determined in the test tubes and petrie capsules, preferably in the presence of blood serum, and by experiments on infected animals; and (2) their non-toxicity to the living tissues, as determined also by experiments on animals. Without disputing the physiological differences between the tissues of the bee and those of man, it should not be overlooked from a biological point of view, that, after all, the essential protoplasm in both is the same or allied, and that an antiseptic which is quite harmless to one form of this protoplasm is in all probability just as harmless to the other. Such is the leading light which inspired one to try the effects of any useful antiseptic fulfilling the above two important conditions (namely, potency and non-toxicity) in bee infections, just as they were tried before in human infections after experimentation on animals. *Research must have its origin in observations and in reasonable theories,* and it is not fair to say that the recommendation for the use of antiseptics in the apiary did not have a sensible origin, especially as we are told by some authorities that in Microsporidiosis of bees "infection takes place by the contaminative method, and may be transmitted through the agency of infected foods, or of living infected bees"; and that "foraging bees infected by ingesting food containing the spore, and 'parasite carriers' are the most important agents of infection." (Graham Smith and Bullamore.)

Nevertheless, practice alone will settle any disputes regarding the real value of the disinfection treatment. It will show whether the original theories and views on which it is based are correct or otherwise. From the beginning, there was sufficient inducement to apply disinfection in various ways to the presumably infected bees and apiary. And one is glad to note that in many definite cases of "Isle of Wight" disease the results were very satisfactory, though so long as a source of infection is existent (as I have previously remarked more than once), "cured" bees may not enjoy their perfect health for a long period, as re-infection is quite an easy matter, and it is so far unknown that one attack of "Isle of Wight" disease confers immunity on the sufferers. In other cases the antiseptic had no appreciable effect; but whether these were genuine cases of the disease, the symptoms of which are known to be subject to considerable variations, or whether they belonged to different diseases, of different nature, though showing somewhat similar symptoms, it is very difficult to say without a thorough exami-

nation. Further research on this point is therefore very desirable. Anyhow, there is no reason to justify the suggestion that we are retrogressing, instead of progressing, with our methods of treatment. *Flavine* has already been shown to be of great value, and it has the advantage of being very cheap in price. There is every reason also to hope that *Yadil*, which is so powerful an antiseptic and yet so harmless to the tissues, may prove to be a real boon to apiarians, just as it has proved its value to poultry-keepers in the treatment of chicken cholera, in which disease it is reported to act almost as a specific.

Let me finally assure the reader that I have every respect for practical bee-keepers, however little their scientific knowledge may be, so long as they do not belong to the reactionary class who profess openly their contempt towards new methods and ideas. *Progressive practical* bee-keepers are undoubtedly *the backbone* of the craft, and from them, and not from text-books alone, one should intelligently learn the principles of apiculture. On the other hand, I have no regard for the skeppist bee-keeper of twenty years or more standing, who assumes an uncompromising attitude, and who lends to every modern helpful call a deaf ear. Just as I notice this defect, I am quite aware of the fact that it is neither a pleasure nor an honest task to discuss and examine questions which one is *not qualified* to treat, and I have satisfied my conscience that in my contributions to the bee press I have *strictly* adhered to such a permissible path.—A. Z. Abushady.

## WEATHER REPORT.

Westbourne, January, 1918.

Rainfall, 3·88 in.
Heaviest fall, 1·46 in on 15th.
Rain fell on 18 days.
Above average, 1·31.
Sunshine, 48.6 hours.
Brightest days, 13th and 29th, 5 hours.
Sunless days, 12.
Below average, 12·6 hours.
Maximum temperature, 51 on 18th, 20th, and 21st.
Minimum temperature, 19 on 4th & 9th
Minimum on grass, 4 on 9th.
Frosty nights, 14.
Mean maximum, 44·1.
Mean minimum, 33·1.
Mean temperature, 38·6.
Above average, ·4.
Maximum barometer, 30·510 on 4th.
Minimum barometer, 29·327 on 7th.

L. B. Birkett.

## HE FAILED IN BUSINESS.

He was a stationer by trade, bee-keeper by hobby. Two W.B.C. hives stood in his shop ready for the apiary, when a boy and girl, seven or eight years old, entered to inquire the price of a box of crayons in the window. The price was fourpence, so they bought a penny box.

Turning to go, the lad, laying his hand gently on one of the hives, asked: "Is this a doll's house?"

Shopman: "No. That is a beehive."

Child, breathlessly: "How much is it?"

Shopman: "About £3 complete."

Child, disappointed, but hopeful: "O-o-h! Have you any cheaper ones?"

Woeful collapse of shopman. He hadn't.


"Buzzer" (Suffolk).—*Transferring from Skep to Frame Hive.*—Allow the skep to stand on the frames until the combs in the latter contain eggs and brood. Then make certain the queen is in the frame hive; if she cannot be found there it will be necessary to "drive" the skep until she is secured and placed on the combs. If a few puffs of smoke are driven in the feed hole at the top of the skep, and a few minutes allowed before lifting it, the queen will most likely run down. Put a queen excluder over the frames, and replace the skep. In 22 days the bees may be cleared out of it, and it can then be taken away and the comb, etc., dealt with. It will probably be advisable to give one, or more, supers when the skep is cleared.

L. Sutherford (Berwick).—*Using Supers Containing Honey for Feeding.*—When the candy is all used you may put the supers over the brood box. Better put a queen excluder between them. The bees will not desert the brood which is certain to be below. Do not lift the brood combs out, and there will be very little risk of the queen being killed.

G. M. Roslin (Devon).—*Amount of Food Needed.*—The mild weather will cause the bees to consume more food, but 1 lb. candy per week should keep them going. They are probably storing some of it near the brood. 14 lbs. of candy should be ample in your county to keep the two stocks until they can gather enough nectar outside.

W. G. W. (Bodmin).—(1) They have no other name except that of "mongrel." (2) We do not know where sweet clover seed can be bought. It will grow in England. We have grown a small quantity.

*Suspected Disease.*

R. V. W. (Letchworth).—Both lots were affected with "Isle of Wight" disease, No. 1 the worst.

T. P. (Basingstoke).—The cause of death was "Isle of Wight" disease. Native, plus a little Italian.

A. D. G. (W'boro').—(1) "Isle of Wight" disease. (2) See replies to "Rose" and others in issue for January 24. (3) Native and Italian. (4) The secretary of the Northants B.K.A. is Mr. R. Hefford, Kingsthorpe, Northampton.

D. M. N. (Lymington).—Judging from the symptoms you describe the bees are suffering from "Isle of Wight" disease.

E. L. J. (Winchester).—(1) Bees were suffering from "Isle of Wight" disease; see reply (2) to A. D. G. above. (3) It depends on the queen. If very prolific you may give an extra set of combs, either shallow, or standard. It is always advisable to use an excluder under sections.

"Stinggill" (Ulpha), "Nemo" (Gainsboro'), "Beverlac" (Yorks.), "Uncertain" (Birmingham), T. Seal (Glos.), "Glen" (Cornwall).—The bees have died from "Isle of Wight" disease.

G. G. R. C. (Chathill).—The cause of death was "Isle of Wight" disease. The other bees have probably died away from the hive. It is possible to give too little ventilation during winter. The entrance should be left at least 4 ins. wide for an average colony.

A. M. B. (Maidstone).—We do not find disease in the bees. They were probably too few in number to stand the cold weather.

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TO the D.B.'s only.—FLAVINE is making friends. C. J. Mapey, Esq., The Paddocks, Cherryhinton Road, Cambridge, offers his apiary to test and demonstrate our modern methods in connection with Flavine. We shall look this apiary over, plan for 1918, and publish all details in a circular which should reach all D.B.'s by February 20.—S. H. SMITH, 30, Maid's Causeway, Cambridge. b.9

WANTED, Bee Hives and Appliances, free from disease.—ABREY, Newport Lodge, Melton Mowbray. a.31

WANTED to purchase Stocks of Bees on Frames, or Skeps. — SMITH, "Corner House," Hockley Heath, Warwickshire. a.32

SIX 56-lb. tins finest Clover Honey, 1s. 8d. per lb.—CRAWFORD, Apiaries, Castlederg, Co. Tyrone. a.36

TO CLEAR, 20 Section Racks, each to hold 21 sections, 2s. each; 200 Shallow Frames at 1s. 6d. per doz., soiled; also 200 Brood Frames, soiled, 1s. 9d. doz.; several new Skeps, various patterns, 1s. 6d. each.—BOX 11, BEE JOURNAL, 23, Bedford Street, W.C.2. a.29

HEALTHY Bees wanted, either in skeps, frame hives, or on combs.—DYCKE, Flackwell Heath, Bucks. a.37

WANTED, Stock Bees in frame hive, also to book Swarms for coming season.—A. LEWIS, Hawera, Staplehurst, Kent. a.41

WANTED, a stock of Bees on Standard Frames, from a disease-free apiary; delivery in spring. Also a Ripener.—Price and particulars to MORRIS, 13, St. John's Road, Putney, S.W.15. a.25

WANTED, two to four W.B.C. Hives by good maker, complete and perfect condition.—Particulars to Box 12, B.B.J. Office, 23, Bedford Street, Strand, W.C.2. a.28

WANTED to book Bees, Dutch preferred, stocks or swarms, for delivery when ready.—RECTOR, Donhead, St. Andrew, Salisbury. a.22

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## OBITUARY.

GENERAL SIR STANLEY EDWARDES, K.C.B.

Another veteran bee-keeper has passed away, and we regret to have to record the death, on January 25, after a short illness, of General Sir Stanley-de-Burgh Edwardes, K.C.B., at his residence, Spouden, Sandhurst, at the age of 77.

Sir Stanley was for a number of years on the Council of the B.K.A., for the last two years he has been a vice-president of the Association, and was a well-known figure at the annual and other meetings.

He had a fine military record, and was a friend of the late Earl Roberts, under whom he served in India. He took part in the Indian Mutiny, and the Abyssinian Campaign of 1868.

Sir Stanley and Lady Edwardes celebrated their golden wedding in October, 1911.

The funeral took place on Monday, January 28, a large number of relatives and friends assembling to pay their last tribute to one who has been well described as "a good man." We can personally testify to his unfailing kindness and courtesy.

## SEASONABLE HINTS.

The main topic of conversation at the present moment is food rations, and this is still the most pressing need for the bees at the present time as well as for ourselves. No doubt now the weather is so, comparatively, mild, many of those new to the craft will be anxious to open the hives just to see how the bees are going on, but this should not be done at present. A lack of food, though it may not be so serious as to cause the death of the colony, will have a very serious effect on the amount of brood that is reared. The success of the colony during the summer will depend largely on the number of young bees reared in the early months of the year. The old bees will die off very rapidly when they are able to fly out and forage, and unless there are plenty of youngsters to take their place the colony will dwindle, sometimes to such an extent that it will not recover strength in time to take advantage of the honey flow.

A reader writes to know how to ascertain how the bees are fixed for food without taking out the combs. The condition of the stores can be ascertained by gently stripping back the calico quilt, a puff of smoke may be necessary to drive the bees back, so that the top rows of cells may be seen. If they contain sealed stores, all is well for the present; if not, a cake of candy should be given. From the middle of the month, if the weather is mild, flour candy may be given. The pink candy may have the flour added to it, if it is melted gradually until it becomes more or less liquid, like thick cream, and about two ounces of pea flour to each pound stirred in. It is better to put the pan containing the candy into another containing water, which should be kept hot. When the flour is stirred in another teaspoonful of Bacterol should also be added to each pound, as the heating will have driven off a good part of the original dose.

During the mild weather with which we have lately been favoured all stocks of bees should have shown signs of life when the bees have been taking a cleansing flight. Any hives where such signs have not been seen should be examined. Possibly the entrance may be choked with dead leaves and debris; this is sometimes caused by mice, which have found an entrance to the hives and nibbled the combs. The brood box should be lifted away and the floorboard cleaned down.

If the bees are dead with plenty of stores close to them it is almost certain that the cause is "Isle of Wight" disease. In some cases there may be more or less soiling of the combs and the interior of the hive, but this does not always occur. Bees that are in good health never soil the inside of their homes. If the combs are clean and contain honey, it should be extracted and used for domestic purposes, for which it is quite wholesome. The combs may be melted down for wax, and the refuse, dead bees, frames and quilts burned and the hive disinfected. For the latter purpose a painter's burning-off lamp is the best. Some of these are made to burn benzoline and others paraffin. Petrol may be used in the former; we always use it in our own. If a lamp is not available, the inside of the hive should be treated with a strong solution of some disinfectant.

Preparations for the coming season, if not completed, should be continued and any goods that are needed should be ordered at once if that has not been done.

As brood rearing will have progressed to some extent, the bees will need water. A drinking fountain should be prepared in good time, as once having located a watering-place the bees will continue to use it if a constant supply is available. A warm sheltered spot in the garden should be chosen, and precautions taken against contamination of the water by dead bees or excrement.

## A DORSET YARN.

The warm days have told on the early flowers; there will be plenty for the bees, who are now flying farther from the hives. On February 1 I noticed them 300 yards across the fields. Snowdrops are plentiful, but the bees will not look at them yet; though lots of them are growing with the Christmas Rose, not a bee have I noticed on them. They are revelling in the pollen of the *Helleborus* (Christmas Rose), and are carrying in quantities of it. This neighbourhood has been for many years rich in snowdrops. "A flower that first in the garden smil'd, To virgins sacred, and the snowdrop styled."

In the churchyard of Shapwick, a village by the side of the River Stour, these flowers have extended till they are like a white carpet. I have read somewhere how "These first pale blossoms of the unripen'd year, From the bare earth, among the snow appear." So many there are they look like snow. It is the same at Lytchett Matravers, where the Manor House and the church are close together. All around the mansion and shrubberies, at the base of large trees, snowdrops are everywhere. Here, as Thomson expresses it, "Fair-handed Spring unblossoms every grace." Underneath the huge lime trees, with their scarlet buds and coloured young twigs, they look very beautiful.

But it is at Deans Court, the home of Sir John Hanham, that snowdrops are in the wildest profusion, on banks, in the lawns, round trees, in the paddock, by the River Allan, in the woods, growing up among the ivy-covered ground, they are delightful to see, they seed and extend so much. It is exactly as Mrs. Smith writes: "The grass is spangled with their silvery drops," and in another verse, "Like pendant flakes of vegetating snow." On this estate all of them are double; though they seed so much, yet all come double. The bees never carry foreign pollen to them, or else they are self-fertilised before they are visited by them. In other places I find that all have a very small centre; they delight the eye, and all add to the beauty of our own loved land. As Montgomery wrote:—

"They shine in Flora's desert bowers,
Beneath the vernal dawn,
The morning star of flowers."

I also notice that the bees are busy on the Laurustinus, another of the winter-flowering shrubs that gives abundance of blooms in the dull months of the year. Bees must get something from it or they would not work it so much.

Our esteemed Editors have sent me a letter from a Welsh farmer, who, like myself, keeps bees, to help with the pollination of his fruit. He wants to know if the strawberry trees (*Arbutus*) would be productive if planted. I should not advise him to plant them, for the fruit is very dry eating, but a tree or two to grow for the blossoms would be ornamental, and would give his bees something to look over in winter when on the wing. It does not bloom very quickly; it requires age before it is very floriferous.

I am somewhat afraid the Yarns from Dorset give the Editors a lot of extra work to do with letters dealing with subjects on them; am glad to know that some readers find them interesting and a little instructive. Personally, I consider them poor stuff in comparison to Dr. Abushady's contributions. Three other writers, in January 31 issue, also state their interest in the Yarns; it is encouraging to carry on (that is, if one can find anything original to write of) for another year.—J. J. KETTLE.

*Errata.*—In last week's "yarn," page 42 and the 22nd line, "*Luarcus Ilex*" should be "*Quercus Ilex*"; and the 11th line from the bottom in the same column should read "Tone Poets." "Then, etc."

## THE BEE GARDEN.

THE OFFICIAL LISTS.—(*Continued.*)

Variously named *Forsythia forbinei* and *F. sieboldi*, the Golden Bell is indeed a delightful shrub, especially in March, when the whole plant is as if hung with fairy gold for a festival of the little folk. A native of China and Japan, its graceful habit is most attractive either in combination with rambling or climbing plants, grouped on a lawn, against a wall, or in the open shrubbery or border. Easily suited as to soil, *Forsythia* needs shelter from rough winds. In a favourable situation and medium, it is a quick grower, reaching 10 ft. in height. After the flower season is over the old wood should be thinned out to encourage fresh shoots. Propagation is by layers or by cuttings struck in the autumn under a hand-light.

Like Fontanesia, it can also be grafted on privet. The Goat's Leaf Honeysuckle would appear to be intermediate between the free climbers, of which *L. periclymenum*, the common honeysuckle, is the type, and the shrubby evergreen form of *L. tartarica*, *L. fragrantissima*, *L. standishii*, which the last-named closely resembles, and *L. involucrata*, *syn. L. ledebourri*, the true Bush Honeysuckle. Caprofolium is a deciduous twining shrub, producing its deliciously scented yellowish flowers in May and June. In any good garden soil it will reach a height of about

7ft., and is particularly noticeable on account of its charming, glaucous foliage. *L. tartarica* is an erect grower, flowering in April and May, the pink blooms being followed by black berries. It makes a height of 4 to 6 ft.

The Coniceras are all easily increased by layers, cuttings, or from seed.

The flowering currant is a familiar object in cottage gardens, with its drooping trusses of deep rose flowers brightening the surroundings in April and lasting nearly a month in bloom. Bees like this the best of all the flowering currants, certainly preferring it to its darker form *R. atrosanguineum*. I grow with it *R. aureum*, the yellow or golden flowered one, which blooms at the same time. The flowers of *R. sanguineum* are followed by purple berries, while the berries of *R. aureum* are like the bloom, yellow—occasionally black—and the flavour of these, called buffalo currants, is said to be exquisite, although I confess I have never tried them, not caring to subject "this vile body" to the consequences of any rash experiments in this direction.

*R. sanguineum* is rather more spreading and robust in habit than *R. aureum*, which is more upright and slender. All the Ribes are spring flowering, and all are easily grown in any soil, although they are said to do best on gravel. Propagation is by cutting or layers, either of which strike readily.

To distinguish *Symphoricarpus racemosus syn. mollis*, as the *white* Snowberry, would seem pleonastic, but not only snow, but snow berries may be—and are—coloured. I have seen pinkish snow in the Swiss Alps, and purplish snow berries in England, *S. purpureus* being, I believe, the name of the latter.

There are, indeed, four varieties now introduced into this country from North America and Mexico. The Snowberry is allied to the honeysuckles, belonging as it does to the same order, the *Caprifoliacea*. The small pink flowers, borne in succession from July to September, are eagerly worked by hive bees, and are followed by smooth white berries, in bunches, which last the greater part of the winter and form food for game.

Propagation is by suckers, which are abundantly formed. *Symphoricarpus* should be made much more use of in courts, the wild garden, for screening off unsightly outbuildings and in the back row of a mixed shrubbery.

There is a variety with variegated foliage and also a dwarf one suitable for rock garden work, *S. microphyllus syn. S. montanus*. *S. racemosus* is, however, *the* one for the bee-keeper. A. F. HARWOOD.

## BEE NOTES FROM DERBYSHIRE.

(*Continued from page* 38.)

Now, to turn back to the "Goldens." When I exchanged them during the robbing bout, they were a bit bothered to know which hive they belonged to, and which they were stealing honey from; but the next day, when I went to look how they were going on, No. 1 lot was working all serene and happy. Not so the "Goldens," they were fighting and killing scores. I thought, "Oh, you are finishing those few flying bees from No. 1 hive off as they come home." As they had killed so many in the robbing bout, I left them to fight it out, thinking it would be over by next day, but I have since found out, to my sorrow, that when "Goldens" start fighting they never know when to stop.

I did not go to look at them for a few days, but they were still fighting; they had killed hundreds, so I went back to the chemist's and got some carbolic acid, with which I painted the flight-board and front of hive. I had to do it three times before they would stop; they were killing all the flying bees as they came in: they killed them till the outside combs of brood were chilled. After that, they seemed to settle down, and by the last week in July they had got full up on eleven frames of comb, and had a super full of bees; they are marvellously quick-breeding bees. I took them to the heather on the last Saturday in July, and thought what two grand lots I was taking—they looked like filling a super in no time.

But how soon one's hopes are dashed; they were there six days before they could get out of the hive for cold winds and wet days. The sun shone again at last, and out they came. The heather was in full flow, but they had not been at work long before they found out that bees in strange places often hit the wrong hive when they come blustering in loaded, and they were not having any strangers, so they started fighting again. I could see any dark-coloured hybrid was soon walked out and slain, but they did not stop at them. If a yellow bee alighted about an inch above the entrance and then fell backwards, they pounced on it in a crack, and it was slain and marched off the flight-board. I reckoned they were doing twenty every ten minutes, and as I had no carbolic acid with me I had to leave them at it; so it may be imagined what a heap there were when I went four days later. There were quite a capful, and all flying honey gatherers that came in loaded.

The peevish little demons I call them. I have seen bees rob and fight where there has been no honey to get, but never in a big flow as it was coming in then. It would be interesting to know if anyone else has ever had the same experience with "Golden" bees. I have taken the carbolic and painted front and entrance of hives. It gives them a chance to get in, as it clears all the fighters off the board, but they still keep killing odd ones. Scores were clustered on the flight-board all the while they were at the heather—a contrast to when they were working on clover.

Some days, when I watched them, every bee was working its hardest, not a single bee scouting at the front. These "Goldens" have never shown the least sign of "Isle of Wight" disease that I have noticed; perhaps it is because I keep spraying them.

* * * * *

It is now Christmas Eve, and nearly four months since I penned the foregoing notes. Time and bees have altered so much in the interval that one lot of notes will perhaps jar with the other, but I think, at any rate, it will interest readers if I finish the yarn about those two stocks of bees. The weather was very showery all the time they were on the heather, and although they worked hard in the intervals, when I had left enough for winter I only had 20 lbs. of surplus for myself, but even then I certainly did better than our Scottish friends.

Well, the "Goldens," owing to their fighting so, what bit they stored in the super they would have wanted it to winter on had they kept all right, and they were strong the last week in September. They were crowded on eleven combs, and had at least one comb of brood to hatch out. As for the foul brood I mentioned, I could only find two cells with any sign of it in them. I thought I had never seen such a strong stock put down to winter. I had never seen a sign of "Isle of Wight" disease about that lot all the summer. Dioxogen had certainly kept the two stocks free from it, but to see them again a month after that it was as though a blight had come over those "Goldens." It was not fighting this time, for they were crawling about in thousands all over the garden. The last time I was near the hive it was an inch thick in dead bees all round it. If out of that good lot any survive the winter I will be greatly surprised. I don't think No. 1 lot had got it so bad; in fact, I saw few crawlers about that hive till just before Christmas, then I saw a few. T. Sleight.

*(To be continued.)*

## THE INFLUENCE OF TEMPERATURE ON BEES.

### I.—Introduction.

"To bees warmth is life." This is the truthful and wise hint given by a leading manufacturing company of beehives and appliances to its customers in advertising the value of coverings and quilts. Yet, on the other hand, I was told by a prominent bee-keeper that bees *like* cold! And it is no exaggeration to say that, beyond the traditional use of coverings and quilts, hardly any bee-keeper in this country ever thinks of the influence of warmth on bees or of the possible good use of such a factor for their betterment and for his own commercial interests. The subject does not seem at all to appeal to the craft even for discussion from a practical point, and some even venture to assert, without giving any evidence whatever, the "fact" (*sic*) that bees *like* cold! I am indeed sorry for the extent of observation of such apiarians, who claim for themselves a wide experience, and I am more than sorry to find no authoritative research committee on apiculture in existence, in order to look forward to for the solution of such an important question. So great is my disappointment for the lack of scientific leadership to the craft that I have been much relieved and gratified, through the kindness of my friend, Mr. W. J. Owers, of Messrs. Abbott Brothers, to get the other day the loan of "The A B C and X Y Z of Bee Culture," which must be a well-known work to those interested in American methods of bee-keeping. Though I possess several books on bee culture, I lack American publications on the subject; and if their standard is to be judged by this excellent work, which has given me a real pleasure to look through, many of them must be worthy indeed of admiration, if only for the scientific spirit which is too evident in the "A B C and X Y Z." The editors of the latter book, however, are exaggerating too much when they describe it as "a cyclopædia of everything pertaining to the care of the honey-bees"; for it is (at least the 1908 edition, which is the one in my hand) in reality no more than an *incomplete* text-book, yet it is full of life, and is most inspiring. On the subject of "artificial heating," I was very happy to find a short account, and it is the first one I have ever come across in any book; my own contribution to this subject, though still quite rough, is, nevertheless, quite original, being the mere result of observation and thinking, as distinct from blind imitation, and the lack or fear of taking a justified personal view and pronouncing it. The authors of this valuable American book in introducing this subject say: "As strong colonies

early in the season are the ones that get the honey and furnish the early swarms as well, and are, in fact, the real source of profit to the bee-keeper, it is not to be wondered at that much time and money have been spent in devising ways and means whereby all might be brought up to the desired strength in time for the first yield of clover honey. As market gardeners and others hasten the early vegetables by artificial heat, or by taking advantage of the sun's rays by means of greenhouses, etc., it would seem that something of the kind might be done with bees; in fact, we have, by the aid of glass and the heat of a stove, succeeded in rearing young bees every month in the year, even while the weather was at zero, or lower, outside; but, so far as we can learn, all artificial work of this kind has resulted in failure, so far as profit is concerned. The bees, it is true, learned to fly under the glass and came back to their hives; but for every bee that was raised in confinement two or three were sure to die, from one cause or another, and we at length decided it was best to wait for summer weather, and then take full advantage of it."

Though the above statement and the remainder of the account given by the authors on the practical application of artificial heat in the apiary clearly show a sensible purpose and a scientific *motive*, they also show, so far as one could judge from such condensed statements, a lack of a scientific *method, with sufficient precautions*; and I am not therefore surprised to hear of a non-successful result.

I limit myself at present to the foregoing introduction in consideration for the size of the JOURNAL, and I propose to deal in the following articles with the main features of the subject.

A. Z. ABUSHADY.

*(To be continued.)*

*Errata.*—In our last issue, in Dr. Abushady's article, page 46, first column, line 42, "agriculture" should read "apiculture."—EDS.

## HEREFORDSHIRE BEE-KEEPERS' ASSOCIATION.

ANNUAL MEETING.

Something more about the ravages of the "Isle of Wight" disease that is decimating the beehives of Herefordshire was heard at the annual meeting of the County Bee-keepers' Association held at Hereford on Wednesday, with the President, Mr. C. T. Pulley, in the chair.

The report of the hon. secretary (Mrs. Mynors, Llanwarne Rectory) announced that under existing circumstances the ordinary work of the Association had been practically at a standstill, with the exception of the spring and autumn tours kindly undertaken by Mr. J. Arnfield. The number of stocks examined in the spring was 111 and in the autumn 144. In the spring 57 cases of "Isle of Wight" disease and in the autumn 20 were reported.

Unfortunately no permanent cure has yet been found for this disease, but the committee decided last spring to follow the lead of the Kent Bee-keepers' Association, and started on the same lines a re-stocking scheme, by which it is hoped to supply members with a strain of disease-resisting bees, from which to build up new colonies. Fifty-one shares had been issued to members at 10s. each, and it is hoped that the first distribution of nuclei will be made early in the season of 1918. Special thanks are due to Mr. Arnfield for undertaking gratuitously to start the working of the scheme, and for the time and labour he has devoted to it.

The committee, unfortunately, had to report a further decrease in the membership of the Association, but in a lesser degree than last year; 39 withdrew, against 69 in 1916. The total number of members now stood at 103, 17 of whom joined during the past year. The receipts for the year were £76 3s. 3d., including a previous balance of £5 17s. 3d., and as the expenses, largely in connection with the re-stocking scheme, amounted to £73 12s. 10d., there was a balance in favour of the Association of £2 10s. 5d.

The President, in moving the adoption of the report, remarked that bee-keepers were still beset by the old trouble, the "Isle of Wight" disease. He understood that the Government were making experiments from time to time, and he believed some form of inoculation would be found to enable them to cope with the disease. It was, however, a very difficult disease to overcome, and it would take some time to get their stock into the condition it was in some time ago. Mr. Arnfield had kindly undertaken the re-stocking scheme on behalf of the Association, and they had now some 13 hives of Italian stock. He believed that the bees were very vigorous and good-tempered in manipulation (laughter), and he hoped that by the introduction of this stock they would be able to get the hives back into something like their old position. Fifty-one shares had been sold during the year, and a good number of people who took tickets last year had already received stock, or would do so at an early date. Mr. Pulley referred to the standardisation of hives, by which it was hoped to cheapen the cost to bee-keepers, and while very grateful to the County Council

for help in the past, they hoped to get an increased grant in the future, which would be a help in their re-stocking scheme.

The report was adopted, and a hearty vote of thanks passed to Mrs. Mynors for her greatly-appreciated services as hon. secretary during the past year.

The officers of the Association were re-elected *en bloc*, with the exception that Mr. L. B. Lee retired as a vice-president and Miss Bradstock resigned from the committee. New vice-presidents were elected, viz., Mrs. Hazlehurst and Mrs. Trafford.

Mr. Arnfield's report on the re-stocking scheme stated that five stocks of bees were purchased in May and June, four being hybrids and one pure Italian. These were increased to 16 stocks, most of which were headed by queens raised from the Italian stock. They were very vigorous, and also of good temper during manipulation. It was proposed to continue this strain during the coming season. One stock of hybrids developed "Isle of Wight" disease, and also the nuclei made from it. These had been destroyed, leaving 13 stocks for increase in 1918. It was stated that hives had been kindly lent by Mrs. Mynors, the Rev. K. O'Neill, Mr. J. Stephens, and Mr. J. Arnfield.

The report was considered hopeful, and the Rev. K. O'Neill moved a vote of thanks to Mr. Arnfield for what he was doing in connection with the re-stocking scheme, which, the rev. gentleman was sure, would be a distinct benefit not only to themselves as an association, but to the county later (hear, hear).

The compliment was heartily accorded.

As usual during the proceedings, a draw for a new hive took place, and the winner proved to be Mr. Smith, of Walton.

## CORRESPONDENCE.

*The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.*

### CANDY TURNING SOFT.

[9619] Has any brother bee-keeper had the same trouble as I have this winter?

On closing down for the winter I placed two one-pound cakes of Bacterol Bee Candy, as supplied by Messrs. Pascall's in each of my hives. I now find the front of the hives and the alighting boards covered with excrement, and on looking inside I discover most of the bees dead, and the candy in a semi-liquid condition running down between the frames. This ought not to be, as I have made candy for the last 18 years, and I have never before had such a thing happen; in fact, I have repeatedly removed the unconsumed candy from the hive in the spring, and kept it until the following autumn.

I might mention that the strongest stocks have gone under; those that were weak in wintering are the only ones alive.

I should like to have the opinion of other bee-keepers.—H. BRIGHT, Hon. Sec., New Forest Bee-keepers' Association.

[We should say the bees have died from "Isle of Wight" disease. The candy has turned soft owing to it absorbing the moisture rising from the dead bees, and is not due to any fault in the candy. We have seen the same thing happen several times when bees have died with candy over them. The candy made by Messrs. Pascall has also been kept in good condition from last spring until it was needed in the autumn. Any well made candy will do the same if kept in a dry place.—EDS.]

### AN EARLY(?) DRONE.

[9620] To-day being a bright, warm day for the time of the year, my bees have been flying strong, carrying pollen in for all they are worth. On the alighting board of the strongest lot I have noticed just one drone, he did not fly away, and eventually I destroyed him. I do not think they are queenless, as they seemed to be the busiest of all. I did not open the hive to see if there was any brood; but I feel sure there must be as they were going in with pollen in numbers together. What is the explanation?—CONWAY VALLEY.

[We cannot account for the drone, possibly the queen may be a virgin, examine the brood as soon as the weather permits.—EDS.]

### BEES IN A TREE.

[9621] While engaged in felling a walnut tree on January 3 I discovered in one of the branches, which was hollow, a stock of bees. Being a bee-keeper I was deeply interested to know in what state they would be at this season of the year, so on the tree reaching the ground I made my way to where they were, and found they had a good store of nice, light honey, which, unfortunately, was all smashed up with the exception of about 3 lbs., which I secured. On searching among the combs

I found four patches of brood, about 6 in. square each patch, and a good number of eggs besides. The space they occupied was about 2 ft. long by 1 ft. wide. The hole by which they entered was about 3 in. square; I was surprised to find them in such an advanced state, and was grieved to think there were no means of saving them, as it was a bitterly cold day and I was sixteen miles from home, so could do nothing to save them. I made inquiries in the village near by, but could not hear tell of any more bees in the district, "Isle of Wight" disease having cleared them all out. These appeared to be a strong, healthy lot, and but for the needs of the war might have stocked the district again. I thought perhaps it might interest your readers to know these facts, as I think it proves that so long as bees are kept dry no amount of cold hurts them. Wishing all your readers a prosperous season. —W. Tovey.

## EARLY SECTIONS.

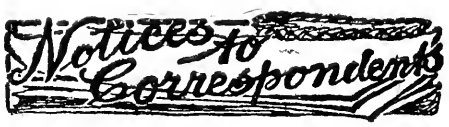
[9622] The method of putting a shallow frame between hanging sections is quite old, having several in use here; was told this plan by a bee-keeper about eight years ago, also two brood chambers. I have the best results after taking two or three frames of brood, if strong stocks, and then super.—W. Green, Laindon.


*Queries reaching this office not later than FIRST POST on MONDAY MORNING will, if possible, be answered in the "Journal" the following Thursday. Those arriving later will be held over until the following week. Only SPECIALLY URGENT queries will be replied to by post if a STAMPED addressed envelope is enclosed. All queries must be accompanied by the name and address of the sender, not necessarily for publication, but as a guarantee of good faith. Correspondents are requested to write on one side of the paper only.*

## MOVING BEES IN MAY.

[9075] Can you or some of your readers give me advice about moving bees in the month of May? Some years ago I brought my bees to Sussex from Devonshire. Then I moved the beginning of February. It was bitter weather. I had a man to pack the hives; he put perforated zinc over the entrances and heaped quilts on the top. They were three days on the journey, and were none the worse for it. This time I am only moving about 16 miles; they will be moved by motor. Ought they to be very warmly covered up, or should they be merely fastened in? I know it is a bad time to move them, but I cannot help that. I am so afraid that being about the swarming season the heat and excitement may be too much for them. I shall be very grateful to anyone who will tell me what I ought to do.—F. J. Walker.

[*Reply.*—It is not possible to give full directions in this column. Briefly, the main point to watch is to give ample ventilation. It is impossible to give too much when moving bees at that time or during the summer. On no account must they be warmly covered up. Full instructions for this work were given in The Record for November and December, 1916, which we can supply post free for 5d.]




W. Back (Oswestry).—(1) *Placing Hive in a Peach House.*—We have known this done. It is good for the peaches, but bad for the bees, so many are lost that the colony is usually no good for surplus that year. (2) We should place it underneath, and winter on one, unless the bees were too numerous.

(3) *Time for Spring Cleaning.*—It is not advisable to transfer to clean hives at present. The wind is often very cold, even on a mild day. The bees may also resent the brood nest being opened, lay the blame for the disturbance on the queen, and ball her. In about a month's time will be early enough.

E. J. Grover (Lincs.).—*Making Candy into Syrup.*—We have given directions for this before. For spring feeding the candy should be broken up, and melted with 15 ozs. (by measure) of hot water. When candy and water are thoroughly mixed together the syrup should be allowed to cool to 100 deg. Fahr., and is then ready to feed.

For syrup for autumn feeding 10 ozs. of water (by measure) should be used. Other instructions as above.

Queens (Paignton).—*Use of a Honey Ripener.*—A ripener is useful to strain the honey into from the extractor. It is allowed to stand a few days if possible, in a temperature of over 80 deg. Fahr. The honey will thicken, or ripen. Air bubbles and the thin honey will rise to the top. The latter should be used as soon as possible—it is very useful for jam making—or it may be fed back to the bees. The thick, clear honey is drawn off through the tap at bottom of ripener until the thin honey only is left.

Honey is ripe when sealed over, and should not be taken before then. Some years ago it was the practice to extract the combs as often as they were filled without waiting for the honey to be sealed. It was then kept in a warm room in a "ripener" until it was judged to be thick enough to keep. Honey thus treated lacks the delicious flavour of that ripened in the hive, and is very likely to ferment. The practice, therefore has fallen out of use.

Your plan for raising queens is quite feasible.

E. Champness (Streatham).—*Keeping Bees in the Suburbs of London.*—It is quite possible to keep bees in the London suburbs. They have been kept and done well in your district. Of course, such large quantities of honey are not obtained as in the country. Most of the surplus is gathered from the lime trees, and will average

about 20 lbs. per hive, taking one year with another. Bees will fly for a radius of about two miles round the hive.

W. J. PEARCE (Chesham).—It will be much better not to disturb the brood nest for several weeks yet. You may take it for granted that there is brood in the combs if there is a queen. Impatience is a fault of beginners. The local "expert" (?) should have known better than to pull the brood combs apart so early in the year.

If the queen is very prolific the plan you suggest may be followed, but it is not one we personally recommend. Better be satisfied with one entrance.

G. H. JONES (Llanberi).—Thanks for your appreciation. More "Helpful Hints" will appear as soon as possible.

Under the circumstances you may give the bees a little warm medicated syrup. It will probably check the disease.

*Uncapping Knife v. Scarifier.*—The latter has by no means superseded the former, and does not appear likely to do so. The spikes are pointed, about ¼ in. apart, not more. It is not possible to scratch the cappings off without doing some damage to the combs. The honey will leave the cells more freely if the edges of the walls are cut clean by a knife instead of being rough and jagged by being scarified.

W. S. SMITH (Gerrard's Cross).—Your plan is quite feasible. We should let the bees stay where they are.

F. H. (Westmeads).—You might start again now with a fair prospect of success. Use one of the advertised remedies regularly as a preventive.

"KING'S HEATH" (Birmingham).—If the bees have been robbing a diseased stock, they will probably also become diseased. See reply to "F. H." above.

*Suspected Disease.*

T. F. W. (Gainsborough).—Bees died from "Isle-of-Wight" disease.

The secretary of the Notts. B.K.A. is Mr. G. Hayes, 48, Mona Street, Beeston, Notts.

W. COUSINS (Beds.).—Bees were affected with "Isle-of-Wight" disease.

H. C. M. (Rusholme).—The cause of death was "Isle-of-Wight" disease. Do not give the combs of honey to other bees. If the combs are clean extract the honey; it is quite wholesome for human consumption, and only harmful to bees.

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*Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.*

*Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.*

### PRIVATE ADVERTISEMENTS.

WANTED, a few Stocks of Bees, also to book Swarms for 1918.—COBB, 33, Bevan Road, Plumstead b.1

WANTED, by Young Lady, post of establishing or managing Apiary, or Apiaries. First-class Expert, and large practical experience. —Box 14, BRITISH BEE JOURNAL Office, 23, Bedford Street, Strand, W.C.2. b.24

WANTED, W.B.C. and Double Conqueror Hives.—COBB, 33, Bevan Road, Plumstead. b.2

BEES.—I shall have a few ten-frame Stocks of Old English Bees for sale this spring; never known disease.—F. A. BEAN, Snaith, Yorkshire. b.8

WANTED, Bee Hives and Appliances, free from disease.—ABREY, Newport Lodge, Melton Mowbray. a.31

WANTED to purchase Stocks of Bees on Frames, or Skeps. — SMITH, "Corner House," Hockley Heath, Warwickshire. a.32

HEALTHY Bees wanted, either in skeps, frame hives, or on combs.—DYCKE, Flackwell Heath, Bucks. a.37

WANTED, Stock Bees in frame hive, also to book Swarms for coming season.—A. LEWIS, Hawera, Staplehurst, Kent. a.41

A FEW healthy Swarms for disposal, about third week in May, £1 each. Orders, with remittance, booked in advance, and supplied in rotation.—J. MOORE, Bleasby, Notts. b.10

OFFERS wanted for two ten-frame strong stocks of Old English Bees, or with Hives complete; reason for selling, overstocked. Never known disease.—A. BARWICK, Harden Beck, Bingley, Yorkshire. b.11

WANTED, three-frame nucleus of Carniolan Bees; guaranteed healthy.—Price, etc., to A. DONKIN, Naunton Beauchamp, Pershore, Worcs. b.12

FOR SALE, about 50 screw-top jars of Light Yorkshire Honey, 2s. 3d. per jar, carriage paid.—EDLINGTON, 268, Newland Avenue, Hull. b.13

WANTED to purchase, healthy stocks of Bees. —Address, with full particulars, W. CONNETT, Crockernwell, Exeter. b.14

SWARMS from strong stocks, Dutch descent, healthy and prolific. Can accept orders for few this spring.—Apply, MAJOR HENDRIKS, Littlewick Meadow, Knaphill, near Woking, Surrey. b.15

12 SECTION RACKS, as Lee's pattern, unused, 2s. 6d. each; the lot or less number.—FRASER, 13, Manse Road, Markinch. b.16

FOR SALE, six Hives, good condition (three new last year), one new cane-bound Skep, one Wax Mould, seven new Racks and 10 Racks used one season, two Travelling Boxes for Frames, with perforated zinc covers, two Storing Crates for gross sections, new, bee proof, glass one side, 12 Winter Girders, 3 doz. Tin and 1 doz. Wood Dividers, nine Perfection Feeders, 120 W.B.C. ends, one Wax Smelter with water jacket, pair Rubber Bee Gloves. Owner left country on Government work. What offers, together or separately?—Apply, Box 13, BRITISH BEE JOURNAL Office, 23, Bedford Street, Strand, W.C.2. b.17

WANTED to purchase, Bees, stocks or swarms. —SPRAKE, Chale, Isle of Wight. b.18

WANTED, Conqueror Hives, standard or commercial; must be in good condition and complete with supers. — HARDWICK, Maney House, Sutton Coldfield. b.19

WANTED, Ripener and "A.B.C. and X.Y.Z."—State prices to WILLIAMS, Raven Hill, Swansea. b.20

"YET, FLAVINE! yet, thy banner torn but flying," but we don't want to encroach on Friend Kettle's preserves. It's this way. Our "Flavined" bees are wintering nicely. Are there any others thus treated doing the same? We have one ear glued to the ground.—S. H. SMITH, 30, Maid's Causeway, Cambridge. b.21


## A ROLL OF HONOUR.

Although bee-keeping is considered a minor pursuit, we venture to say that it has provided more fighting men than the usual average of any industry. To place on record the part the members of our craft have played in the present war we propose to make a "Roll of Honour," and shall be pleased if our readers will forward us the NAMES and ADDRESSES, together with the REGIMENT and RANK, of any bee-keeper serving his King and Country at home or abroad; also if killed or wounded.

We print a further list of names to those sent in, and shall be pleased to have other names as soon as possible.

Lce.-Cpl. R. L. Chapman, Boston—1/28th London Regiment (Artists Rifles), killed at Passchendaele Ridge, Oct. 30, 1917. Only son of Mr. R. N. Chapman, Boston, hon. local secretary of the Lincs. B.K.A.

## ERRATA.

In the article "The Bee Garden" last week line 1 *F. forhinei* should read F. *fortunei*. Line 30, caprofolium should read caprifolium. Line 7, page 51, The Coniceras should read The Loniceras. In last paragraph but one should be "Symphoricarpus should be made much more use of in coverts," not, as printed, "courts."

## A DORSET YARN.

Have just received from a Stourbridge horticulturist a parcel of roots of the Hailsham berry. As these develop our bees will have another line or two of flowers to look over. The Logans grow well, so I anticipate these will also; these late-flowering berries will be useful when the summer rasps have finished their blossoms.

We have now finished the last two lines of plums and pears; have only to plant a few more rasps, and a few lines more of strawberries, then our fruit-planting is finished for this season (unless I get a few more hundreds of trees offered me at easy rates, as I did last year in March).

Other food crops will now have to be got in. Must get in eight acres of corn as soon as ground is workable; shall extend the acreage of potatoes; there will be less flowers grown. We grow very few now; before the war I had ten acres of violets; they are more remunerative than potatoes—luxury crops always are. But necessitous crops must be grown now and for many years to come. Small farmers who grow mixed stuff might do well with onions; they were a good paying line last year; the price is fixed at 3d. per lb., roughly £20 a ton. Parsnips and carrots are hanging this season, as there is plenty of green vegetable now. Still, if they are not sold they do for horses and cows, they are good for milk; we shall have the worth in the butter.

We find asparagus a good line for sale, and a wonderful help to the bees; we plough the ground twice in each furrow, turning in a good dressing of manure. If the land is planted with currants or gooseberries, dibble between each plant a couple of seeds. If you save your own seed, drop in one of the coloured seed pods; the second year these will have good growths, but the third year they will be really fine. If you want them apart from the fruit-trees, plant the ground with early lettuces, and dibble the seeds between the plants every third or fourth line. Seed is dear to buy, the plants want plenty of room, and it is waste of seed to sow thickly; even if you take some out the second year, you must disturb those that are left, and the time taken in planting them is considerable, where if the seed is dibbled in at equal distances there is no further labour.

These will fruit for many years; I have known them remunerative for thirty years, and I have some that have given me good returns since '05; up to ten and twelve years they are very fine; but when, in June and July, the feathery growth is allowed to develop, with its thousands of flowers, the bees have a fine time. A little lot does not help them much, but when there are lines 300 yards long the flowers are very plentiful. They have but few enemies. Slugs like the succulent growth (salt keeps them away); the red cross beetle lays its eggs in the growth, but with us insectivorous birds clean them off.

Bees are no doubt booming just now. I hear that on one estate near us they are acquiring up to 100 stocks; this is good news to us bee-men. I could sell mine over and over again, but all buyers write they must be free from "Isle of Wight" disease. I see some crawlers at times, so I cannot sell mine as exempt from it.

I hope we shall soon have bees that are immune from this malady, and I think we shall have it stamped out. Mr. Smith, of Cambridge, from what I gather from the Fen country bee-men, is working wonders. Now we have Dr. Abushady's researches. All to me looks like success.

Last season I tried Dioxogen round

entrances till the bottle was exhausted. I shall always think the parson who gave us this specific ought to be canonised and made a saint for it (though I hope he will live many years before he "crosses the bar"). In my readings they gave the saint another name; it would have to be Saint Hollis, or Dioxogen, or the reason of his canonisation would be lost.

I have great admiration for the man who, when he finds a remedy, flings it out to the world through the JOURNAL, so that all can have the same specific to try on their own bees, not conserve it to his own use and let his neighbour's bees go under.

That bees have their likes and dislikes I noticed last week. Among the violets out in the open there is the little blue speedwell, which, through lack of labour, was not hoed up last year; only a very small flower beside the large La France violet, but more bees went to the speedwell than to the violet, yet in summer-time they will not look at this same speedwell growing in the banks by the roadsides; they are on the wild rose close by. If there is nectar now, one would infer there was more in summer; their choice is greater in summer-time, and they visit the one that has most, I assume.—J. J. KETTLE.

## FOOD CONTROL—FOR BEES.

No, this is not to be an article on *candi coccineus* or its variety *c. puniceus;* nor a dissertation on whether it shall or shall not be practicable to save ¼ oz. of sugar weekly, out of the household rations, for making syrup next autumn without running the risk of a domiciliary visit, only comparable in its instigation—anonymous denunciation—in its methods—which may not even be particularised, and in its effect—a savage sentence, to those made by the citizen agents of the *comité du salut public*, which for a time—thank heaven it was short—arrogated to itself the task of estimating patriotism, and purging suspects from the common body of our cross-channel neighbours about the end of the 18th and beginning of the 19th centuries.

The fact is that I am under conviction of only playing with the fringe of a wide subject when, in these columns, I wrote—last November—about the importance of securing fodder for our bees.

In that article I tried to call attention to the fact that the Board of Agriculture were issuing orders, compliance with which must necessarily entail the loss to the bees of countless acres of clover, not to speak of the various other nectariferous or pollen-yielding flowers that "starred the dewy meads."

Were I of the mental mould of gloomy deans and certain lesser theological luminaries—I do not mention names; therefore the question of whether they be glow-worms, will-o'-the-wisps or wreckers' lights does not arise—I might wag my index digit and say that this is a judgment on us; a punishment for our sins of omission; a visitation—it is that right enough—or colloquially that it jolly well serves us right. By the way, would there not be some justification for this attitude?

Has the question of *providing* bee forage ever been seriously dealt with in our Bee Press or Bee Publications?

There are half-a-dozen or so sliding about under my elbow as I write, and all that the lot of them have to say on the subject wouldn't aggravate the paper crisis if re-printed. The books have long chapters, the periodicals articles galore, on bee diseases and on the ideally practicable and practically ideal bee-hives, but with the honourable exception of Simmins' "A Modern Bee Farm," not one gives any appreciable assistance in this direction, or even contains any indication that its author or compiler had an inkling of the advisability—not to say necessity—of planting with—well—not a single eye, let's compromise on a squint—to the production of honey in commercial quantities.

The general attitude to the question seems to be that of Dr. Johnson to the mendicant, who, aggrieved at the Doctor's refusal of his request for alms, remarked "Well, I must live," whereto Boswell's hero replied, "I don't see the necessity."

Healthy bees are a necessity. Commodious hives, convenient for manipulation, are also a necessity; but the greatest of three is a supply of nectar.

Hitherto we have relied for this on sources which welled up independent of our needs. White clover, which merely occurred in a meadow ley. Heather, cut for thatch or burned for grouse. Limes, grown to break the monotony of planes in suburban streets. These have been our stand-bys or, to change the metaphor, our anchors, two of which are dragging.

What a contrast this forms to the methods of our go-ahead Transatlantic cousins! Dadant, "Langstroth," and much more so Roots "A. B. C. and X. Y. Z." emphasise the importance of location and of individual sources of supply.

Root even goes so far as to give practical and expert details of culture of the main forage plants. Alfalfa (lucerne), basswood (lime), buckwheat, clovers, including alsike and trifolium incarnatum, sainfoin, mustard, and above all melilot. These are thoroughly discussed in relation to honey yield, qualitative and quantita-

tive, and to their requirements in respect of soil, manure, aspect, etc., and to their respective values and uses apart from the apicultural point of view.

Doubtless these data and cultural directions would have to be modified to accord with British conditions, but the eminently practical spirit—could we but adopt that—in which the matter is taken up, may, and should, serve us as a guide and exemplar.

Fruit-growers are keeping bees for their pollenising value, the honey being to them a secondary consideration. Is it too much to hope that this country may yet see a class of real bee-farmers, men, or women, cultivating a fair acreage of plants primarily for the nectar content and only secondarily for the hay, or grain? The reward would, I am convinced, be generous. In the re-construction of this crumbling world a little attention to improved methods of *production* of its choicest sweet should be given, and given with an open mind to new suggestions and a frank recognition of increased needs.—A. F. Harwood.

## THE INFLUENCE OF TEMPERATURE ON BEES.

### II.

(2) My Early Observations.

I was surprised to notice in the autumn, that, in addition to the old dead bees which were brought out of the hive by their sister undertakers, some young and apparently healthy bees shared the same fate. On further inspection I noticed, also that a few of them, even in their outward appearance, were not actually dead, but were still moving parts of their limbs and their antennæ; but, knowing that the law of the bee city will never tolerate the citizenship of disabled members of the community, my first explanation was that the undertakers were engaged in removing dying as well as dead bees. Then, I considered the state of the weather, and I began to wonder whether the fall in the temperature had anything to do with the disablement, from which these still living, and yet, apparently dying, bees were suffering. So I took one or two of them and warmed them gently in front of a radiator, and, to my great surprise, vigorous life took the place of a dying state; and thus, these bees, after quickly brushing themselves, dashed for the window, which happened to be closed. So they kept climbing the glass and flying everywhere before I was able to lead them to the outside air, where they remained quite active. Later, I purposely followed, with my eyes, the movements of such "revived" bees (one at a time), and I was satisfied that they invariably *returned to their hive*, although very few became chilled again. It interested me, as might be imagined, to try the effect of heat on the "dead," old, and worn-out bees, that had just been thrown out of the hive on the neighbouring grass, and again my experiment ended in a curious success, though the proportion of the "revived" bees amongst this class was much smaller compared to those of the other class. Having satisfied my curiosity to this extent, I proceeded next to experiment with a few "crawlers" (often supposed to be a sign of "autumn dwindling") which gave me at an earlier date in September some alarm, as I was afraid of the presence of an infection. But here again the effect of the gentle warmth was marvellous, and almost all the crawlers were then capable of flying very well. I may add here that very rarely did I notice any such crawlers in fine, warm weather. Occasionally I observed some *quite young* bees with light colour left on the alighting board, and apparently dead. On these, again, heat had a miraculous effect, but, of course, they were unable to fly, and could not be persuaded to enter their hive; consequently, the success of my experiment with them turned ultimately into a failure, from the point of view of a useful practical application.

(3) Common-sense Deductions.

Every independent student of bee-keeping knows perfectly well that bees not only *dislike* both cold and dampness, but they cannot tolerate them long. The temperature of the hive has to be uniformly maintained at no less than 70—80 deg. F., not to mention the higher degree always reached during the most active period in spring and summer, and for special reasons, such as comb-building. During the winter a strong colony *may* succeed in maintaining a favourable warm atmosphere, and a weak colony, at least, does its best in that direction, and excessively feeds itself for the purpose; but *often* significantly fails in keeping the required temperature, and its career is terminated, either by starvation from ultimate shortage of stores, or by disease from the long inability to take a cleansing flight, because of unfavourable weather, or by the chilling effect of a harmful low temperature or by a combination of more than one of these factors. Again, it is universally known that during cold, damp weather bees are ill-tempered; and, in sub-tropical countries with an almost continuous flood of sunshine, this is not the case, and the cause of ill-temper could be traced to other causes, such as long in-breeding, etc. In a multiple of other instances the *good* influence of a warm temperature on bees is very noticeable, and with such a temperature their good

health is usually secured. Warmth to bees is, indeed, life itself, and no faithful observation could possibly fail to record this maxim. It seems, therefore, quite astounding to hear some people talking of bees *liking* cold. Probably many of those poor bees that gather near the entrance during the winter have succumbed purely to the effect of the cold on leaving the cluster for a special task (such as water carrying) and exposing themselves individually to the cold current of incoming air. Simple observations and common-sense deductions would easily convince anyone of the *harmful* effect of a low temperature on bees, though dampness, in addition, would create a much greater harm. Without sufficient warmth bees are in a state of suspended animation, which may or may not end in death, according to its duration and degree, as a complete stupor from excessive cold would, if prolonged, ultimately mean the onset of starvation, with its natural result. This state of hibernation (whether false or true) might occasionally be made good use of to the advantage of the bees under certain conditions in cold countries, when no suitable artificial heat is available, and provided the bees are not weak; but it is a better wisdom and a safer procedure to learn that the bees *adapt* their activities to the temperature of their surroundings; that they could work all the year in the favourable weather of warm countries, and, for the same reason (namely, the influence of temperature), are compelled to remain idle and in a perilous state for nearly half the year, in cold countries; and that the right conclusion to be drawn from this fact is, that in such a country as England, where it is essential for the welfare of the bee colony to have a good number of young autumn bees and to prolong their existence till the spring, it would be a more sensible procedure to make use in a sure and a careful way of artificial heating, in order, first, to prolong the period of autumn breeding, and, second, to maintain, as far as possible, the strength of the stock, by guarding the bees against the ill-effects of an excessive cold, without at the same time unduly raising the temperature of the hive to an extent which would create an undesirable activity and much consumption of food, with unpleasant consequences. The right chart of temperature to suit different conditions could only be obtained by *actual experience*, as might be clearly seen. But, from the beginning, it is no difficulty calculating the *approximate* temperature at which the hive should be artificially maintained (with the co-operation of the bees) at a particular period of time, and applying this calculation. With the *necessary precautions*, to be discussed in another article, it is safe to say that, supposing a stock of bees could not be made sufficiently strong by the end of the autumn, no fear need then be entertained that it will not winter successfully under the sure control of applied science. — A. Z. ABUSHADY.

## THE SUBURBAN BEE-GARDEN.

Everyone is exclaiming to-day (January 27), "What wonderful weather! We have seen its like in February many a time, but cannot remember such warmth and sunshine during January." The birds are pairing, and have quite mistaken the calendar, while the bees from my fifteen inhabited hives are flying strongly, and on one or two flight boards twenty may be counted at one time. Such stocks, however, are those in the warmest corners, and peopled with bees which displayed a little extra alertness last year, and memories of the extra care requisite for their manipulation come vividly into one's mind.

What a golden opportunity is this for practising the advice we saw this week in our Seasonable Hints to keep a close watch on food supplies.

My bees were packed down for the winter on October 24 last, and a careful record was made at the time of the strength of each stock, age of queen, and condition of the larder. I find such remarks as these in my diary:—

No. 2, stores "fair," 1 candy. 24/10/17.
No. 6, stores "ample."
No. 9, stores "short."
And so on and so forth.

Four were in the condition of No. 9, and these all had an extra cake of candy a week ago, when the weather was not quite so warm as to-day, just to make quite sure. To-day the "fairs," and, in fact, all with the exception of the "amples," have had at least one cake of candy apiece, and every stock is to all appearances in a healthy and flourishing condition, while the post brings me anxious notes from friends who I know have formed the habit of doing things just too late, to say that their bees have gone, and can I help them in the replacement of them. Well, their turn will come if any stocks and swarms are left after the "well in times" have had what they require.

The little beggars let me down badly last back-end—it was not their fault, however, for Haig was arranging the weather for his autumn push, and the mud was no more help to the bees than to our poor fellows in Flanders. Natural stores were shorter than I have ever known them to be before, and the bees were given 40 lbs. of sugar syrup in about ten days, because

there is not a rapid feeder for each hive, and, in addition to this supply, they have already received 27 of Messrs. Pascall's candy cakes. I have just about as much again left on the shelf, and am hoping against hope that it will suffice to see me through the fruit blossom.

Again; to-day every hive-roof was taken off, and the top wraps—in my case clean sacks or sacking—removed and opened out over the top of the lifts to dry and air. The sun was so hot that this airing, which began at 11 o'clock, continued until 3 p.m., when all were packed up warm and dry. Egg-laying, I know, has begun in some of the hives from the heat above the centre of the quilts in one or two of the stronger stocks.

All this about winter feeding appears to come very ill from the pen of one who has constantly urged that all winter feeding should be done in autumn, and the use of candy in the apiary of the careful man almost unknown; but, "war times, war methods"—meaning that when you cannot do as well as you would, do as well as circumstances will permit, and adjust your methods to the push conditions.

Enough, then, for the day. If Mr. Editor will permit, I will endeavour to send more notes from time to time from A Suburban Bee-garden, in the hopes that my experience may be of some use to others similarly situated.

ARNOLD RICHARDS.

## GLAMORGANSHIRE BEE-KEEPERS' ASSOCIATION.

### ANNUAL MEETING.

The annual general meeting was held on February 9, 1918, at Bridgend; J. M. Randall, Esq., J.P., in the chair, and there was a full attendance, including Messrs. F. Gravil, D. Hardcastle, R. J. Edwards, Wm. Morgan, W. T. Gunter and Mrs. Gunter, H. Skelding, W. H. Yeo, D. George, T. Whitehead, J. Butt, A. Webb, David Davies Williams, Miss Kate Henry, etc.

The chairman moved a resolution expressing the loss to the Association by the death of W. Meyler Thomas, J.P., Ynysplwm, a very useful public man and a keen supporter of the G.B.K. Association.

The secretary apologised for absence of Mr. C. Cleeves (Sketty), W. Dyche, B.A., Rev. T. Olney, and T. Williams.

The chairman, in moving the adoption of the report and balance sheet, referred to the losses sustained throughout the county by "Isle of Wight" disease, and the consequent scarcity of honey. He had been interested in bee-keeping for many years, and had always supported the claims of the Association when applications were made for grants to the County Council. He was very pleased to render any assistance and encourage an organisation which was giving the best instruction and advice that could be afforded to bee-keepers in the county. With ordinary luck they could look forward to a successful season, and derive both pleasure and profit from the pursuit of the bee industry. As chairman of the War Agricultural Committee he was deeply concerned in the question of Food Production, and urged everyone present to do their utmost to produce the maximum quantity of honey next season. An important meeting which would be well worth while attending would be held at Swansea next Saturday, to be addressed by C. Bathurst, M.P.

The subscription list and financial statement of accounts showed the Association to be in a strong and sound condition.

The report was unanimously adopted.

Mr. R. J. Edwards proposed a vote of thanks to the officers and committee; and Mr. Yeo spoke of the valuable services rendered by the local experts; and in acknowledging the votes on behalf of the officers and the committee the secretary also paid a tribute to the very hearty and willing response on the part of the members to any calls that he made upon them, and which made his secretarial duties so much easier and effectual. Mr. Hardcastle particularly had rendered very valuable services. The County Council grant had now been renewed, and it rested now with the members of the Association to prove themselves worthy of the confidence thus placed in them.

The Right Hon. the Earl of Plymouth, P.C., C.B., was re-elected president.

C. D. Thompson, Esq., J.P., and J. M. Randall, Esq., J.P. (the chairman), were elected vice-presidents.

Mr. John Jenkins was re-elected hon. auditor; Mr. Freeman Gravil, treasurer; and W. J. Wiltshire, secretary; and two new members were elected on committee.

Messrs. F. Gravil and D. Hardcastle were elected representatives on the B.B.K.A.; and Mr. Gravil, representative on Glamorganshire Chamber of Agriculture.

The question of joining the Cardiff and County Horticultural Society in their show of fruit and vegetables on August 14 and 15, 1918, was referred to the executive committee.

Mr. C. Spiller proposed, and Mr. Hardcastle seconded, and it was passed unanimously, "That this annual meeting of the Glamorganshire B.K.A. approves of the principle of standardising hives, and hopes that the B.B.K.A. will carry same into effect."

A vote of thanks, proposed by Mr. F. Gravil, was accorded the chairman, and most of the members remained for tea.

## KENT BEE-KEEPERS' ASSOCIATION.

### ANNUAL MEETING AT DARTFORD.

The great importance of bees as an auxiliary source of food supply becomes abundantly evident from the figures submitted at the annual general meeting of the Western Division of the above Association, held at Dartford Public Library on Saturday, February 9. No less than 10,150 lbs. (4½ tons) of honey were reported as having been produced, though reports had only been received from one-third of the members of the Association. It is, therefore, quite apparent that great value must be attached to bee-keeping as a source of food supply in these trying times.

This remarkable achievement was, in a large measure, due to the reorganisation which this Association has undergone during the last year or two. Owing to the energetic measures that have been adopted by the management, the membership has risen from 181 in 1916 to the great total of 569 at the end of 1917. The definite policy of making the Association as useful as possible to every member largely contributed to this magnificent result. In pursuance of that policy, 25 lectures and demonstrations were given throughout the Division during the year. The Honey Show held in August at Dartford will be present in the memory of many of the inhabitants as one of the "functions" of the year. It was beyond doubt or question the finest show of its kind that has been staged in recent years in this county, and was pronounced by the judge to be the finest in the kingdom for 1917.

During the course of the summer a movement was originated to facilitate practical bee-keeping by effecting a "standardisation of hives," and it was reported that substantial progress had been made in this direction by the Committee appointed for the purpose, and results would be definitely announced in a short time. The difficulties of supply arising out of the war conditions have affected the bee-keeping industry no less than other industries. This has necessitated steps being taken to meet these difficulties, and a subsidiary organisation in process of formation for ensuring as far as possible a steady and adequate supply of materials to bee-keepers in Kent. So rapid has been the growth of the Association that it has become necessary to create a special committee to deal with all questions affecting its future development. It is thus expected that the usefulness of the Association will not only be maintained, but substantially increased as time passes.

Owing to the ravages of "Isle of Wight" disease in past years amongst the hives of Kent, great difficulty was experienced in securing stocks by those who desired to take up the pursuit. The Association came to the rescue in this matter, and continued its restocking scheme for the benefit of members; 120 colonies were by this means distributed, making a total of 220 during the two years. But for this arrangement the remarkable results in honey production set forth above would have been quite impossible. It is pleasing to record in this connection that out of a total of 150 apiaries, reports only show 16 apiaries as showing slight symptoms of disease. The number of colonies recorded as now being in possession of members is 700 as against 185 in 1915—another testimony to the value of this organisation.

Another scheme inaugurated by the Association is the creation of a reference library of bee literature and periodicals for the use of members. The great feature of this innovation is the fact that such books are available by post. This bee library has, by the courtesy of Mr. Wood and the Dartford Public Library Committee, been housed and administered at the Public Library, Dartford.

The financial results of the increased activities of the Association, notwithstanding the increased expenditure, is a source of extreme satisfaction. The total receipts for the year amounted to £282 12s. 2d., expenditure, £247 8s. 1d., leaving a balance of cash in hand at the end of 1917 of £66 9s 10d., as against £31 4s. 9d. at the end of 1916.

The great increase in membership throughout the county, which has been one of the gratifying results of the policy of the administration, has necessitated the creation of local branches for the carrying out of a policy of helpfulness which has been the leading *motif* of the Association during the past two years. In this way there have been created local committees representing separate branches in the districts of Bromley, Canterbury, Eltham, Bexley Heath, Rochester, and Sevenoaks.

New branches are in process of formation, and there is little doubt that the coming year will see several more such branches created.

Mr. A. Dewey was unanimously elected chairman for the ensuing year, with Mr. G. Bryden (Rochester) as vice-chairman, and Mr. G. W. Judge, Shepherd's Lane, Dartford, as secretary.

The following committee was elected:—

Dartford: G. H. Barnes and J. Darby.

Darenth: E. W. Williams.

Crayford: H. Davis.

Belvedere: W. Heaselden and Mrs. Simms.

Erith: J. Roper and F. Sykes.
Greenhithe: H. J. Upton.
Gravesend: H. Wigley.
Willington: Miss Smiles.
Chatham: J. Reader.
Eltham: W. H. J. Prior and V. E. Shaw.
Bexley: C. W. Knight and A. C. Paulin.
Orpington: Capt. C. Courtenay Lord.
Blackheath: H. E. C. Carter.
Woolwich: Major A. W. McCombie.

In spite of it being a purely business meeting, it was well attended, and after many expressions of hearty appreciation of the Association's work, the meeting terminated with the usual votes of thanks. —*Communicated.*

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The Bromley District Branch of the Kent Bee-keepers' Association met at the Co-operative Hall, East Street, Bromley, when Mr. J. W. Price, of Maidstone (hon. secretary, Midland Division), read an interesting paper on the subject of bee-keeping.

The Chairman, A. Goodwin, Esq., in his opening remarks, referred with satisfaction to the increase in membership of the branch, it now numbering 73, which he thought was very creditable, seeing that the Bromley Branch had been only such a short time started, and that the season of winter was the worst time for such a society. He explained that the society was open to anyone to join (even those who were not bee-keepers), and impressed upon all the importance of honey, in the present time, as a means of increasing the food supply of the country. He extended a hearty invitation to anyone to join the branch, the subscription to which was only 2s. per annum, and the hon. secretary of which was Mr. W. E. Clifford, 63, Southlands Road, Bromley.

Mr. Price, at the outset of his lecture, stated that he himself had from his best stock obtained recently no less than 180 lbs. of honey, which he had found very useful during the present shortage of butter, margarine and jam. After referring to the natural history of all perfect insects (bees included), and their evolving through the various stages—egg, grub, chrysalis, and perfect insect—Mr. Price proceeded to give details, more or less of a technical nature, as to the proper manner of keeping bees to the best possible advantage. His remarks were illustrated and made intelligible and clear by the exhibition of a model hive, which has been made and lent by Mr. Seadon, a member of the association.

Questions having been answered, a vote of thanks, cordially granted, brought the meeting to a termination.—*Communicated.*

## SOUTH OF SCOTLAND BEE-KEEPERS' ASSOCIATION.

### ANNUAL MEETING.

The annual meeting of the South of Scotland Bee-keepers' Association was held in St. Mary's Hall, Dumfries, on Saturday—Mr. Hogg, Castle-Douglas, in the chair. There was a large attendance of members, in spite of travelling restrictions. The secretary and treasurer's report was submitted, and proved most satisfactory, showing a balance in favour of the association. The society has been in existence for 25 years, and the membership this year shows an increase of 25 per cent. over any previous year of the association's existence. This is a fine tribute to the good work the association is doing, and to its vigorous vitality. There will be no show this year. Thanks to the grant from the Dumfries County Council and to the generous support of the patrons, Mr. Hogg, the association's expert, will extend his tour to a month at least, beginning about the third week in April.

It was decided to federate with the Scottish Bee-keepers' Association. This will enable members of the S.S.B.A. to sell honey at the S.B.A. depots, to obtain appliances at wholesale rates, and have use of their library of 300 volumes.

After the business of the meeting Mr. Tinsley, from the West of Scotland Agricultural College, Kilmarnock, addressed the meeting on research work at the college in connection with the "Isle of Wight" disease. In the course of his experiments Mr. Tinsley tried every kind of cure that has been written about or advertised, but none of them had any permanent effect on the disease, and his conclusion was that they are all useless as cures. Another conclusion Mr. Tinsley had arrived at is that it is useless and dangerous to attempt a cure, and he strongly advised the burning of combs and frames, the hive itself being thoroughly disinfected before using again. The ground in front of hives in which the bees have died of "Isle of Wight" disease should be well dug and the apiary removed to fresh ground. The only advance that has been made in connection with the disease is, the lecturer said, on the lines of immunity. Stocks that have remained immune for some length of time have been used for purpose of increase, and the college is now prepared to distribute a limited number of stocks on behalf of the Board of Agriculture to members of the association, through the secretary, Mr. H. Marrs, Halleaths Lodge, Lochmaben. Mr. Tinsley expects to have a number of queens for distribution in June: both stocks and queens to be supplied at a reasonable price.

## ECHOES FROM THE HIVES.

I thought you would be interested to hear that I have to-day (January 28) observed the bees carrying in pollen. It was being gathered from the winter aconites in a sheltered border of several square yards, which is now yellow with blossom.

Yesterday (January 27) I also saw numbers of bees working on the bloom of the dwarf "blind nettle," as it is called in this neighbourhood, while a few could be seen on the tiny blossoms of chickweed. After the severe weather we have experienced this seems the more remarkable.—A. H. HOLMAN, Dunton Green, Sevenoaks.

### AN ECHO FROM HERTS.

January is nearly out, and the first month of 1918 will soon be gone for ever. What a month! Biting winds, heavy snow, and keen frost, interspersed with mild days more like mid-April weather. We bee-keepers, if we were not sure of food being right, have taken advantage of the mild spell to put on candy, this being the only work in the apiary outdoors.

Our Dorset friend has been writing of the beauties of his neighbourhood. I know something of those parts, and heartily endorse his views. Here in Herts we are not so favoured, still we have our compensations. During the late snows we lived in fairyland. The little copse beside my house was a dream of loveliness, every twig being covered with glittering beauty.

Being sheltered here from the north and east, things are forward with me. The catkins lengthening very fast, the first snowdrops opened on the 21st, and the coloured primroses show colour in the buds. In the hedgerow honeysuckle (earliest of creepers) is breaking into leaf, and many hedgeside flowerets are peeping for better days; so we are not so far behind Dorset. Then the birds, oh, what a concert! Blackbird, thrush, wren and robin, all trying to outvie one another.

The bees, too, during the last few days, have been flying strongly. Here the note is out of tune. I visited two apiaries, and have found four stocks badly affected with "Isle of Wight" disease; this despite the fact that all last season they were sprayed with Bacterol, fed with medicated syrup, with pink candy as a reserve. So I am afraid that although Bacterol is the best so far (with me), we have not yet found the perfect remedy. But, are we downhearted? I think not. I am asked by the owners to treat these stocks as I think best, and I am afraid they are likely to have a hard time—at any rate, I shall take steps to check it spreading. My own bees are so far healthy—but one never knows.

At present I am digging and preparing for this year's crops (fighting with the spade and hoe), and hope for good harvests. At nights, racks, frames, etc., come to the fore, so with one thing and another we have enough to do to keep in health; also the satisfaction of knowing that while increasing the food supply we are increasing our own income at the same time. G. J. F.


*The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.*

## THE INFLUENCE OF TEMPERATURE ON BEES.

[9623] With reference to Dr. Abushady's article on "The Influence of Temperature on Bees," in your issue dated February 14, I should like to draw the writer's attention to another American book, containing a chapter on the relation of temperature to successful wintering, which I feel sure would interest him, viz., Hutchinson's "Advanced Bee Culture." The book is in the library of "The British Bee-keepers' Association."—L. ILLINGWORTH.

## THE SERGEANT'S BEES.

[9624] My son-in-law has just returned on leave after 15 months' service on the Western front. Amongst many interesting stories of his experiences, I was most amused to hear how he became a bee-keeper in France, and I think his story is worthy of a place in your JOURNAL. He relates that after the great battles of the Somme last year, he followed the retreating Germans through Bapaume and on to Bullicourt. During the heavy fighting for the Hindenburg line here, he was posted at the village of Achiel-le-Grand. On the afternoon of his arrival, one of his men reported to him that a swarm of bees was hanging from a crucifix in the local cemetery. He gave orders to his men they were not to be interfered with, and as soon as his military duties permitted he walked up there. The

village was in flames, and the cemetery was chaos, and worse, but almost alone stood a marble crucifix, and hanging from the arm of the Christ was a large swarm.

He is not a bee-keeper, but was often interested in my manipulations, and so, as a reminder of the old home in England, he decided to try and take them. He procured an empty biscuit tin, and an old-type gas mask, and went to work. Shaking them off from this position was out of the question, so he brought into use the stick of a Stokes' bomb, with which he swept the elbow of the figure, and the mass dropped into the biscuit tin, and he returned with them to his cave dwelling in triumph. He then inquired if there was a carpenter among the men, and finding one they went over to the ruins of a French château and procured some timber and broken glass, and made a hive to the pattern, as well as he could remember, of the standard hives in my garden. As frames were unprocurable, they made the side panels of glass so that they could observe the bees at work without disturbance.

The hive was placed in a sheltered position, and protected on three sides from flying shrapnel by a bank of turf and mould, as the spot was frequently subject to heavy fire from the enemy. It is interesting to record that the bees did not appear to be disturbed by these unusual happenings, and invariably, after the explosion of a big shell 50 yards from the hive, they could be observed flying in and out of their home, as on a peaceful summer afternoon in England. This curious colony prospered exceedingly, and for some weeks it was one of the sights for our Tommies and their officers to walk out to this spot to see the Sergeant's bees. The comb was drawn down from the roof, and in a few weeks he thought the time had come to secure some surplus. This presented a great difficulty, which was overcome by lifting the lid with the comb and bees attached solidly out of the hive, and breaking off pieces of comb filled with honey. In this way they had many a pleasant and dainty meal. I remarked that in some of this comb there must have been eggs and grubs. He said some of the men noticed this, but it went down very well and nothing was wasted.

He was moved forward for the push at Cambrai, and left his friends behind with many regrets.

Should any of your readers who are serving with the Forces find themselves in the neighbourhood of the site of Archiel-le-Grand, they might give a kindly thought to the old gun pit near the cemetery, where I trust still cluster "the Sergeant's bees."—JAS. BANCROFT.

## BACTEROL AND "ISLE OF WIGHT" DISEASE.

[9625] On January 23, after five or six weeks' inaction, my bees were able to take wing, but, to my dismay, three of the stocks were turning out their dead, and crawlers were very plentiful. This continued the second day, when I thought if they were going to die, they might just as well do so in an attempt to save them. I contracted space to combs covered with bees, frames with wide ends to allow of more numerous clustering, and then dissolved half a pound of honey in one pint of warm water, and added one tablespoonful of Bacterol (a very strong dose); filling a three-ounce bottle with the warm liquid, I scattered well over the bees and down side of combs, closed up, and left them for two hours, when I tipped the hives forward not a drop ran out, proving that if any had got to the floorboard it had been taken up again by the bees. I repeated the dose twice more within a week, at the end of which time not a crawler or dead bee was to be seen. There have been a few fine days since, but no dead or crawling bees.

I may add, for the benefit of those who are sceptical, that the foregoing stocks are not those treated with Bacterol last year, neither of which are showing any signs of disease at present.

These experiments have not been carried out before a cloud of witnesses, but the bees and hives are at 84, Gillygate, York, and I shall be pleased for any bee-keeper to come and see for himself.

I may be dubbed a Bacterologist; well, I have reason to be proud of the title, for it has saved me many stocks, and hope it will do the same for others.—W. J. GIBBS.

## OPENING HIVES — AN EXPLANATION.

[9626] May I hasten to thank you for your reply to my queries in last week's issue; and at the same time regret that my letter led you to think that our "local expert" took the brood combs out when he examined my friend's hive last week: he is far too experienced a hand to do such a thing at this time of the year. My expression "opened up the hive" doubtless caused you to take the view you did; he simply drew the quilt aside and saw the fresh-sealed brood.

May I ask you to kindly make this clear in your next issue, as it may otherwise cause much local ill-will; and I am far too intimate a fried of his to wish any breach between us, whilst at the same time he is absolutely one of the very best and kindliest of fellows; ever ready and willing to assist those who need help and advice;

and is thought most highly of by everybody in the district.

I feel I have every reason to make amends for my unconscious blunder, and am going now to see him and explain. Only yesterday morning I told him I was going to "open up" my hives to see if they were all right, and he said, "Don't disturb the frames, you will be able to see the brood, if any, by looking down"; so you see he is fully alive to the fact that no disturbance must take place at this season.

I was highly gratified with my examination, for in one hive the bees were crowded even in the space between the rack and first comb, and more so as they reached the middle one. Another was "splendid," the remaining one "very good indeed."

You are quite right, beginners are very impatient and over-anxious; I am one of them.

Needless to say the B.B.J. is ever welcomed and always interesting.

Again thanking you, and hoping that you will make my mistake clear in your next issue.—W. J. PEARCE.

[We have great pleasure in publishing Mr. Pearce's letter. As he surmises, it was from the wording of his query that we took it the local expert advised taking out the brood combs. We are pleased to hear that it was a wrong impression, and that the expert—of whose identity we are quite ignorant—gave our correspondent such sound advice.—EDS.]

## Notices to Correspondents

"NEATHMAN" (Glam.).—*Fastening Foundation to Top Bar of Frames.*—Use molten beeswax. You can cut a narrow strip from each sheet of foundation for this purpose. Do not use any of the other materials you mention.

H. C. McM. (Surrey).—*Spring Feeding.*—Candy should be given until about the end of March. Flour candy may be given from the present time. From the end of March feed slowly with thin syrup by means of a "bottle" feeder, exposing, say, three holes. A lever lid tin, such as a Lyle's golden syrup tin, makes a very good substitute if small holes, large enough for a hatpin to go through easily, are punched in the lid. The pink candy may be used for all purposes. See "Seasonable Hints," page 49, and reply to E. J. Grover, page 55, in the JOURNAL last week.

H. M. R. (Lingfield).—*Using Shallow Frames with Sections.*—You will need dividers between the sections and shallow combs. They may be tacked on to the hanging frame, or you could make some of tin or wood to hang between the combs. If a shallow frame box is used it will be necessary to increase the thickness of the bottom bars of the section frame so that they are level with the bottom bars of frames by tacking on a piece of wood, or, if the boxes made to take hanging section frames are used, the shallow frames will have to be cut down, so that all are level at the bottom.

E. COOMBER (Tonbridge).—So far as we can tell the sugar is cane.

ENQUIRER (Kent).—The pamphlet is now out of print and unobtainable.

*Suspected Disease.*

FELIX (Suffolk).—The cause of death was "Isle of Wight" disease.

NORTH STAFFORD (Derbs.).—The cause of death was "Isle of Wight" Disease. Burn the dead bees, quilts, frames and comb, or the latter may be melted down for wax and the refuse burned, but be careful not to allow bees to have access to either combs or refuse. The hive should be scorched with a painter's lamp, but do not char it. If a lamp is not available, apply a strong solution of some bactericide, or disinfectant, with a brush, working it well into all corners and cracks. Wash the outside of the hive with a weaker solution of disinfectant; separate the parts of the hive and leave exposed to the air until dry and the smell of the disinfectant has disappeared. It is better to give the outside a coat of good oil paint. The ground where the hive stood should have a thick sprinkling of quicklime, and, if possible, be dug over. Use ordinary builders' lime.


## BRITISH BEEKEEPERS' ASSOCIATION.

### LECTURES AT GOLDERS HILL PARK.

A special course of six lectures on beekeeping will be given in the British Beekeepers' Association's Apiary, London County Council Park, Golders Hill, London, N.W., on Fridays, April 12, 19, 26, May 3, 10, and 17, 1918, at 6 o'clock each evening.

Those desiring to attend these lectures must make application at once for enrolment and particulars to,

W. HERROD-HEMPSALL,
Secretary,
23, Bedford Street,
Strand, London, W.C.2.

### MONTHLY MEETING OF COUNCIL

The monthly meeting of the Council was held at 23, Bedford Street, Strand, London, W.C.2, on Thursday, February 21, 1918.

Mr. W. F. Reid presided, and there were also present Miss M. D. Sillar, Messrs. J. Smallwood, G. Bryden, A. Richards, T. Bevan, G. R. Alder, G. J. Flashman, W. H. Simms, J. B. Lamb, J. Herrod-Hempsall, Association representative, Rev. T. E. Peters, and the secretary, W. Herrod-Hempsall.

The Chairman made sympathetic reference to the sad loss the Council had sustained by the loss of General Sir Stanley Edwardes; a silent standing vote of condolence to the relatives was passed.

Letters of regret at inability to attend were read from Messrs. T. W. Cowan, E. Walker, G. W. Judge, C. L. M. Ealos, and F. W. Harper.

The Minutes of Council Meeting held January 17, 1918, were read and confirmed.

The following new members were elected: Miss E. Taunton, Rev. T. E. Peters, Rev. W. Ellison, Messrs. H. A. K. Auster, H. C. Channon, F. E. Freeman, G. Kay, J. A. Othen, J. B. Smith, B. Thomas, G. M. Truss, J. Williams, and W. E. Whittaker.

Life member: Capt. W. G. Coates.

The following Associations nominated representatives on the Council and all were accepted:—Worcestershire: A. R. Moreton; Herefordshire: Mrs. Clowes; Glamorgan: F. Gravil; Staffordshire: W. Vallon; Peterborough and District: P. C. Clarke.

The Mid and West Herts. (late St. Albans) Association applied for affiliation and were accepted.

The report of the Finance Committee was presented by Mr. Smallwood, who stated that the payments into the bank for January amounted to £38 4s. The bank balance on February 1 was £122 1s. 7d. A recommendation that a further sum of £15 be invested in the reserve War Loan account was adopted.

The report of the Committee on the standardisation of hives was received. It was resolved that owing to the great difficulties experienced owing to abnormal conditions that the matter remain for a time in abeyance. So that at the first favourable opportunity the scheme may be proceeded with, the Council invite those interested in the matter to send particulars of their ideas, together with scale drawings, to the Secretary.

The final examination was fixed for May 24 and 25, 1918.

A very hearty vote of thanks was passed to Mr. Paulin, of Bexley, for engrossing the examination certificates.

The Secretary was instructed to arrange for the lectures at Golders Hill Park on the same lines as last year.

Letters pressing the Council to obtain legislation for dealing with bee diseases were received from the Peterborough and Herefordshire Associations, and the Secretary was instructed to reply. Also from Leicestershire and Northumberland Associations in favour of standardisation of hives.

Next meeting of Council after the Annual Meeting on March 21, 1918.

## SHEFFIELD AND DISTRICT BEE-KEEPERS' ASSOCIATION.

### ANNUAL MEETING.

The fifth annual general meeting of this Association was held on February 14 at the Wentworth Cafe, Sheffield, and in the absence of the President, the chair was occupied by W. Ball, Esq.

The Hon. Secretary, Mr. W. Garwell, presented the report and balance sheet, which showed an increased balance in hand. The report dealt with the Association's efforts to re-stock members with bees from the Association Apiary, after having lost their bees with "Isle of Wight" disease.

The Chairman, in moving the adoption of the report and balance sheet, commented on the steady increase in membership, six new members being admitted at the annual meeting.

W. T. Garnett, Esq., was re-elected President: J. D. Outram, Esq., C. D. Leng, Esq., C. M. Hansell, Esq., W. Ball, Esq., T. H. Nelson, Esq., and Eric J.

Outram, Esq., were elected Vice-Presidents.

Messrs. P. Ridge and E. J. Outram were elected auditors, and W. Garwell was re-elected secretary and treasurer. The committee was re-elected *en bloc*.

Mr. Livsey proposed, Mr. Ball seconded, and it was carried unanimously, "That this meeting fully approve of the standardisation of hives, and we will give our wholehearted support to such a scheme."

The meeting closed with a vote of thanks to the Chairman, proposed by Mr. Hansell.

## STAFFORDSHIRE BEEKEEPERS' ASSOCIATION.

### ANNUAL MEETING.

The annual meeting of the members of the Staffordshire Bee-keepers' Association was held in the Lecture Hall, County Technical Buildings, Stafford, on Saturday, February 9. The Rev. A. R. Alsop (vice-president) took the chair in the unavoidable absence of Col. A. H. Heath (president), and he was supported on the platform by Messrs. John Kendrick, J.P., C.C., of Stone; E. W. Horton Knight (Rocester), J. Stoney (County Horticultural Instructor), J. Price, of Old Hill (County Council Bee-keeping Expert and Lecturer); and Mrs. Saint, of Stone (who is acting as secretary in the absence of Mr. C. R. Forse, of Trentham, who is serving with the Artillery at the Front).

### THE ANNUAL REPORT.

The Chairman, in calling upon Mrs. Saint (secretary) to read the annual report, said she had done exceedingly good work on behalf of the Association during the past year under trying circumstances.

The report was as follows:—

I am pleased to be able to report that the Staffordshire Bee-keepers' Association has been doing good work during the past year under trying circumstances. The unusual and extra demand for bees and help, owing to the scarcity of sugar, taxed to the utmost the powers of the working members, and unfortunately it was impossible to supply anything like the number of stocks asked for.

Forty-six new members have joined our Association and four have resigned, leaving a total of 209 members. The balance in hand is £88 17s. 8d. This is larger than usual, and was due to there being no medals or prizes to supply for shows, and to the kindness of the local experts in giving all their time and paying their own expenses. A number of candidates presented themselves for examination. The British Bee-keepers' Association appointed as examiner Mr. W. Herrod-Hempsall, who gave a lecture in Stone the same evening, which was much appreciated.

Four committee meetings have been held, and through the efforts of this Association the County Council has appointed a whole-time expert, whose lectures, visits, and advice will, we feel sure, be of great value to the bee-keepers of Staffordshire, and by joining the Association and making ourselves one strong body we shall take an important part in forming plans for the future, and so help our country in its time of need by encouraging bee-keepers, who are doing their best to prevent the waste of so much nectar through insufficient bees to gather it all in.

The honey season was in most districts short, although a surplus of 212lb. is recorded from one hive. Swarms were very general, but were not sufficient to supply all anxious to obtain them. "Isle of Wight" disease is still amongst us. We hope, with the help of the County Expert, to see a great improvement during the coming season, as, visiting every bee-keeper, he will find out the most infected areas, and by advising no bees to be moved from that district prevent it spreading. At three economy exhibitions—Lichfield, Stafford, and Mayfield—a space was devoted to honey and bees, and at each I gave short lectures on Bee-keeping and the use of various appliances, which were much appreciated, and induced a number of people to become members of our Association and start bee-keeping. Mr. J. Kendrick lent his trophy, and observatory hive; Mr. Mytton lent bees for Lichfield, Mr. Johnson bees for Stafford, and Miss Wardle bees for Mayfield. They also helped to take charge of the stands.

The thanks of the Association are due to the local experts, who have spent so much time visiting members and giving help and advice where needed. You will be pleased to hear that your secretary (Mr. Forse) was on leave at Christmas, and was looking wonderfully well. He wished to be remembered to all members of the Association.

The Chairman remarked that it was a most encouraging report, and they were all very much indebted to Mrs. Saint for her services. (Applause.)

Mr. Kendrick, in proposing the adoption of the report and balance-sheet, said he thought they would all agree that it was fairly satisfactory.

Mr. E. W. H. Knight seconded the motion, and the report and statement of accounts were adopted.

### LOCAL EXPERTS' REPORTS.

A number of interesting reports by local experts were then submitted, and

showed the ravages of "Isle of Wight" disease in the county.

The Chairman moved that the local experts be known in future as local secretaries, and that they be re-appointed *en blac*, and this was agreed to.

Mr. Kendrick moved the re-election of Col. Heath as president. Col. Heath was the founder of the Association, and had kept in touch with its work ever since.

Mr. Harper seconded the motion, which was carried unanimously.

On the motion of Mr. Valon, seconded by Mr. Johnson, the Rev. A. R. Alsop was re-appointed vice-president.

The committee were re-elected *en blac*, with the addition of Messrs. H. J. Bostock (Stafford), Isaac Swanwick (Yarnfield), J. Wakefield (Brewood), J. E. Bishop (King's Bromley), and W. Collis (Gratwich), in place of those members who retired by rotation.

Mr. C. R. Forse was unanimously re-elected hon. secretary, and Mrs. Saint hon, secretary *pro tem.*

Mr. Vallon, delegate to the British Bee-Keepers' Association, was re-appointed. He said the Association, which had met twice during the year, was doing its best to improve the status of bee-keeping, and were considering the question of the standardisation of hives.

ADDRESS BY THE COUNTY EXPERT.

Mr. Joseph Price, the county expert, who was welcomed by the chairman, then gave a short address. He said that naturally a good many people were wondering what the future relations between the County Council and the Association were going to be. Having been a member of the Association for 25 years and for the last 12 years a member of four or five similar organisations, as well as acting as expert, they might take it for granted that wherever he went, whether to help novices or to visit experienced bee-keepers, he should further the interests of that Association as much as possible. Nothing would give him greater pleasure than to see membership of the Association increased at the end of the year, and he hoped that in course of time it would be doubled. (Hear, hear.) There was no reason why the Staffordshire Association should not equal the membership of the Cumberland and Westmorland Association, which was over 900, and for which he worked for twelve years. At the present time bee-keeping was in a very critical stage, owing to the ravages of the "Isle of Wight" disease, which had gone from village to village. Bee-keepers had been left more or less to themselves, and had not known what neighbouring bee-keepers were doing. There was no effectual cure at the present time for the disease, and it was not to be wondered at that in many districts there were hardly any bees left. The Press had assisted apiculture very much during the last few years in emphasising the value of honey as an article of food, and not merely as a luxury, which it had always been considered. The result was that many persons were, owing to the scarcity of sugar, eager to take up bee-keeping, but, unfortunately, there were no bees to be had. He urged the importance of educating those who started bee-keeping to manage their own bees, and not, when trouble came, to throw up the sponge and leave infected combs in their apiaries. He had been engaged about a month in visiting bee-keepers, and he was sorry to say that wherever he had gone he had found disease in stocks. Owing to the scarcity of bees, bee-keepers would be lucky if they were able to re-start with only one stock, and that would be quite sufficient for the present. Where there were bees he thought it was advisable to keep them in the locality, and in the absence of any system of compulsory notification he had arranged to leave cards bearing his name and address with bee-keepers. If bees were offered for sale, intending purchasers should ask to inspect the card, and they would be able to see from this whether the stocks were free from disease. In this way he hoped it would be possible to place a certain amount of check on the distribution of the disease by people who had no conscience in the matter. (Applause.) As regards re-stocking, he intended to devote part of his time to this question. Wherever he came across a place where there was no disease, he proposed to isolate it as far as possible, and to keep the apiary going for re-stocking purposes. The bees would be sold at a nominal cost to bee-keepers, as they applied in turn, and he hoped it would be an inducement to them not to go outside to buy probably infected bees. He wanted to enlist the help and co-operation of the local secretaries and members of the Association in the effort to make a clean sweep of infectious material in every apiary. It was no use attempting to prevent the spread of "Isle of Wight" disease by the means which were at present available. In his opinion, none of the remedies put forward had been successful; nothing could cure the disease in bees, especially if they showed signs of it in the autumn. The only way in which to assist bee-keepers to combat the disease was by adopting preventive methods and removing the source of infection. He looked forward to Staffordshire being regarded by other counties as an ideal place for bee-keeping, and he would do all in

his power to further the interests of the Association and bee-keeping generally. (Applause.)

Replying to Mr. Harper, the County Expert said the proposed central apiary would probably be located on the outskirts of the county. Owing to the ravages of disease and the possibility of infection it would be unwise to make it central.

The Chairman said the scheme was going forward.

Mr. Price said it was intended to put bees on the County Council fruit plots at Brewood, Chasetown, and other places for educational purposes.

CONTROL OF BEE DISEASE.

Mr. Johnson moved the following resolution :—"That this meeting of the Staffordshire Bee-Keepers' Association, recognising the urgent necessity of legislation to adequately combat bee disease, requests the Board of Agriculture to do all in their power to help apiculture by bringing in a Bee Disease Bill at an early date, and, if necessary, to call a representative conference of bee-keepers for their guidance."

Mr. Goring seconded the resolution, which was carried.

At the close of the business, the customary draw for a hive, value 45s., took place, the winner being Mr. W. J. B. Blake, of Longton.

## A DORSET YARN.

I saw our bees on the hedgerow banks that divide the fields. It was the first daisy I had seen open; the bees had found it sooner than I. Burns calls this a "wee, modest, crimson-tipped flower." I had not noticed bees about daisies much, though it is with us the greater part of the year. Montgomery writes, "The daisy never dies." He wrote also :—

"The lambkin crops its crimson gem,
The wild bee murmurs on its breast,"
etc.

One of those flowers that closes at night, it has always been an attraction to me.

"Oft have I watched thy closing buds at eve,
Which for the parting sunbeams seems to grieve."

This flower, and others on the lands o'erun by sheep, seems to have the sense of reasoning. Those who have been on lands where sheep are pasturing, will have noticed that not a young tree can grow, they level everything with their sharp teeth. The daisy and lotus clover flowers are all eaten off by them, but if you watch carefully you will see some of the daisy flowers will send out their flower stems horizontally, and will open among the short-cropped grass below the level where the sheep cannot bite them, as if it had reasoning powers. It is the same with the lotus clovers; never a bit of seed would there be if some of the flowers did not get in under the fine grass close to the soil, and produce seed to carry on the race.

I noticed this some years ago, when, with a party of Bournemouth horticulturists, I went to see the sub-tropical gardens of the Earl of Ilchester, at Abbotsbury, between Weymouth and Bridport, on the Dorset coast. All this place is the site of an old abbey and monastery. There is an old tithe barn still to be seen there, and on a hill, exposed to every wind that blows, are the ruins of St. Catherine's Chapel, the grass shaved level by the sheep, so that not a flower was to be seen. I had sat down to rest—it was a hot summer day,—one's thoughts went back to other years, to the wonderful monks of olden time; how they tilled the soil, and built so wonderfully strong, and carved and beautified, the temples of the Saviour. One felt as that clever parson who wrote those marvellous rhymes of Ingoldsby :—

"Then I thought of the ancient time—
The days of the monks of old—
When to matin, and vesper, and compline chime,
The loud Hosannas roll'd,
The courts and the long-drawn aisles among,
Swelled the full tide of sacred song."

Then, quite close to me, Was the song of the honey bee, Singing away in merry glee; It had found what I had failed to see, The lotus clover and the "wee crimson-tipped daisy." (Ingoldsby's rhyme seems to have bewitched me.) Then I saw that every flower that came up to the level was eaten off, and only those that spread outwards below the level of the teeth of sheep were able to flower, and produce their seed to carry on the race. The honey bee showed me this, and lessons so learned are never forgotten. It also looked as if the bee had "a fellow feeling" with these flowers on the short-cropped turf; that they made quite sure of their fertilisation.

The chief attraction for our bees is still the Christmas roses; so crowded are the flowers with bees that in their haste to gather pollen they are tearing off the filaments that carry the pollen. Some of the flowers have been open six weeks and are getting old. I assume they are fertilised, so nature has no further use for the anthers, and they easily come away when so many bees crowd over them.

In many of the by-lanes of Dorset just now the hazel catkins are delightful to

see, swaying about in the wind; but far the greatest half are still without colour and length, as though the plants seem to know that the crimson plumes of the female flowers were not yet advanced enough for inoculation, or else are anticipating another cold spell, and saving some pollen flowers till it is past; many of our old people think that this is so.

Many miles of hedgerows are not trimmed, and they look very pleasing to one who loves nature, but the farmer sees no beauty when they encroach over his fields; but he is short of labour, something has to be left. 'Tis the same with the willows; all the females are bursting their buds, and showing their downy flowers advancing. Our bees will have a fine time again. Nature is advancing quickly; yellow crocus are in bloom in sheltered places—all show us the approach of spring, "When early primroses appear, and vales are decked with daffodils." Already the "daffs" are showing their leaves and flower buds. How wonderful a few days of mild weather advances vegetation; but the rains retard the work on the land, crops cannot be got in, with the land swamped with incessant rains.

What delightful reading was Mr. Macdonald's on the wintering of bees, so true to nature; it is good to see that he is once again contributing to the JOURNAL.

"Blurts from a Scratchy Pen" seems like meeting old acquaintances; though one has never met them, one seems to know them so well; one's life is sure to show itself in one's writings.

One lady from the fruit-growing districts in Worcester wrote for some stocks of bees. As I said last week, bees are booming just now; the reproduction of the lecture on pollination in the JOURNAL has done a lot for education. The demand for bees will be greater than the supply. My advice to the query was, "Buy now, even if you have to pay 60s. for them; they are worth it in pollination alone."

There is no doubt that it is so, as bees carry the pollen direct from flower to flower, where wind would not do it so regularly, and in the case of wall fruit scarcely at all; it would be almost an impossibility for wind to carry foreign pollen to the sterile growers, which is what is most wanted to increase the size and weights. This is very noticeable in plums. Victorias, Monarchs, Pershores, and Magnums have crowded out many of the most delightful eating varieties like Kirk's blue, and Jefferson's, because the latter are not self-fertile and the others are. Our plum buds are now throwing off their brown casings, and are showing the white rolled-up petals. There seems to be in this district quite a dearth of small tits and finches: it is when the buds burst through their brown cases that these birds do the harm to plums.

All of our best varieties are budded close to the soil on some of our native stocks that have been grown since 1500; it is remarkable that when budded, or grafted, they fruit the third or fourth year, but if you plant the stones of our best gages they are many years before they fruit. I waited once eighteen years for one tree to give some fruit. I knew it was a good one (or it would not have been left so long); I had budded some of it on a wild stock, and it fruited years before the tree the buds were taken from. All these are delightful for eating and preserving. He who has bees, and room for trees, should have a good lot of plums, as they bloom early, and usually have such quantities of it. They are not so reliable for regular crops of fruit as apples, as they bloom so early and frost at times destroys the delicate seed organs, but no year passes but we have some varieties that carry a crop.—J. J. KETTLE.

## THE BEE GARDEN.

THE OFFICIAL LISTS.—(*Continued.*)

| | Values. Honey. | Pollen. |
|---|---|---|
| Borage (*Borago officinalis*) | 3 | — |
| Hyssop (*Hyssopus officinalis*) | 1 | — |
| Marjoram (*Origanum vulgaris*) | ? | ? |
| Marjoram, Sweet or Knotted (*O. majorana*) ... | ? | ? |
| Marjoram, Pot (*O. onites*) | ? | ? |
| Mint, Corn (*Mentha arvensis*) | 2 | 1 |
| Peppermint (*M. piperita*) | 3 | — |
| Sage, Garden (*Salvia officinalis*) ... ... ... | 2 | — |
| Sage, Meadow (*S. pratensis*) | 3 | — |
| Thyme, Common (*Thymus vulgaris*) ... ... | 2 | — |
| Thyme, Lemon (*T. serpyllum v.*) ... ... ... | 2 | — |

What is a herb? The definition found in the modern dictionary is:—

(1) Ordinary Language: A plant, the stem of which is not woody.

(2) Botany: A plant, producing shoots only of annual duration from the surface of the earth.

I am not greatly helped, neither am I impressed. A feeling of disappointment at this cavalier treatment of the subject oppresses me, yet I recognise that it is only consonant with the general and increasing neglect of a most interesting class of plants. A glance at Cruden's "Concordance" would suffice to show that under the reign of the Most High and Mighty Prince James the word connoted far more than it does to-day.

Still earlier, that inexhaustible mine of plant lore "Gerarde's Herbal," had re-

vealed its treasures under this title, which most truly indicates the scope of the word. Nowadays the enumeration of the subjects set out above would probably exhaust or even exceed the knowledge of the "man-in-the-street" in relation to herbs.

For this reason, such works as Lady Rosalind Northcote's "The Book of Herbs," Dr. Fernie's "Herbal Simples," and last, but by no means least, Mrs. Frances Bardswell's "The Herb Garden," are most timely and welcome.

The last-named has been put under heavy contribution to the following notes:—

Borage, which has given its name to the order of boraginæ, and to the genus of which it is the type, is a native, hardy plant, which thrives in poor, stony soil, and is used for flavouring purposes, especially for claret cup. It is an annual of the easiest possible culture. Seed may be sown from March to May, the plants being thinned out to at least 1 ft. apart; the thinnings, if carefully lifted, can be transplanted. Borage is admirably adapted for naturalising in dry, stony places. Walking from Selsey to Bognor, *viâ* Pagham Harbour, I saw masses of it growing luxuriantly on soil which looked hardly capable of supporting any vegetation at all. The sight of its bright blue panicles of flowers reminded me that this spot was within bee-flight of Sidlesham, the site of an apiary whose owner, Alfred Rushbridge, author of "A Book for Bee-Keepers," was one of the early advocates of "the art of bee culture on the humane system," and that, doubtless, his bees had often revelled in the feast provided by the pendant blooms of this beautiful flower.

The value of borage as a nectar plant seems to be fairly widely recognised. One expects Messrs. Sutton to mention it in this respect, and sure enough their invaluable manual of flower and vegetable culture states "Borage is also a great favourite with bee-masters," and even the P.P. seed merchants single it out in this connection.

Mrs. Bardswell says of it: "'Borage for courage.' So runs the old proverb. Once sown, you need never sow borage again; like the marigolds, it takes care of itself. The starry blue flowers, with a cunning dot of black in them, are delightful. Blue flowers often have a beauty patch of black like this. The gaily-coloured flowers are a fine set-off to the herb border. The rough green leaves give an etherealised flavour of cucumber to claret and other cups, and the flowers offer honey to the bees. Our great-great-grandmothers loved to preserve the flowers and candy them for sweetmeats."

Hyssop is one of the labiates; blue-purple in colour, rarely white. It flowers from June to September, and grows from 1 to 2 ft. in height. Apart from the use of its tops and flowers for making an expectorant infusion, hyssop is occasionally employed as an edging. A dry soil and warm situation suit it. Sow in April and thin the plants to 1 ft. apart in the rows. It needs little other after-care than weeding, and, as an edging, occasional cutting in.

Hyssop is a handsome evergreen shrub, the flowers of which, if not exactly gay, are yet lively enough to have a footing in some flower gardens. Along with catmint, it makes a charming border, their soft, indistinct blues going well together. "It was Miss Jekyll, I think," says Mrs. Bardswell, "who first introduced them into our flower garden. There is one garden of her designing I know very well, where two broad beds on either side a broad gravel walk are planted entirely with these two herbs, whose gentle hues blend admirably. At the back of the borders bushes of rosemary and lavender are planted; a grey stone wall and comfortable wooden bench complete the scene, which is full of repose and good for heart and eyes. We are sorry we cannot claim for our hyssop that it is the hyssop of the Bible; about that, however, there is much discussion. Formerly it was a sacred herb, and chosen for cleansing sacred places. In the accounts we were reading this very year (1911)* of the consecration of the Westminster Cathedral, the use of hyssop was mentioned in the 'sprinkling of the altars.' How curious and interesting is this continuance of a ceremonial so ancient!

"As a kitchen herb, hyssop was used more for broths and decoctions than for salads. The flowers, like those of the catmint, go on blooming all the summer through, which makes the plants an ornament from June to October."

*Marjoram.*—Of the three marjorams mentioned, the first is a native hardy perennial, seldom grown in gardens, the two species generally cultivated being *O. majorana* and *O. onites*, the former of which, although a true perennial, has to be treated as an annual, being unable to stand a vigorous winter. Seed should be sown in a warm position in the open garden in April, thinning to 8 in. apart. Seedlings transplant well.

Pot marjoram is a hardy perennial, and is propagated by division in early spring. Plant 1 ft. apart. For winter use the tops should be cut and slowly dried out of the sun. The proper time to gather herbs is just when they are mature.

—A. F. Harwood.

*(To be continued.)*

* The ceremony took place on June 29, 1910, the festival of SS. Peter and Paul.—A. F. H.

## THE QUESTION OF POLLINATION OF FRUIT IN RELATION TO COMMERCIAL FRUIT GROWING.

*By C. H. Hooper, F.R.H.S., Member of Scientific Committee of the Royal Horticultural Society.*

(*Continued from page 45.*)

*Rivers' Early Prolific.*—This valuable early plum does not crop well in many places; the cause seems to be unfavourable pollination, whereas in some places it crops regularly very heavily. It is a variety that should not be planted alone, and shows preference as to pollen; at Swanley, among Victoria it crops badly, whilst at Pershore, among Egg plums, it crops exceedingly well. It crops splendidly in an orchard planted with three trees of Rivers to two of Early Orleans; in another two-acre plantation in the proportion of two Rivers to one Czar a heavy crop was reported; in a one-acre piece near Maidstone planted with Czar and Rivers in equal proportion a very good crop of each was reported. With Monarch, in a two-acre plantation, the proportion being one Rivers to four Monarch, a fair crop was reported. At Canterbury, where Rivers is interplanted with Prince of Wales, both are said to crop specially well. At Borden, among Pond's Seedling and Monarch, Rivers is said to crop badly.

At Merton it is found to set well with Pond's Seedling pollen.

*Belle de Louvain* is found not to fruit well alone. At Borden it fruits well with Prince of Wales; adjoining Borden Duke and Victoria, with Czar on the lower side. It fruits well with Egg and Early Rivers at Pershore.

*Pond's Seedling* is self-sterile, and often crops badly, but appears to fruit well with Pershore plums and damsons.

*Early Favourite* is self-fertile, but does not fertilise Rivers' Early Prolific.

*Washington* is fertilsed by Pond's Seedling.

*Early Transparent* is fertilised by Late Transparent, and *vice versa*.

*Reine Claude d'Althan* set freely with Coe's Violet, Coe's Golden Drop, and Jefferson.

Some varieties commence to set fruit well with their own pollen, and the fruits grow to about quarter size, but then all fall; such a variety is Coe's Violet.

Of *self-fertile* varieties:—

*Victoria* and *Czar* are strongly self-fertile, and fruit nearly as well planted in block as interplanted with other varieties. Victoria does not produce much pollen, and it does not seem to be a specially good polleniser, whereas Czar seems to be a specially good polleniser for planting with other varieties of plum such as greengage.

*Pershore Egg Plum* is self-fertile, and appears to be a very good polleniser for other varieties, including greengage; it is also an excellent stock for working other varieties upon. It is probably the finest preserving plum grown when unripe for stewing, jam-making and canning, but when ripe it is woolly and tasteless. Unlike other varieties it is propagated from suckers.

*Monarch* is somewhat self-fertile, but it would probably not be advisable to plant it alone. In a two-acre plantation, the proportion being four trees of Monarch to one of Rivers' Early Prolific, a heavy crop was reported.

*Denniston's Superb* sets and matures fruit with its own pollen nearly as well as Victoria and Czar.

*Prune Damson* appears to fruit well where grown in block.

The order of flowering of plums is somewhat as follows:—

*Early.*—Black Diamond, Grand Duke, Prince of Wales, Monarch, President, Old Greengage, Damascene.

*Medium.*—Rivers' Early Prolific, Czar, Early Orleans, Victoria, Coe's Golden Drop, Jefferson, Prince Englebert, Drooper.

*Late.*—Sultan, Oullin's, Golden Gage, Gisborne, Farleigh Damson, Pond's Seedling, Pershore Belle de Louvain.

Different kinds of plums are in flower generally from fourteen to twenty-four days (average nineteen days) and in full flower about the eighth day.

(*To be continued.*)

## CORRESPONDENCE.

### "SHEATH" W.B.C. HIVES.

[9627] The first *dovetailed* "Sheath" hive has now been completed in my workshop. Built as indicated in the JOURNAL, December 13 last, all boards cut male dovetails one end, female the other, I have experienced no difficulty in its construction. Dovetails are 1 in. parallel design, the cut through the grain being, of course, on the skew, to compensate for the splay.

Nailed both ways, it is a very substantial hive, well worth the extra time necessary. The novice, however, should not attempt the dovetailed "Sheath" until he has built a few "Sheath" hives of the ordinary square butt joints, and acquired some acquaintance with the "Sheath" design, as well as skill with his tools.

A flat roof has been fitted to this hive instead of a walled roof. It is lighter, and instead of cutting 7 in. timber to make roof-walls, the full width has been used to make a lift. The roof boards are bound underneath by a flat rim, $\frac{1}{5}$ in. thick, 2 in. wide at front and back, and 1 in. at sides; also two pieces 2 in. by $\frac{1}{5}$ in., intermediate, front to back crosswise. Top is calico-covered, painted. All parts interchange with all 20 in. by 20 in. "Sheath" hives I have built.

To prevent unroofing by wind, hooks and eyes, made from galvanised wire, are fitted on two sides, inside. Eyes to correspond are fitted inside the lift immediately below. In the season of field work, the eyes in lift can be removed and pushed into the roof, engaging the free hooks and keeping them safe, secure, and out of the way until required to be brought into use again. No bricks, no ropes or tying, nothing loose, and no worry, and a most useful table for manipulative convenience when working neighbouring hives. — M. ATKINSON, Fakenham.

## Notices to Correspondents

"BORN ON A FRIDAY" (Oxon).—*Building up a Nucleus.*—Do not add all the new frames and foundation at once. Give them one at a time as they need more room, until the bees cover eight combs; the last two may both be given at the same time.

H. J. E. (Emerton).—*Treating for Foul Brood.*—Better not treat as you suggest for at least a month. In the meantime, keep the hive supplied with naphthaline and Apicure. Write us again in four or five weeks' time.

A. E. CROSSLAND (Matlock).—The address of the secretary of Derbyshire B.K.A. is Mr. F. Meakin, 37, Pybus Street, Derby.

*Suspected Disease.*

"GLOYNE" (Sutton).—The bees do not appear to be diseased.

"BEE" (Hafod) and W. HILTON (Heywood).—The bees were affected with "Isle of Wight" disease. Natives.


## OBITUARY NOTICE.

HERROD-HEMPSALL.—At Sutton House, Round Green, Luton, Beds. On Saturday, March 2, Thomas Herrod-Hempsall, aged 76 years. The father of our Junior Editor, and the Manager.

We are sorry for any delay in answering correspondence, etc., during the last few days. The above will explain the reason.

## BRITISH BEEKEEPERS' ASSOCIATION.

LECTURES AT GOLDERS HILL PARK.

A special course of six lectures on beekeeping will be given in the British Beekeepers' Association's Apiary, London County Council Park, Golders Hill, London, N.W., on Fridays, April 12, 19, 26, May 3, 10, and 17, 1918, at 6 o'clock each evening.

Those desiring to attend these lectures must make application at once for enrolment and particulars to,

W. HERROD-HEMPSALL,
Secretary,
23, Bedford Street,
Strand, London, W.C.2.

There will also be a popular free lecture on each of the above dates at 3 p.m., to which anyone will be welcome.

## A DORSET YARN.

Rural life in Dorset this last week has been very pleasing. Everything seems full of promise: grass lands, that always have a brown look after frost, have put on a new mantle of green; daisies are in great profusion; the giant elms are swelling out their flower buds; jargonelle pears have thrown off their brown casings; bees are flying a distance; tortoiseshell and primrose butterflies are on the wing; violets, where a few weeks back there was scarcely a flower, now are throwing up a great many of their richly scented blooms, plenty for the bees. No wonder their song is more pronounced. Ours are leaving the Christmas roses—not nearly so many on them as formerly; they have taken up the crocus just now, this seems to be the first favourite.

Mr. T. Giles, of Cowsfield Nurseries, near Salisbury, sends me a most interesting letter relative to these flowers (which I pass on to others; I had read of it somewhere in other years); how he placed in the open flowers, flour of wheat and peas, and had watched the bees gather it on the pollen basket and carry it off. It may interest some of our newest recruits in bee craft.

He also wrote me how his Aralia Sieboldii has been out many years, but the frost often spoils its blossoms. Last year's excessive frost killed off his blue gums (Eucalyptus), but not the Aralias. His interesting letter had a reference to Genista fragrans—how the bees like the flowers. This with the Coronillas are often to be seen in sheltered places giving off great quantities of flowers in their season. His place must be very warm and sheltered by the Wiltshire hills from the nor'-easters, to have these live out in the open. It shows us who keep bees that there are many things that contain honey and pollen that are worth risking out, in the most sheltered positions, to add to the lists of plants from which "The flower enamour'd busy bee, The liquid banquet loves to sip" (it sounds like Burns').

I suppose it is so many pea-flowering plants that makes Australia such a fine country for bees, as many of our flowering greenhouse plants of that family came from the land of the Southern Cross—Clianthus, Swainsonias, Chorazemas, etc., where they keep on growing, and flowering, till they get to great size. I should think it was trees of flowering Robinias that gave Burns the theme—

"Amang the trees where humming bees
At buds and flowers were hinging, O,
Auld Caledon drew out her drone
And to her pipes were singing, O."

It may be the hum of bees that gave to the early pipers the idea of having the trichord drone to the native instrument. I am getting off the track, and must leave this to those who know more of Scotland than I do; but I have heard the Scottish regiments sing "Scots wha ha'e wi Wallace bled." The memory of it will be with me as long as I live; every verse, aye, every line, for freedom, for liberty, or death.

"Liberty's in every blow!
Let us do, or die!"

My esteemed friend Squire Tomlinson, of Wimborne, called in to see me this week. He is using as a preventive against disease—Mr. Smith's remedy (the flavines). He has loaned me a fine spray, and a grain of the specific to spray the entrances; he believes that the future of the industry is in prevention; the cure, he does not want to have to cater for it—it is too risky.

I suppose I am something of a Darwinite—"the survival of the fittest"—those that are tainted with disease will go under, and the strongest live through and carry on the race. He is a fine bee-keeper. If any man knows the ins and outs of the craft he does; he has not the multitude of duties that we have on the land; he does his bees thoroughly. He came for some plum trees, and the half-hour spent with him was like a page from a good book. There was plenty to think of when he had gone; he is coming with his camera some time to take views of the hives, and the lines of fruit trees. A man of many parts, and he does them all well.

Work on the land now is in full swing, with seed sowing and potato planting: the first when weather is suitable, the latter can be done with the plough (where the soil is light), even if the weather is not so good, as the plough leaves the surface of soil loose and porous. We even plough in the peas (the land having been deeply worked previously); set the plough at 3 in. deep and 9 in. wide; every third furrow sow the seeds very thinly up close to the shoulder the plough has left with the turn-furrow, using one horse, and do not let him go in the furrow on top of peas. Pea sowing is very quickly done in this way.

Parsnips can be sown every second furrow, in the channel left by the plough on the surface, and then smooth over with the harrow; it saves going over the surface again, as you would have to do if a drill was used. Sow parsnip very thinly, seed is dear this year. Onions, in sowing, can be done the same way, so long as the surface is left smooth. If you can get the soil dry enough, well harrow it and roll it with a light roller and drill them. Onions are more regularly sown with a drill, but as they want to be in early, the difficulty is getting the soil dry enough to work. Plant out all those sown in late summer last year, as these always make the largest bulbs. These require soil well enriched by animal manure.—J. J. KETTLE.


### MOVING BEES.

Many bee-keepers will, no doubt, be moving their hives from one site to another in course of the early spring, and so it may be well to look into the matter in anticipation of this shifting from one part of the garden to another. Bees are supergifted with the bump of locality, and once they have oriented as young bees taking their first flight, they have marked their bearings so admirably that they never forget the position of the little spot where their home is placed. The instinct is practically the same as that which teaches the carrier piegon the homing instinct, although in a narrower field. As young bees, we observe them having what we call play spells. Each bee of the crowd rises at first only a few yards from the hive, but gradually, then or on subsequent flights, essaying their young wings, they fly further and higher, all the time they are circling round and round, keeping a steady eye on "home." The same care is observed when they take short and then long flights to the grazing fields to carry home loads of nectar or pollen. Their magnificent compound eyes serve them well in taking their bearings, and even when at a distance they are telescopically in keeping them in sight of home. They seem to carry with them a map of the whole neighbourhood, as well as the hive and its immediate surroundings, and all this is vividly retained in their mind's eye during the period of their short existence. In every flight to near or far fields, it guides them true as the needle is guided to the pole. Shift the hive only a few feet, or even inches, and you nonplus them in their efforts to find their entrance from a foraging flight. Consequently, any shifting from one site to another has to be done with care and circumspection. In moving short distances it is best to carry out the operation gradually, about a foot each day, and not every day, but only on those when they are flying freely. All this applies to the summer months.

The moving can be safely undertaken almost any time in early winter, before a long spell of stormy weather during which they may be confined to their hive for weeks or even months at a time without being able to take even a cleansing flight. From the period named until early spring, before frequent early flying is possible, they contentedly accept the new surroundings. It should be remembered that at this time the large proportion of the population are young bees who may never have had an opportunity to go to the field as foragers. They have not, therefore, any very clear or permanent sense of position, and so, during the play spells of early spring, or during the first cleansing flights, they take their bearings either anew or for the first time. These early flights are carried on in narrow circles near home, with the hive well within their sight while they are flying.

When hives are removed to a new stand

or position during spring, in good time before active spring work becomes a possibility, on the dawn of genial weather they orient anew, or many of them for the first time. All are at least young bees, although, of course, many of them may have lived in the hive from the first of October, a period of about six months, but the true age of a bee should be tested by the work it has accomplished, and not by the number of days or weeks it may have lived since it issued from the cell. Consequently they are really young.

In the busy season we get over the effect of this housing instinct in several ways. Bees can be temporarily carried for a distance of two to four miles from the home apiary, and they will accept the new situation without any demur, while after they have been about a week in their new location they can be transferred home and planted down wherever the bee-keeper desires, when they will at once accept the site as if it had been their home stance for years. An outapiary is a very useful institution for these and many other operations.

Bees shut in for a time will lose all recollection of their former residence. We will at first suppose they are combless and broodless, and that they are confined in a well-ventilated box, perhaps in a dark shed. When run on to combs in any hive, even near the old site, they will take to their new home, and once by orientation fix on its situation as their permanent home.

If they are caused a good deal of inconvenience by bumping, jolting and smoking, it will bring about such a confusion in their ideas that they will forget the old location. The same result will follow if bees, shut into a hive, are compelled to undergo a good deal of worry and work in obtaining an open way for their exit. Therefore, if the entrance is pretty firmly stuffed with grass or moss so that they must devote some time and labour to obtain egress, they will accept the new position of their home. Nuclei are frequently formed by this means.

Another secret of success lies in the fact that young bees from anywhere remain where they are put, old bees fly home. By shaking the old ones off, or by simply allowing them to return, we can, if full strength is not demanded, transfer a hive to the point where we desire to establish it whether near to or far from the old stand.

It is a well-known fact, fortunately for bee-keepers, that newly hived swarms accept any site whereon they may be placed, even although the new hive may be set down in close proximity to the hive from which they have issued. Not a single bee of the newly-established lot will show any affinity or kinship with the old house colony. Nature has wisely made provision for this contingency. If in moving bees we can get them in a frame of mind similar to the bees of a swarm we can do almost anything with them.

If one desires to move their bees a long distance, either by road or rail, I cannot do better than refer them to pages 117, 118, 119, 120 of the Guide Book, where they will find illustrated examples how the operation is carried out by Messrs. Herrod and Stewart.

## DERBYSHIRE BEE-KEEPERS' ASSOCIATION.

The annual meeting of the Derbyshire Bee-keepers' Association was held in the Guildhall on Saturday. Mr. R. Giles (chairman) presided over a fair attendance. The report showed that, while the membership had increased somewhat, the drastic effects of the "Isle of Wight" disease a year ago was still keenly felt by the bee-keepers, and which had also a corresponding ill-effect on the association generally. Matters, however, were gradually improving, and the disease was apparently on the decline. Owing to the great shortage of bees last season, experts found it impossible to cope with applications. The desire to start bee-keeping was never stronger. Of the 26 new members made, it was reported that the majority had wintered the bees successfully. The balance-sheet unfortunately showed a deficit of £14 11s. 1d., due to the suspension of the usual grant. The association was nevertheless financially sound. The Chairman, in moving the adoption, said that in the exceptional circumstances the financial affairs of the association were satisfactory. The election of president and officers followed. His Grace the Duke of Devonshire was re-elected president of the association. Mr. G. H. Strutt was also re-elected representative on the County Council; Mr. G. T. Pallett (Makeney), representative on the British Bee-keepers' Council; Mr. F. Meakin and Mr. E. J. Swain (Mickleover) were re-elected secretary and treasurer respectively; and Mr. S. Milton (Derby) was appointed auditor. Two vacancies on the committee were filled by the election of Mr. S. Milton and Mr. J. Speed (Derby). Messrs. Durose (Burton), H. Hill (Ockbrook), and R. Moncrief were appointed experts. An interesting discussion was subsequently opened by Mr. Pallett on the subject of "Disease and its Prevention." He (Mr. Pallett) was strongly in favour of the cleansing of

hives with chloride of lime. He had given it a good trial, and as a check to disease had proved it an effective remedy. Mr. Durose pinned his faith in Bacterol. He had recommended the treatment to those members whom he supplied with bees last season, and so far each stock was healthy and vigorous. Mr. Moncrief was of opinion that, when manipulating, a smoker should always be used. A carbolic cloth, under certain conditions, might be the means of the micro-organisms being carried from apiary to apiary. Mr. Durose said that difficulty could be overcome if each bee-keeper supplied his own cloth. Thus ended a successful meeting. —*Communicated.*

## SOMERSET BEE-KEEPERS' ASSOCIATION.

ANNUAL MEETING.

The annual general meeting of the Association was held at Weston-super-Mare on Saturday, February 23. Lieut.-Colonel H. F. Jolly, in the unavoidable absence of Mr. T. W. Cowan, occupied the chair.

About 25 members were present, including representatives from Bath, Bristol, Bridgwater, Wells, Yeovil and Shepton Mallet Branches. A letter was read from Mr. Cowan, in which he stated how much he regretted that, owing to a severe cold, he was unable to be present. The Honorary Secretary, Mr. L. Bigg-Wither, presented the report and balance-sheet. It stated that owing to prevailing conditions there was a considerable falling off in membership, but with a decreased expenditure the balance in hand was £23 4s., compared with £19 16s. 10d. the previous year. The "Isle of Wight" disease had been very prevalent in nearly every part of the county where bees existed. Numerous remedies had again been tried, but all results were inconclusive. At the present time there were very few bees left in Somerset. In some apiaries, however, the disease appeared to have taken a less virulent form, probably owing to partial immunity on the part of the bees. Several stocks badly affected in early spring apparently recovered, and in several instances gave a good surplus and went into winter quarters without showing further symptoms of the disease; this without the use of any drugs.

The past honey season had been an excellent one, but unfortunately few members had bees wherewith to take advantage of it.

The season opened late, and few stocks were fit for supering until nearly the end of May, but from that date until the beginning of August the weather was favourable and the flow of nectar more or less continuous. Several large takes were reported.

Mr. Edwin Walker, the hon. sec. of the Glastonbury and Street Branches, has, we think, created a record for the West of England. One of his stocks (Italian hybrids) gave the extraordinary yield of 308 lbs. of extracted honey. The hive was kept permanently on scales, and weighed daily from May 1 to August 4, during which time it increased in weight 384 lbs.

Another member of the Association, Mr. E. J. Gosney, of Milborne Port, had gained the B.B.K. Preliminary Certificate.

The Chairman, in moving the adoption of the report and accounts, commented upon the satisfactory balance, and commended the work of the local Secretaries and Visiting Experts.

Mr. T. W. Cowan was unanimously re-elected President for the coming year, and the following were elected vice-presidents: —Rt. Hon. the Earl Waldegrave, Rt. Hon. Henry Hobhouse, Colonel Steward, Lieut.-Colonel H. F. Jolly, Lieut.-Colonel Marwood-Elton, Colonel Hendly Kirkwood, E. Jardine, Esq., M.P., R. B. Groves Knyfton, Esq., Eldred Walker, Esq., G. A. Wills, Esq., W. Melville Wills, Esq., L. E. Snelgrove, Esq., J. H. Burton, Esq., W. Garnett, Esq., J. Jackson Barstow, Esq., W. W. Kettlewell, Esq.

The Members of Council were all re-elected, Mr. R. G. Harris was re-elected Honorary Auditor, and Mr. L. Bigg-Wither, Hon. Secretary and Treasurer.

Lieut.-Colonel H. F. Jolly and Mr. Eldred Walker were appointed as Delegates to the British Bee-keepers' Association.

After considerable discussion, it was decided to start a "re-stocking" scheme this summer, the details of which were left for the Committee to arrange. It was hoped to arrange for several nuclei-rearing apiaries in different parts of the county. The question of the "standardisation of hives" was brought forward. The meeting was fully in accord with the *principle* of standardisation of hives, but several members considered that the dimensions of the brood chamber, now in almost universal use, might be modified with advantage.

It was unanimously proposed to forward the following resolution to the Food Department of the Somerset War Executive Committee: —

"In view of the shortage of sugar, it consequently becomes a national duty for bee-keepers to produce as much honey as possible, and since it is practically impossible to keep healthy bees owing to the retention and exposure of infected materials,

this Association petitions the Somerset War Executive Committee to issue an Order under the Defence of the Realm Act making it an offence to retain or expose infected bees or material likely to convey the 'Isle of Wight' disease to healthy bees."

At the close of the meeting the members adjourned for tea, after which Mr. L. E. Snelgrove gave a very instructive address, based on the most recent investigations, on the "Isle of Wight" disease.

This was followed by an interesting discussion, in which the new "flavine" treatment was one of the chief topics.

L. BIGG-WITHER, Hon. Sec.

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AN ECHO FROM HERTS.

I suppose really there is a little envy at the back of my mind, caused by reading the Dorset Yarn, on account of the natural advantages of that delightful county. I should dearly love to visit the Violet Farm, and have a good old bee fuddle with its owner.

However, as I said before, we have our compensations, and, for myself, during the spring-like days we had last month, I believe that I approached as nearly a state of perfect happiness as is allowed to man.

The sun bright in a deep blue sky, a gentle breeze, skylarks pouring out their melody overhead, and nearly all our native birds singing of the coming spring in the neighbouring copse, and, joy of all joys to the bee-man, the deep hum of the bees as they take their cleansing flight and forage for pollen and water, telling us that in the shadows of the hive all is going well.

With me primrose and crocus are in full flower, and the hedgerows, too, are showing green, while the willows are already waving their downy fingers invitingly to our little workers.

However, lest one should think I inhabit an earthly paradise, I will point the moral of the curse on mankind. I have been tying in loganberries, and at present resemble an animated pincushion. To anyone of hasty temper this occupation should be invaluable, for it is certain he will not lose his head and act roughly to these prickly trailers.

Also I regret to say that "Isle of Wight" disease has broken out around me, and although at present free from it, no one dare prophesy on his continued freedom.

Digging, too, if healthful, is a little tiring; however, the good far outweighs the bad.—G. J. F.

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## THE QUESTION OF POLLINATION OF FRUIT IN RELATION TO COMMERCIAL FRUIT GROWING.

*By C. H. Hooper, F.R.H.S., Member of Scientific Committee of the Royal Horticultural Society.*

(*Continued from page* 73

### CHERRIES.

Of the different varieties of cherries considerably more seem to be self-sterile than are self-fertile; the true Morello and the wild Kentish Morello (which comes up from seed and is common in gardens around Wye) are both perfectly self-fertile, and probably fruit as well alone as where intermixed with other sorts; these are, however, the exception, and most other cherries crop better with one or more other varieties. Cherries are more inter-sterile than the other fruits; it is possible to have an orchard planted with two varieties and yet for each of the varieties to crop badly, although the trees may be healthy, well-grown, and producing yearly plenty of blossom. The cherry crop is much influenced by a favourable blossoming season (sunny and not too windy), allowing the hive and bumble bees to do their work; dull, cold, rainy, windy weather, and, of course, frost being unfavourable.

Under trial at the John Innes Horticultural Institute the following varieties of cherry showed themselves *self-fertile*:—Morello and Late Duke whilst the following failed to set with their own pollen:—Black Heart, White Heart, Kentish, Elton, Early Rivers, Burg d'Annay, Black Tartarian, Bigarreau Napoleon, Bigarreau Frogmore, Early Guigne d'Annonay Late Duke set a good crop with its own pollen, but May Duke only set eight fruits out of about 1,700 blossoms. The Duke cherries do not appear to be good pollenisers for the Bigarreau cherries; Elton and Early Frogmore interpollinate satisfactorily, also Black Heart with Morello; neither Elton nor Frogmore set good crops with pollen from Late Duke.

As to investigations on the subject of pollination, much information has been collected by the Horticultural Branch of the Board of Agriculture, by Mr. G. P. Berry, General Inspector, and a valuable article on the "Pollination of Cherry Orchards" appeared in the *Board of Agriculture Journal* of June, 1917, which is worthy of the study of all commercial cherry growers.

Taking some of the most popular varieties for orchards for special consideration.

*Early Rivers Black.*—In the article just named Baumann's May and Goodenston Black are recommended as pollenisers for this variety from both observation in orchards and from pollination experiments. Observation also show Turk, Elton, and Knight's Black to be good pollenisers for this variety. Early Rivers Black is a valuable large early cherry which crops badly in many places, although the trees are large, apparently the cause is lack of pollen that suits it This variety is strongly self-sterile and crops very badly as a rule where planted alone; in 1914, however, it cropped well even where planted alone; one grower with large blocks of this cherry told me he had only had two good crops in 30 years, 1914 being one of them, whereas with some other growers where this variety is intermixed it is a regular cropper. The pollen of most other varieties fertilise it more or less well.

At Faversham, in a two-acre piece of one Rivers to two of Elton, crops on both varieties were reported as very heavy. At Goudhurst, on two acres planted with two Rivers to one Elton in adjacent blocks, the crop was splendid; at Goudhurst, on another two acres planted with three of Early Rivers to two of Governor Wood the crop was heavy on both varieties. At Chilham, where Early Rivers are grown near Coronne trees (the earliest flowering cherry), both varieties are found to fruit well and regularly; on the same farm Early Rivers trees interplanted with Florence generally fruit well together, although Florence commences to flower about a week later than Early Rivers, but they have nevertheless nearly two weeks in flower together.

At Wisbech, in an orchard consisting of Early Rivers and Black Heart, there was a heavy crop of Early Rivers, but Black Heart did not crop so well. At Borden, near Sittingbourne, Early Rivers trees among Napoleon hardly fruit at all.

In my own pollination trials with Early Rivers with its own pollen no fruit matured, whereas fruit matured in nine out of ten trials with different kinds of pollen; the results in order of proportionate numbers of fruits that matured were:—Black Heart, Waterloo, Black Eagle, Amber Bigarreau, Elton, Old Kentish Black, Florence, Turk, and Circassian, the only pollen tried that failed to mature fruit was Knight's Early Black, but it may have been pollinated rather late, and it was only a single bag trial. 1914 was a good cherry year, and Early Rivers everywhere fruited unusually well, even in orchards where this variety is usually a failure.

In 1917 the crop was also good, probably because the flowering season was late, short and almost all varieties were in flower simultaneously, and there was no frost.

*Elton Heart.*—Elton and Early Rivers are recommended by several experienced persons as good varieties to plant together in an orchard. In one orchard at Chilham, where Elton is planted among Cluster, Knight's Early, and Amber Bigarreau, the Elton trees do not bear well; on the same farm in another orchard there is a block of Eltons, nine trees long by six trees wide, adjoining Macknade Victoria, Frogmore, and Amber Bigarreau; here, again, the Eltons fruit badly. In pollination trials with own pollen no fruit matured in five trials in 1912, but in 1914 from four trials three good fruits resulted, so the variety seems to be sometimes partially self-fertile. With the pollen of Montreus de Mezel eight fine fruits matured from ten flowers. With pollen of Frogmore good fruit resulted in both years; pollen of Amber Bigarreau and Roundell each matured good fruit in smaller number; pollen of Early Rivers, Circassian and Turk failed to set fruit.

The previous mentioned article says that Elton sets its fruit well with Governor Wood, but an earlier flowering variety is probably preferable.

*(To be continued.)*


*The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.*

## A WORD FOR THE DRONE.

[9628] On page 33, Mr. Kettle tells us that he considers it strange that a stock of blacks that "had such a lot of drones" last season, should now show unusual vitality.

I have noticed that drone-ridden stocks, whether in skeps or frame-hives, are invariably profitable ones. By way of experiment I have, the last three years, worked two of my stocks with a drone-comb, fitted with large metal ends on one side of the brood chambers. These stocks have been taken at random, and, except in one case in 1916, have been my best stocks. One of them last year built up into the largest stock I have seen, and I worked it with four supers which were packed with bees. So far as I have been able to observe, the queens use the drone combs but twice, and I have found them empty each year at the end of the season. This peculiarity puzzles me, as such combs built in skeps are invariably filled with honey after the queen has ceased to use them.

Writers in the B.B.J. have stated that an excessive number of drones in a stock is conducive to swarming. This has not been my experience. In the cases given above, one stock swarmed in 1915, both in 1916, and neither swarmed in 1917.

In my estimation the drones are not the lazy fellows they are said to be. Many times on going through swarmed stocks for the purpose of removing queen cells preparatory to returning the swarm, I have found a whole frame of sealed brood covered by drones, and I think there is sufficient evidence to warrant the statement that the drones play their part in the work of incubation. Anyway I would not be without them—their "music" is worth their keep.

The Dorset Yarner is an observant man. Let him exercise his talent this coming season, and then "yarn" about it.—W. H. WHITE.

## IZAL AND "ISLE OF WIGHT" DISEASE.

[9629] In a recent number of the B.B.J. you were asking for experiences with Izal in "Isle of Wight" disease. The following is mine. Two years ago, February, 1916, I (then working at Wandsworth) came home and found that of my two hives one lot had died out, and there was about sufficient bees to cover three combs in the other.

As the weather was none too warm, I took the hive into my scullery, and transferred the bees and queen to a clean, dry hive, on the same combs, and made some sugar syrup to which I added some Izal. They pulled round alright, and in July fearing the queen might die, I made an artificial swarm, which turned out alright, the old queen wintering on eight combs and the young one on ten, so in 1917 they cost me a good sum for candy, and I got them going, each on double brood chambers—twenty frames of combs.

I got an Italian queen from Mr. Smallwood, and taking five frames of comb from hive No. 1 (the old queen), and three from No. 2, which I united, after which I introduced the Italian queen. I had some trouble, as I made a mistake in not letting the bees eat through the candy in introducing cage, but released the queen on the third day.

The bees at once balled the queen, and fearing they would kill her, I parted them with my finger, allowing her to escape by falling to the bottom of hive and rushing out of the entrance on to the ground, where I nearly lost her, but one of my children pointed her out to me.

I tried to catch her, but she eluded me, but when I held the cage before her, she went into it. Then when holding my hand over the cage over the hive, she wriggled out again, fell in the hive, and I at once got the flour dredger and used it very freely.

A week or ten days after I examined the hive, and found eggs and larvæ, and it went on alright, but gave very little surplus.

One day in July I received information there was a swarm of bees in the middle of Chobham Road, Woking. I had just got in by train from London, and immediately took skep and cloth to the place named, and found the bees. A small cast had mounted to the corner of a private room window belonging to Mr. Wearing, chemist, Woking. I borrowed his shop steps and managed, after two attempts, to get the queen in the skep, and after waiting about an hour finished up with about a quart of bees and queen.

I put these on three combs of food and brood, and then taking four more combs

and bees (all from No. 2 hive) I united them, and putting one frame of foundation making a total of eight frames.

After that I took three combs of food, brood and eggs from No. 1 (the old queen) and tried to make a nucleus, but when I came back at the end of week I found about 100 bees, all the honey robbed out and combs broken and brood dead.

I shared the three frames of comb among the hives (three of them), and in a day or two the bees were clearing the dead out of the cells.

It was my fault (the robbing, I mean), for I omitted to close the entrance. However, I made another with three combs from No. 1 hive, and this time I put some grass in the entrance of the nucleus, and in time there were three queen cells sealed over.

But finally, owing to the shortage of food and the small stocks, I had to unite the two small ones (the cast I found and the nucleus I made) to two other hives leaving me three hives to winter.

I was rather alarmed a few days ago to find a lot of spots all over the roofs of all three hives, and not having much faith in Bacterol, and seeing what Izal had done for me in 1916, I sprayed my bees with solution of Izal, and before I put the candy (Pascall's) I sprayed that as well.

I then washed all the hives with the Izal solution, and am glad to say there was no recurrence of the spots, and the bees are quite alright.

There are plenty of bees. The No. 1 hive (the old queen) I have wintered on eighteen frames. I did not get much honey, about 40 lbs., and am now feeding on candy.

The price of candy at the local stores is 1s. 3d. per lb., rather more than your correspondent of some time ago who grumbled about paying 10d. per lb.

By the way, when I made the artificial swarm 1916, on examining the queenless hive on the tenth day after, I found seventeen queen cells, fifteen of which I destroyed.

Thanking you so much for the information in the B.B.J. and "Seasonable Hints," and especially the articles by Mr. Kettle, all of which I read with great interest, and wishing the B.B.J. and all bee-keepers splendid success for 1918.—C. H. ORCHARD.

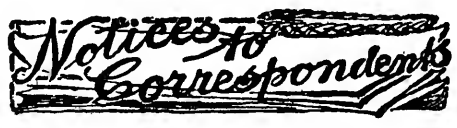
## WINTERING PROBLEMS.

[9630] The winter is now more than half over and I am wondering how bees have got on so far this year. I had a look through my own hives during the recent very mild spell of weather, and found every one of them (17) strong and well. I put a little candy on all, as I am not sure that they have quite enough stores. I trust it will not do them any injury. I have always thought it a mistake to use candy if it could possibly be avoided, and have never used any before till March, but there were great difficulties in the way of heavy autumn feeding last year.

How many bees have been lost this winter from disease, I wonder? The B.J. seems to be turning into a horticultural paper now, so that we do not get much news out of it, but Mr. D. M. Macdonald is now contributing each week, and I notice he has an article this week on wintering.

With regard to winter passages I should like to say that I think something might be done by giving room for part of the cluster to hang under the frames by means of an eke. It is a fact that if the bees have space for it they will arrange themselves in such a way as to have nearly one-third of the whole cluster off the combs altogether and below them. I tried this when I possessed a Conqueror hive in which, on removing the back, the bees could be seen hanging in a ball below the combs. No doubt this is natural to them or they would not do it, as they had plenty of room on the combs, and left 3 ins. of the top of combs in which were stores quite uncovered.

I have wondered if it is not best for bees not to be covered up too warmly before the New Year is in and they begin to breed. It is against Nature, and I must say that since I have made a rule of leaving merely the summer covering till February 1 and then wrapping up warmly my bees have wintered more successfully. In the case of one lot I found on going to wrap up the other day that they had only the single piece of ticking on them. I should have put back a folded newspaper but in the press of clearing off supers must have neglected to do so. The bees, however, are as strong as any I have, and that is saying a good deal too.—R. B. MANLEY.




KING'S HEAD (Birmingham).—*Re-queening?*—It is better to re-queen every year. Rear the young queens during the summer and re-queen the stocks directly after the supers are taken off. The combs should be quite safe to use again.

J. W. RISLING (Devon).—*Using wide W.B.C. ends.*—We always use these on the shallow frames; eight will then fill a super instead of ten. You may use them on the brood combs for wintering, the idea being to give room for more bees to cluster between the combs, but they must be

taken off and the narrow ends put on in the spring. The eight combs will hold more honey than the ten, as there are two spaces for bees, and two mid-ribs less also, and four surfaces of comb less to seal over.

LAL (Edgbaston).—*Paint inside hives.*—This will not harm the bees or honey. It is often recommended after treating hives that have contained diseased bees. Possibly the cutting advised paint inside.

F. G. LEWIS (Rem).—*Creosote on outside parts of W.B.C. hives.*—We do not think the creosote will harm the bees if it is only on the outside of the hives, but they might object to the smell. If it was at all strong a swarm would probably refuse to stay in it. There is nothing yet to beat good oil paint.

*Tar felt for hive roofs.*—We do not like tar felt for roofs. Unless it is coated with tar periodically it lets wet in, and a tarred roof is, to put it mildly, a messy thing to handle. Painted calico or canvas is the best thing, but if you must use felt get "Rubberoid."

G. GARDINER (Bucks).—*Water for bees.*—There would be no advantage in placing water over the frames. It would probably do as much, or more, harm than good by absorbing the heat of the hives. If the bees have access to plenty of water on mild days they will be all right.

*Suspected Disease.*

BEEWOOD (Bolton), CHEESE (Cheshire), M. J. WATSON (Towcester), M. P. (Puilborough), CONWAY VALLEY (Wales), A BEGINNER (Kent), W. COCKERILL (Oxford).—The bees are suffering from "Isle of Wight" disease.

A. GOODMAN (Norfolk), NOVICE (Leeds), and E. P. N. HARLAND (Eastleigh).—It is "Isle of Wight" disease. Give warm medicated syrup, remove the floorboard on a mild day, scrape it, and apply a strong solution of Bacterol or Izal; dry off the surface moisture with a cloth, and replace while still damp. Later on, when the weather is milder, spray bees and combs at intervals with one of the remedies mentioned above. There is no accounting for some of the vagaries of this disease.

M. (Enfield).—The bees have "Isle of Wight" disease. Give warm medicated syrup as you suggest.

J. BARNSLEY (Atherstone).—Nos. 1 and 2 have died of "Isle of Wight" disease. We do not find disease in No. 3. They most likely died of starvation. It will be very unwise to put bees on to the infected combs and honey in No. 1.

F. M. L. (Sidcup).—So far as we can tell there is no "Isle of Wight" disease. It may be dysentery. An envelope containing bees and a letter arrived in such a mess through the bees being smashed that we were unable to either examine bees or read the letter. We should say the bees had "Isle of Wight" disease judging from the symptoms we could see. The postmark on the envelope was "Delny," date February 20.

G. GARDINER, C. E. GOULD, A. HOWELL, and MISS RANSOME.—We will try and answer your queries next week.

## Special Prepaid Advertisements.

**Two Words One Penny, minimum Sixpence.**

**Trade** *advertisement of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at 1d. per word as* **"Business"**. Announcements, immediately under the *Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of 3s. per ½in., or 5s. per inch.*

*PRIVATE ADVERTISEMENTS are only intended for readers having* **Surplus Stock** *to dispose of.* **Driven Bees, Nuclei,** *and* **Queens that are reared or imported for sale,** *are Trade Advertisements, and can only be accepted under trade terms. A charge of 6d. extra will be made if a box number is used.*

### PRIVATE ADVERTISEMENTS.

WANTED, a few healthy Stocks on frames or skeps. Can send travelling boxes.—COOPER, Thorley, Isle of Wight. b.26

WANTED, four new W.B.C. Hives, Lee's pattern, No. 14a or No. 14 preferred, with or without supers; good price given.—Box 15, BRITISH BEE JOURNAL, 23, Bedford Street, Strand, London, W.C.2. b.31

FOR SALE, a number of Standard and Shallow Frames, foundation wired, 12s. and 11s. per dozen respectively.—NEEDHAM, Hemel Hempstead. b.35

FOR SALE, from one to five Stocks of Bees on 10 frames. Kindly make offers.—S. P. KEEVIL, Ockley Manor Farm, Hassocks, Sussex. c.1

WANTED, Gent.'s Bicycle; part exchange for new or second-hand Standard Frame Hives.—W. WOODS, Normandy, Guildford. c.2

FOR SALE, two stocks Bees in two C.D.B. Hives and three Section Racks for each. What offers?—THOMAS HOWE, Darling Street, Enniskillen c.3

EXCHANGE, 12-frame "Conqueror" Hive for Stock of Bees to value. New last August; very commodious. Particulars free.—J. WILLIAMSON, Stable House, Newfield, Hamilton. c.4

OFFER.—About 2 cwt. pure light Pembrokeshire Clover Honey, 138s. per cwt.; sample, 4d.; deposit.—ISAAC ROBERTS, Spring Gardens, Haverfordwest. c.5

FOR SALE, good Stock Bees, bar-framed hive, healthy, carrying pollen, 80s. on rail.—CHUBB, Park Close Road, Alton, Hants. c.6

SWARMS.—Can accept orders for a few from strong and healthy stocks.—A. W. DENNY, Godstone, Surrey. c.7

FOR SALE, property of deceased bee-keeper, 16 10-frame W.B.C. pattern joiner-made Hives, constructed of very stout material, will last two life times; one ditto, 13-frame, lifts with each to take two supers; one shallow frame, super with each, calico and zinc covered roofs; 35s. each. Two W.B.C. uncapping knives, new condition, 2s. each; one nucleus hive, 2s. 6d.; travelling box to hold one dozen bottles, 1s. 6d.; one dozen shallow and one dozen brood frames in the flat, 1s. 6d. dozen; two clearing boards fitted ported escapes, 137 drawn shallow combs, wired 17 ins. ordinary top bars, 9d. each; 17 ditto wide, 15 ins. top bars, 9d. each; nine ditto, Abbott's patent, top bars, 9d. each; seven with odd top bars, 6d. each; eight ordinary, 17 ins. top bar, shallow frames filled with wired foundation, 6d. each. Carriage extra for all but hives must be sent. No metal ends.—Box 17, BEE JOURNAL Office, 23, Bedford Street, Strand, W.C.2. c.8

WANTED, Man to hive swarms, also used to farm work and ploughing. State age and wages required, full particulars.—YOUNG BROS., 42, James Street, Cambridge. c.11

FOR SALE, three Shallow Frames, 3s. each; four Section Racks, 1s. 3d. each; Dividers, 6d. dozen; Section Block, 1s. 6d.; 14 lb. Honey Tins, 1s. each. Particulars, stamp reply.—W. KING, 20, Moy Road, Cardiff. c.12

WANTED, good 10in. Lawn Mower with cylinder and grass box.—WOOTTON, Hope Street, Beeston, Notts. c.13

HOW'S THIS?—February 24, Mr. J. C. Armstrong, 64, Wallace Street, Grangemouth, Stirling, writes us: "September 28, 1917.—I got my first supply of Flavine, as a forlorn hope, as the ruin of my apiary was very probable. You were pessimistic about any good resulting at that late date. I am very optimistic now. To-day I had a look at my bees, and all stocks were flying strongly, and are as good as I have a right to expect at this time. You may show this report to anyone you choose."—S. H. SMITH, 30, Maid's Causeway, Cambridge. c.14

**£3** 12s. 6d. given for limited number ten-frame stocks of healthy Italian Bees, 1917 queens, April delivery.—BOX 17, BRITISH BEE JOURNAL Office, 23, Bedford Street, Strand, W.C.2. c.15

TWO 28lb. tins pure light Cambridge Honey (guaranteed), 2s. 6d. per lb.; sample, 3d.—J. YOUNGER, 6, Maid's Causeway, Cambridge. c.16

WANTED, early May Swarms, Italian preferred. State price, etc.—W. GREEN, The Ferns, Laindon, Essex. c.17

WANTED, six new W.B.C. Hives, with or without supers; also one dozen shallow frame crates.—J. WHITE, Fairstead Hall, near Witham, Essex. c.18

CAN book a few Swarms.—For particulars, etc., apply WM. S. HALFORD, West Wratting, Cambridgeshire. c.19

## BUSINESS ADVERTISEMENTS.

COMFORTABLE APARTMENTS for Brother Bee-keepers visiting Douglas. Terms: Tea, bed, and breakfast, 3s. 6d.; or full board, 6s. per day.—HORSLEY'S, Merridale House, top of Castle Drive, Douglas, Isle of Man.

PURE Italian Stocks, seven frames, 1917 and 1918 Queens. Orders booked for delivery end of May and June, 70s., carriage paid. Travelling boxes to be returned, carriage paid.—MISS PALING, Golden Square, Henfield, Sussex. c.10

THREE-FRAME Nuclei, 28s.; Six-frame Stocks, 50s.; each carriage paid. Best selected, disease resistant, and heavy producing strain of Carniolan-Italian, native Italian, pure native, and Italian. Carrying boxes extra.—S. CRAWFORD, Apiaries, Castlederg, Co. Tyrone. c.9

### FOR RE-STOCKING, &c.

FOR SALE.—Three-frame Nuclei, 1918 Laying Queens, June delivery, 35s. each, carriage paid; Five-frame Nuclei, 1918 Laying Queens, June delivery, 45s. each, carriage paid; Three-frame established Stocks, 1917 Queens in their prime, brood on two frames, delivery end of May and early June, 37s. 6d. each, carriage paid; Five-frame established Stocks, 1917 Queens in their prime, brood on three frames, delivery end of May and early June, 45s. each, carriage paid. The Bees are English Blacks and slight Hybrids, all from selected strains, guaranteed healthy. Never had disease in the apiary. Orders in rotation. Travelling boxes to be returned with dispatch and carriage paid.—Apply, W. ION, Eastfield Apiary, Healing, Lincolnshire. b.30

### HONEY AND BEESWAX PURCHASED.

Run Honey in bulk. Sections per gross.

### HONEY FOR SALE.

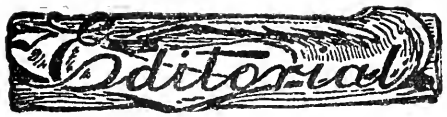
Cuban, Californian, English, Irish.

Free tins and cases, carriage paid. Cash with order. Samples, 3d Prices on application.

**A. GORDON ROWE, 28a, Moy Road, Cardiff.**

### LECTURES AND DEMONSTRATIONS ON BEE-KEEPING.

W. HERROD-HEMPSALL is open to give the above in any part of the country; providing his own lantern, slides, etc., demonstrating tent. **Also private instruction at pupil's own residence.** Terms on application.—W. B. C. Apiary, Old Bedford Road, Luton, Beds.




## THANKS.

The Junior Editor and Manager are deeply touched by the numerous letters expressing sympathy in the loss sustained by their mother and themselves.

As these number some hundreds, and the pressure of work just now is enormous, it is impossible, much as they desire, to acknowledge each one separately.

Therefore, to all who have written they hereby express their gratitude and appreciation for the kindly sympathy and feeling expressed in the letters received.

## BRITISH BEEKEEPERS' ASSOCIATION.

### LECTURES AT GOLDERS HILL PARK.

A special course of six lectures on bee-keeping will be given in the British Bee-keepers' Association's Apiary, London County Council Park, Golders Hill, London, N.W., on Fridays, April 12, 19, 26, May 3, 10, and 17, 1918, at 6 o'clock each evening.

Those desiring to attend these lectures must make application at once for enrolment and particulars to,

W. HERROD-HEMPSALL,
Secretary,
23, Bedford Street,
Strand, London, W.C.2.

There will also be a popular free lecture on each of the above dates at 3 p.m., to which anyone will be welcome.

## A DORSET YARN.

It is good to hear the bees in the fields again. I see they are carrying home pollen largely; from whence it comes, I cannot tell; but one can hear them flying home, when working in the field.

"Bees fly hame with lades of treasure,
The minutes wing'd their way with pleasure."

—Burns's "Tam o' Shanter."

If they stop on a broad bean that has stood the winter and has a few flowers, you can see the pollen on the baskets; it is of a dirty yellow colour; it is not in our fields. I have only seen the daisy, speedwell, and violets open up to February 23. The nights of sharp frost browned off the hazel catkins that were open; still, there are others to follow on. It is remarkable how nature does not leave anything to chance. The crimson stigmas of the female flowers are only just now showing up above the green calyx; the willows have advanced very fast this last week, the male flowers have already their golden colour in many places, where the cold north-east winds are kept from them. If only the days were uniform in warmth and brightness, the bees would be having a fine time. It must be these trees to which Herrick refers: "The palm puts forth her gems," etc. In boyhood's days these plants were very confusing to me; the growth showed that they were the same, yet the flowers were different, until one could see that only one carried seed and the other none. It was the same when I went through the beetle family—without books to help me—it was easy to see the great staghorn beetle (*Lucanus cervus*) was the same build as the female, which had no antlers, yet in my great ignorance I had them as two separate species, until I had books to help with their classification.

Peaches, almonds, and prunus are showing their flesh-coloured petals. I hope they will not open while the nights are frosty; the memory of last year's peaches will not be forgotten, and, like Oliver Twist in Dickens's writings, we want "more." In Bournemouth the almonds are largely planted in the pretty grounds of the residents, and in the public pleasure gardens they are very beautiful to see, with the sombre background of pines. Last year they all fruited, they bloomed late when the stiff frosts were past, and possibly there were more insects to help with the fertilisation.

I was able to listen to an interesting lecture by Professor Crittenden at the Royal Horticultural Society's meeting on February 26 on the value of food crops produced from each square rod of ground. Haricot beans came out well in points by the tables shown. In these days of intense production the foods that have the most flesh-forming and warmth-giving properties are the ones most suitable to grow, and as a tiller of the soil one must get the kinds that give this. A rod of turnips, or marrows, would give good weight, but of poor food value, where potatoes and haricot beans or broad beans give a good weight of high food values. Peas, though of good food value, do not come nearly so high in weight per square rod as beans. The Dutch brown haricot came out on top, but the colour, in my opinion, is against them as a vegetable; the white seeded ones are the best in appearance when cooked. Cabbage gives a good weight per square rod, but in cooking by far the greatest part is lost in the water it is boiled in; the pigs have the richest and man has the least food value.

The bee-man cannot make a mistake in planting broad beans and haricots, as

they will give food for the bees as well as himself, and that of high value. A lot of the Brassica family are only impoverishing the soil for naught, unless one keeps rabbits in confinement. These, when full grown, realised 7s. 6d. in the farmers' market a few weeks back.

Week ending March 9, with three days of sunshine, bees have been a long way from home; they have found the willow blossoms. The first dandelion was out this week in the early sunshine: I suppose its brightness attracted the bees. I have not seen them often on these plants. A fine-weather plant, they open only when dry, and always go to sleep quite early in the afternoon.—J. J. KETTLE.

## THE BEE GARDEN.

THE OFFICIAL LISTS.—(*Continued.*)

Pot marjoram, like thyme, to be at its best, should have ample space to spread in. Again I quote Mrs. Bardswell: "The most beautiful patches I have seen were in a Norfolk garden that was large enough for the luxury of growing such plants in masses. A wide border of the kitchen garden was given up entirely to marjoram, two kinds of it growing side by side—one with flowers of the usual tender pink, the other with flowers that were white. This white marjoram is rarely seen in gardens; possibly it was a reversion to some wild form. I have never seen it but that once, and cannot hear of it in other places. Will it come true another year? That is the interesting question. We are glad that both kinds were sketched for us while they were in bloom.* One could not easily forget these lovely borders, the unassuming charm of their soft colouring, the dainty sweetness of their scent. Over them, in the warm, summer sunshine, brown bees were drowsily humming, and silken wings from flower to flower were fluttering—from pink to white, and then to pink again:

"With light and butterfly the world did seem
To flicker and flit,
As if the maker slept and in a dream
Imagined it."

This is the way to grow sweet herbs if you really mean to enjoy them. *Origanum* is a word that means "joy of the mountains," and of old those who mourned their loved ones were comforted if marjoram grew wild upon their graves. It meant that those who had passed away were happy."

Mints are plants of varied uses, and widely different habit. I am reminded that "there is always a danger when writing on a subject of great interest to ourselves that we may allow it to run away with us, and so bore everybody else." It is to be feared that I often offend in this direction; however, I hope it is not going to be the case with the varieties of *mentha*. If I let myself go 'twere easy to fill an entire issue of this JOURNAL with matter relative to the round dozen varieties. As only two of these figure in the lists which furnish the pretext for indulging my inclination to write about bee flora, the ten others must wait another occasion.

Corn-mint, as its name implies, must be looked for on the edges of cornfields, care being taken not to trespass on the ripening corn. This one, like other mints, has the power of preventing milk from curdling, and I have heard that cows which feed on it make trouble for the dairy-maids, who cannot imagine why the milk will not turn into cheese. This anti-curdling property of mint may be the secret of its success in medicines. Preparations of mint are very useful when people are put on milk diet, also for little children. Mints are still used in the prescriptions of modern doctors, peppermint for the grown-ups and lamb-mint, being milder, most appropriately for the little ones.

Peppermint is one of the most popular herbs in the garden, for anyone need but pluck a leaf and smell it, and at once he knows what it is. If people only knew how good the fresh green leaves are, when bruised and laid upon the aching part, to cure nervous headaches, the plant would be liked even better than it is. There is such a curious hot-coldness about peppermint; it diffuses warmth yet with it a strange numbness which is soothing. A few drops of essence of peppermint in water, sweetened with honey, make a grand remedy for flatulence.

The flowery tops of all mints contain a certain portion of camphor. Peppermint is responsible for that modern comfort, menthol—modern to us, that is to say. The Japanese enjoyed its blessing two hundred years ago, and carried it about in silver boxes hanging from their girdles. Peppermint can easily be distinguished at sight from spearmint by its leaves being stalked, also by having a more purplish tinge of colour. It is grown chiefly for distilling, the tops being used for this purpose; the essence obtained is used for cordials, confectionery, etc. The culture of mints is very simple. All require to be grown in a moist soil, well enriched with decayed manure. Increase is obtained by lifting the roots in February or March, dividing and re-planting in shallow trenches 9 ins. apart. To secure young and luxuriant growths, a fresh

* Not the least value and charm of *The Herb Garden* lies in the exquisitely chosen and faithfully executed illustrations in colour.—A. F. H.

plantation should be made annually, as if allowed to occupy the same plot of land year after year the leaves become small and the stems wiry. This may be to some extent obviated by generous top-dressing.

—A. F. Harwood.

*(To be continued.)*

## THE INFLUENCE OF TEMPERATURE ON BEES.

### III.

### (4) *Practical Reasons for Artificial Heating.*

It would not be genial on my part to take so much space from the Journal (in spite of my brevity in writing) to consider the influence of temperature on bees, were it not that this matter is, in my opinion, by no means of an academic nature, but is rather full of practical possibilities, which, if thoroughly studied, and given sufficient trial and real consideration, might ultimately help a good deal to revolutionise in many ways the methods of bee-keeping in England as well as in other cold countries. Stated briefly, the chief practical reasons for making use of artificial heat in the apiary are: (*a*) To encourage or prolong breeding whenever necessity arises; (*b*) to increase the resistance of bees against certain diseases by guarding against the excessive lowering of their vitality, especially in winter; (*c*) to protect a colony, whether strong or weak, against the *direct* ill effects of a very low temperature, which often proves fatal to weak stocks, and which claims unnecessarily many victims from others; (*d*) to enforce existing colonies *at a rapid rate*, by keeping the queen active under the influence of artificial factors, with the final motive of making artificial swarms, etc., so as to greatly multiply *in a short period* the number of existing stocks. Such an enterprise, if made quite sure and profitable, and if its practicability would satisfactorily answer the test, might constitute a new branch, which we would be justified to call *artificial bee-rearing*.

Now, these few indications among others, should perhaps receive at first the careful study of a responsible body of bee-keepers and scientific men before the interest and confidence of the ordinary bee-keeper in this matter could be secured. I have referred before, on more than one occasion, to the necessity of creating such a research committee, which would be in a position (both technically and financially) to carry out many valuable experiments *in every branch of bee-keeping* for the steady advancement of the craft. No individual bee-keeper, however favourably placed, could possibly command the necessary material, money, experience and the inspiring confidence which a *committee* of capable experts and scientists, under official championship, would naturally possess.

But however difficult it might be for an ordinary member of the craft to assume the position of a researcher, no difficulty could honestly be pleaded in regard to certain procedures of a simple nature, which do not involve any risk whatever. For instance, there is no reason why any bee-keeper should not try the effect of *mild* heat (as against *superheat*, which has an opposite effect) in reviving *apparently* dead bees, as the result of atmospheric influences. Not only in snowy weather, but also after a spell of rain, when the temperature happens to be fairly high, some bees are found in a helpless state round the hives. They are foragers (taking, perhaps, a cleansing flight) which have been caught in the rain or chilled on falling on the snow, and are in a semi-dead condition. Some of these, on being warmed, will quickly revive, as if no mishap whatever has ever occurred to them. The percentage of recovery may be almost a hundred if the rescue work is done sufficiently early. I have previously referred (*vide* the B.B.J. of December 20, 1917) to this wonderful effect of heat, and, notwithstanding some repetition on the subject, I have not seen till the present date (February 4, 1918) any response to my remarks in any of the bee publications in Great Britain, with the exception of a single note from the Rev. M. S. Page, who reports as follows in the Journal of January 31, 1918: "Following a heavy snowstorm and 16 deg. of frost, there was a rapid thaw last night, and to-day (January 10) the thermometer rose to 42 deg. in the shade, and the bees got a cleansing flight in the middle of the day. As there was still snow round the hives, and the wind was cold and fairly strong, a number fell and apparently perished in the snow. But after they had been there some time—more than an hour to my certain knowledge—I picked up about thirty and warmed them. All revived except two, and on releasing them near the hives the majority returned."

I am very glad that such a confirmation of my previous observation came very early, though I regret to find it coming only from a single observer. I have preached on this point for over three months, but my discussions merely served to amuse my hearers, all of whom are "experts." None of them, till now, so far as I am aware, has troubled to make any practical test instead of useless, indefinite arguments. I might add here that, of the bees which do not immediately

return to the hive, many do ultimately return after some manœuvring, whilst others get again chilled or semi-drowned either near or far from the hive, where they perish. To restimulate them by means of heat (before they are long exposed to the cold and moisture) might prove successful again; and so their lives, which are most valuable in winter (when breeding is at a standstill) could be saved for the common benefit of the stock. Warming such bees, which fall victims to a chill on happening to reach the gate of the hive for some reason or other—(such as from a pressing stimulus for defecation, in spite of the state of the weather, and because of previous over-feeding; or from the urgent necessity of obtaining water in case of crystallisation of the honey as a result of excessive cold)—often proves a failure in the end in a bitterly cold weather, because most of them become re-chilled immediately they are exposed again to such an outside air, and it is no use holding a bee by the wings after warming it and putting it right through the entrance, as I have sometimes done, for very rarely will it be wise enough to proceed direct to its comb, and most often will become re-chilled there and then. This instance alone is sufficient to demonstrate again the value of the detention chamber in saving life, especially if its temperature could be made approximate to that of the hive.

The question of a *clean and easily available* water supply during the winter (and, perhaps, during the rest of the year as well) might be solved by making use of one or more salt cellars. These small receptacles could be filled with water, on which pieces of cork are made to float, and could then be put inside the detention chamber on either side of the entrance, but not too close to it, so as not to be a hindrance to the bees in their movements. *Inside* the hive itself a hygienic water supply all the year round might possibly be created, if there is available room, by using a modification of Taylor's Registered Compulsory Feeder (Reg. No. 656,583) originally intended for carrying medicated "syrup in the treatment of 'Isle of Wight' disease." In its general outline and size, it is like an ordinary frame, and could be made to take the place of one inside the hive.

From the foregoing statements it is clear that artificial heat could be made to serve *many* useful purposes for *successful* bee-keeping; that the only obstacle in the way is the lack of sufficient investigation on the subject in order to establish its rules and principles; that it is only natural in cold countries to give this matter a careful attention, in the light of knowledge obtained from sub-tropical lands which have a right to claim that they are the original home of the honey bee, and that pending the formation of the overdue Committee of Research on bee-keeping, it is in a sense the duty of every member of the craft not to neglect experimenting on simple lines, and to endeavour in any case to contribute his little share to the advancement of bee-keeping.

There remain to be discussed the ways and means of applying artificial heat in the apiary, and I reserve that to a short concluding article.—A. Z. Abushady.

## BEE NOTES FROM DERBYSHIRE.

(*Continued from page* 51.)

I would here like to say a few words on the merits, and demerits, of Dioxogen. I used it on No. 1 hive from October, 1916, to October, 1917, and, so far as I could see, with good result, for the stock covered eleven combs in October, and I believe it will winter. I used it more or less the same on the "Goldens," and they appear to be disappearing fast. I bought an 8-lb. swarm on July 1, and in three weeks they had got "Isle of Wight" disease bad. I sprayed them with Dioxogen times many, but they kept dwindling away till there were scarcely enough to cover two combs—it never seemed to do them a bit of good.

In the meantime, Mr. Smith, of Cambridge, had sent me a sample of Flavine, and I had it a month or so before I thought of using it. As Dioxogen had done my other two so much good, I wanted to give it a fair trial on this swarm, and I run it on rather late before I used the Flavine. But, anyway, I could see that swarm was vanishing fast, fresh crawlers every day, till they only covered two combs, and I decided to give Flavine a trial. Well, I got them sprayed three times before the cold weather came on, and whether Flavine is any good or not, I have only seen about a dozen crawlers outside that hive since. If they live the winter through they will be a marvel, as they got so weak.

If Flavine is going to make combs and hives so that bees can work and live in them after having "Isle of Wight" disease, it will be a great boon. I for one am giving it a trial, but my firm opinion is that whatever combs, or sections, diseased bees have been on, it will be there years before they are safe to use for bees again. The only things about the place that had been near my bees when they died out three years ago were an observatory hive with one frame, and a section rack with twenty-one worked sections in for heather honey, and I put three of these worked-out sections on this swarm, with the result that they had "Isle of

Wight" disease in three weeks. The frame out of the observatory I put in No. 1 in September, 1916, with the result that they started with the disease in five weeks. Certainly, I never disinfected any of them before I put them on. I simply wanted to see how things did work; they had Naphthaline in with them in the boxes, but that does not appear to hinder it—one had better burn the lot.

I should just like to give my impressions of the "Golden" bees. I believe they are a good bee to make big stocks, and stand in one place all the time, but they are no good to move about, and, unfortunately, I had to move mine twice this year. It seems to start them fighting. Could they have stayed where they were at first they would have given a good account of themselves, for there were no more bees within two miles of them.

Now, a few remarks as to the season. 1917 will rank as one of the best years for bees round here that I ever knew. One flower followed another in quick succession, with never more than a day or two of hindering weather at a time. Bees built up quickly, swarms were fairly plentiful, and June swarms gave from 50 to 60 lbs. of surplus honey. There are not many bee-keepers round here now, but each one lost a swarm during the season.

One young man I know had two come out within five minutes of each other, and they took off together. We spent some time looking for those bees; as they were part "Goldens" he was sorry to lose them. I always thought we should hear some time where they got to, and I came across them in one of my rambles in November, five miles, as the bee flies, from where they started. This bee-man said, "I did have a grand swarm of part 'Goldens' come in July." I said, "If you can tell me about the date they came, I can perhaps tell you where they came from," and it proved to be correct. There were only about thirteen hives taken to the heather this time; and it was earlier than I have ever known it. Honey was coming in by July 21. I saw "Tommy Humble" working on it then. I took my bees the week following, but I missed the best week, and I never saw more bloom on it. Let us hope for another good year in 1918.

. . . . . .

*February* 2.—It will be only fair to your readers if I just give a brief account of the end of those bees. They were half a mile away in an allotment garden, and a fortnight ago to-day I found them all dead, they looked as if they had been dead a month or more. Now, I was not surprised to find the swarm, and the "Goldens" dead, that does not speak very well for the Flavines, as I had sprayed the swarm three times with it, and the "Goldens" once, still, I should not condemn it, as it was getting into October before I used it. Perhaps someone who has used it more in the middle of the summer will say how their bees have wintered after it; but the No. 1 lot beat me, dying out like that. I never saw a sign of any crawlers outside that hive till the latter end of November, and then not many. Then to go and find them all dead, with 15 to 20 lbs. of honey, and a great lot of bees, makes one wonder, after colonies with half that quantity of bees had gone through the winter we had last year, does it take a whole year to clear some stocks out after they commence with "Isle of Wight" disease? Dioxogen does not seem to really cure them, unless it is that one keeps reinfecting them by giving them comb or putting a bee escape on. It might easily be done like that. There were a few dirty marks on the combs, but the bees are all dry, quite different from the swarm, they, when I tried to brush them off the combs, were all rotten together. I was at Carlton, near Worksop, last week end, and two new beginners had lost all their bees quite in a similar manner to mine, and two more old bee-keepers near Chesterfield have lost all their bees this autumn in the same way, so the disease is very rampant around us yet.—Tom Sleight.

## NOTTINGHAMSHIRE BEE-KEEPERS' ASSOCIATION.

### ANNUAL MEETING.

The annual general meeting was held in People's Hall, Nottingham, on Saturday, February 23, the Mayor (Councillor John G. Small) presiding. There was a very good attendance of members, who took great interest in the proceedings.

The minutes of the previous annual meeting were read and confirmed.

Letters were read from Mr. Pugh, Mr. F. G. Vessey and others, regretting their inability to be present.

The annual balance-sheet was next dealt with, and as all appeared to be satisfied with the same, it was passed unanimously.

The Committee's report was as follows:—

In presenting this, the 33rd annual report, your Committee observe with regret the scarcity of bees which prevailed in the county during the year under review—and according to reports, this was general throughout the country—not only for the loss of honey which was required to replace sugar, but for other food,

especially fruit, in which the bee plays such a prominent part in bringing about fertilisation.

For three years "Isle of Wight" disease has been prevalent in our apiaries, destroying a large number of stocks. We are, however, very hopeful as regards the future, for two reasons: first, we have in use some commendable disinfectants, which are at least helpful in keeping the disease in check; and, secondly, we hope to be able to supply a good number of nuclei from the bee-stocking apiary during the current season.

THE SEASON.

The summer of 1917 was good for the secretion of nectar, and bees gathered a fair quantity of high-class surplus.

The present price of honey is higher than it has ever been in the memory of our oldest member.

FINANCE.

A perusal of the balance-sheet will suffice to show that we are in a good sound state financially.

TECHNICAL INSTRUCTION.

The Notts County Council and the Estates and the Public Park Committees of the Nottingham City Council have again favoured us with their greatly esteemed grants, which have enabled our experts to make an autumn visit to those who possessed bees last year, as well as the spring visit.

DISEASE.

That "Isle of Wight" disease is still with us there is no denying, although its virulence appears to be more localised.

That it will be with us for some time we must expect, seeing that no definite cure has yet been found.

The latest disinfectants have, in many cases, been found effective, and with these at our hands, it has made it much more safe to recommence than it was previously.

BEE-STOCKING SCHEME.

The Bee-stocking Committee set out with the full intention of being able to supply bees during 1917, but regret they were unable to do so, owing to many unforeseen difficulties which they had to meet.

Bees were exceptionally scarce, and we were only able to obtain three stocks. From these it was not possible to supply the 45 applicants with bees, so it was considered it would be best to stock the apiary as far as possible, to enable us to make a good start in 1918.

The apiary has been established on a plot of ground held by Mr. Pugh in an ideal spot for breeding bees, except that it is a poor honey district. We have all we need for the season's work, except a few more stocks of bees and an apiarist, and we hope that some of our members will be able to help us out of this difficulty.

In conclusion, we are full of hope that the coming season may have brighter things in store for us than has been the case for the last three or four years.

At the conclusion of the reading of the report it was resolved that the same be adopted and printed with the list of members.

Her Grace the Duchess of Portland was heartily thanked for allowing her name as President of the Association, and was unanimously re-elected for the current year.

The General Secretary and Treasurer was re-elected.

The District Secretaries were thanked for their services and re-elected.

After thanking Mr. Riley for his services as auditor, he was asked to again undertake the duty, and was re-appointed.

The representatives to the B.B.K.A. meetings were re-elected.

As this finished the business for the afternoon, Mr. Smethurst rose to propose a vote of thanks to the Mayor for finding the time, amongst his multitudinous engagements, to come and preside over the meeting. This was very warmly seconded by Mr. Riley and supported by Mr. Thos. N. Harrison, and was carried with acclamation.

His Worship, in replying, said that he wished something more definite could be done to overcome the disease, so that the industry might revive. He himself had suffered loss for three or four years, but he was willing to try again. He saw that the Association was doing all that it could to battle with the disease, and to increase the stock of bees in the county by means of its bee-stocking apiary, and wished that it might be successful in doing this. He thanked the members for the welcome they had given him.

The evening meeting commenced at 6 p.m., and there were many more present than in the afternoon. Mr. W. P. Meadows, of Syston, was among those present, Mr. A. Riley, of Beeston, presiding.

A most interesting meeting was concluded with the annual prize drawing, and a vote of thanks to the Chairman.—*Communicated.*

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## GLOUCESTERSHIRE BEE-KEEPERS' ASSOCIATION.

ANNUAL MEETING.

The annual meeting was held at the Wessex Hotel, Gloucester, on February 9, Mr. E. J. Burtt occupied the chair. The accounts showed a satisfactory balance on the right side. From the report it appeared that, although a number of

members had dropped out, other keen bee-keepers had taken their place, and the Association was in a better position than at the end of 1916, in spite of adverse circumstances. A satisfactory feature was the increase in lady members, mainly as a result of the Patriotic Economy Exhibitions held at Gloucester, Cheltenham, and Stroud. "Isle of Wight" disease was not so virulent nor so prevalent, and the demand for bees and bee appliances was general—hopeful signs for the future of bee-craft in the county. The re-stocking scheme, inaugurated by the Committee had not proved a success, partly owing to the fact that several of the chief bee-keepers in the district had joined up, and their apiaries had been dispersed for the most part. One member, whose apiary suffered from disease two years ago, had a fine harvest in 1917 of 16½ cwt. of honey from nineteen hives, "spring count," one of his stocks yielding a surplus of 266 lb.

The subject of standardisation of hives was discussed, and the principle approved of; the opinion was expressed that a conference of experts and appliance manufactures should be summoned to go into the whole question. M. W. Colchester-Wemyss, Esq., Chairman of the County Council, was re-elected President, and Capt. G. N. Walker, Vice-President; Rev. F. H. Fowler consented to act as Hon. Sec. and Treasurer for the eighth year in succession, on the understanding that he should be relieved of his secretarial duties at all events, could a substitute be provided, who was to give more time to the work. The following were elected on the Committee:—Messrs. A. H. Bourn and J. E. Swaffield (Cheltenham), G. S. Railton (Tewkesbury), G. A. Calvert (Lydney), W. J. Goodrich, E. J. Burtt, J. Lane, C. A. Oakley, and C. M. Rickards (Gloucester). Mr. Gauntlett Thomas was appointed to represent the G.B.K.A. at meetings of the B.B.K.A., subject to the approval of the Committee of the latter.

## Notices to Correspondents

A. Howell (Rem).—*Melting comb for beeswax.*—The simplest plan is the old-fashioned one of breaking the comb into small pieces, which are placed in a canvas bag. A brick or piece of stone should also be put in with it. The bag and contents are then placed in a copper with water enough to well cover. Rain water should be used. Allow it to stand for 24 hours, then place over a fire and boil until the wax is all melted. The bag should be stirred occasionally to cause the wax to rise. Remove from the fire and allow to cool, when the wax may be taken from the top of the water. The *best* method is to use a Gerster or other wax extractor.

G. R. Strong (Magor).—*Working for increase.*—We prefer your second plan, which is the one given on page 93 of the "Guide Book." (2) If the colony is so forward you should be able to make the swarm early in May.

Novice (Wilts).—*Making nucleus.*—It is not absolutely necessary to have a queen cell on one of the combs. If there are eggs the bees will rear a queen from one of them. It is, however, a great advantage to have a well-developed queen cell on one of the combs, or one may be taken from another hive and put in about 12 hours after the nucleus is made. You may cut out queen cells to prevent swarming, but give the bees more room as well. Cutting out cells alone is only a temporary check on swarming as a rule.

W. M. S. (Haywards Heath).—Your plan of uniting should work all right. Leaving the two queens would make no difference, but it will be better to remove one and sell her. Queens are valuable in the early spring, and a spare queen may save a colony for someone else.

Miss Ransome (Surrey).—*Price of Swarms.*—It depends on the weight. We should say about 5s. per lb. would be a fair price. (2) From three to four pounds.

Up-to-Date (Guernsey).—We cannot find any articles on the subject. You should find no difficulty in designing something, but you will have to make a special stand, with a loose floor-board. Make all to slide out at the back, and so that the floor-board will slide on top of a super in winter and underneath in summer.

BEE-KEEPERS know it pays to have high fecund stock! Grand pen White Wyandottes from Tom Barron's No. 8—260 to 287-egg—pen, Eggs 10s. 6d. per dozen (1 paid 21s.), eight acre grass run; also pen from birds trap-nested for 13 generations, mated to Barron cockerel, 7s. 6d. dozen. Inspection cordially invited. Order quickly, as only two pens.—STANLEY WOOTTON, Hurlingham, Hope Street, Beeston, Notts. c 24

HONEY Extractor wanted, geared preferred, in good condition.—CLAYTON, Rowley Road, Dudley. c.26

WANTED, few stocks healthy Bees, to be delivered in April.—Price to C. GODFREY, c/o Mrs. Withers, Littleport Street, King's Lynn. c.27

CONQUEROR Hive wanted, single or double; perfect condition; guaranteed free from disease.—Box 20, B.B.J. Office, 23, Bedford Street, Strand, London, W.C.2. c.29

WANTED, strong stocks of Bees; guaranteed healthy; price moderate. — MEGGITT, Bramhall, Stockport. c.30

PARTNERSHIP (not active).—Gentleman seeks Partnership in established Apiary or Bee and Fruit Farm.—Write, in confidence, to Box 21, B.B.J. Office, 23, Bedford Street, Strand, W.C.2. c.32

WANTED, Geared Extractor, Cowan preferred; good condition essential.—A. TROWSE, Bee Expert, 51, Eade Road, Norwich. c.28

EXTRACTOR, two Standard Hives, Shallow Frames, Excluders wanted.—CRICK, Valley, Bressingham, Diss. c.31

CONQUEROR Hives wanted, good condition, single or double, standard or commercial.—GALBRAITH, East Hill, Sanderstead, Surrey. c.33

WANTED, stock, or early swarms, of Carniolan Bees; send price, and earliest delivery.—Box 22, B.B.J. Office, 23, Bedford Street, Strand, W.C.2. c.34

WANTED, two stocks of Bees, in good hives; also stock in straw skep.—REV. WILLIAMS, Pendoylan Vicarage, Cowbridge. c.35

QUEEN BEE wanted, early in April, Dutch or Carniolan, to be guaranteed from healthy stock.—Send price and age to HARMER, Sunniside, Gateshead. c.36

FOR SALE, Standard Frames, clean, 1s. 6d. dozen; six Straw Caps, 1s. 9d. each; 12 Lees W.B.C. Brood Boxes, 2s. 9d.; 12 Shallow Frame Boxes, 2s.; 12 Section Racks (in flat), 2s. each; 40 Alighting Boards, with porch, for bee-house or hive, 9d. each.—NICHOLSON, Langwathby. c.37

WANTED, Extractor, good condition. Price and particulars.—DON, Gordon Road, Enfield, Middlesex. c.38

EXPERT BEE-KEEPER wanted to organise a scheme for establishing a number of Apiaries. Must be good organiser, prepared to instruct assistants, superintend and assist in manufacturing appliances, have sufficient executive ability to control a large staff, with a thorough understanding of every detail of the work, with exceptional references as to integrity.—Apply, JOYBELLS HONEY WORKS, 21/23, London Street, Reading. c.39

HANDS wanted, with slight knowledge of carpentry, for making bee-hive parts.—E. H. TAYLOR, Welwyn, Herts. c.40

BACTEROL.—Should any Bee-keeper in York or district have difficulty in procuring this, I can supply it, *to callers only*, at 2s. per bottle. I cannot undertake to send by post.—W. J. GIBBS, York House, Gillygate, York. b.34

FOR SALE, property of deceased bee-keeper, 11 10-frame W.B.C. pattern joiner-made Hives, constructed of very stout material, will last two life times, lifts with each to take two supers; one shallow frame, super with each, calico and zinc covered roofs; 35s. each. One dozen shallow and one dozen brood frames in the flat, 1s. 6d. dozen; 137 drawn shallow combs, wired 17 ins. ordinary top bars, 9d. each; 17 ditto wide, 15 ins. top bars, 9d. each; nine ditto, Abbott's patent, top bars, 9d. each; seven with odd top bars, 6d each; eight ordinary, 17 ins. top bar, shallow frames filled with wired foundation, 6d. each. Carriage extra for all but hives must be sent. No metal ends.—Box 17, BEE JOURNAL Office, 23, Bedford Street, Strand, W.C.2. c.8

WANTED, Man to hive swarms, also used to farm work and ploughing. State age and wages required, full particulars.—YOUNG BROS., 42, James Street, Cambridge. c.11

TWO 28lb tins pure light Cambridge Honey (guaranteed), 2s. 6d. per lb.; sample, 3d.—J. YOUNGER, 6, Maid's Causeway, Cambridge. c.16

WANTED, six new W.B.C. Hives, with or without supers; also one dozen shallow frame crates.—J. WHITE, Fairstead Hall, near Witham, Essex. c.18

CAN book a few Swarms.—For particulars, etc., apply WM. S. HALFORD, West Wratting, Cambridgeshire. c.19

## BUSINESS ADVERTISEMENTS.

COMFORTABLE APARTMENTS for Brother Bee-keepers visiting Douglas. Terms: Tea, bed, and breakfast, 3s. 6d.; or full board, 6s. per day.—HORSLEY'S, Merridale House, top of Castle Drive, Douglas, Isle of Man.

THREE-FRAME Nuclei, 28s.; Six-frame Stocks, 50s.; each carriage paid. Best selected, disease resistant; and honey-producing strain of Carniolan-Italian, native Italian, pure native, and Italian. Carrying boxes extra.—S. CRAWFORD, Apiaries, Castlederg, Co. Tyrone. c.9

**HONEY AND BEESWAX PURCHASED.**
Run Honey in bulk. Sections per gross.
**HONEY FOR SALE.**
Cuban, Californian, English, Irish.
Free tins and cases, carriage paid. Cash with order. Samples, 3d. Prices on application.
**A. GORDON ROWE, 28a, Moy Road, Cardiff.**

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## British Bee-Keepers' Association.

**Insure *now* against loss by damage done through bee stings. All particulars from**

**W. HERROD-HEMPSALL, 23, Bedford Street, Strand, London, W.C.2.**


## HIVE FOR A WOUNDED SOLDIER.

One of our readers has an empty hive in good condition, and various accompaniments, which he is prepared to send free and carriage paid to any soldier discharged because of wounds—preferably to a man who, like himself, has lost a leg. Will anyone in the circumstances detailed above apply to us.

## BEES WANTED FOR WOUNDED SOLDIERS.

We have received a letter from a medical officer in the R.A.M.C. attached to a hospital in France, asking for help to start an apiary for the wounded and convalescent soldier patients. Possibly some of our readers may be able to render assistance, and if so, we shall be pleased to put them in communication with the officer. The following extract from his letter will explain what is needed :—

"I hope you will excuse my taking the liberty of writing you, only I am anxious to know if you could possibly help me to start a small apiary out here. I am one of the medical officers attached to this hospital, and we are asked to do our best in our spare time to help amuse, entertain, and instruct the wounded and convalescent soldiers in anything likely to be useful to them either at present, or in after life. I have decided to give lectures and demonstrations on apiculture. I think the district here is most adaptable, as there are numerous orchards, and good stretches of clover meadows. I have searched round about for miles, but haven't, up to the present, come across any bee-keepers; but, of course, in these times things are very much changed. I am having a joiner patient to make me a miniature hive for demonstration purposes, but I should so like a few hives, or stocks, and some accessories. Before I joined up I had a large apiary, but sold all out. Now I am wondering if you could, amongst your many bee friends, or readers of your journal, find any willing to subscribe towards starting me. If you could manage to induce some of your friends to present us with a stock, or so, of bees, and a few necessaries in the shape of foundation, frames, veils, etc., I should feel so grateful to you. Perhaps a small note in your widely-read journal would bring forth a few willing donors. Apart from the great help it would be to many of our soldiers in after life, I may say we use large quantities of honey here for the patients; it is considerd a great luxury with them, and it would be such a boon if we could produce it on the spot for our own consumption. In conclusion, I may say I have kept bees for years, and have the Bee Journal sent out to me here. I apologise for thus troubling you, but I feel sure you will sympathise with my venture. I can easily get hives made out here, also shallow frame boxes or crates, and super 1 lb. section racks, but frames, standard and shallow and foundations, smoker, veils, etc., would all be very acceptable."

## BRITISH BEEKEEPERS' ASSOCIATION.

### LECTURES AT GOLDERS HILL PARK.

A special course of six lectures on bee-keeping will be given in the British Bee-keepers' Association's Apiary, London County Council Park, Golders Hill, London, N.W., on Fridays, April 12, 19, 26, May 3, 10, and 17, 1918, at 6 o'clock each evening.

Those desiring to attend these lectures must make application at once for enrolment and particulars to,

W. Herrod-Hempsall,
Secretary,
23, Bedford Street,
Strand, London, W.C.2.

There will also be a popular free lecture on each of the above dates at 3 p.m., to which anyone will be welcome.

## A DORSET YARN.

All round the Farm now the bees are singing. "What a noise your bees make!" say the visitors that come; but I tell them it is the sweetest music to me, not "noise." They sing because they find plenty of flowers to look over for honey and pollen. The arabis is in bloom; our Dorset people call it, "Snow on the Mountain." The hedgerows have the small celandine, the speedwells and stitchworts; on the stiff soils are the bronze-yellow flowers of the coltsfoot, they open just above the soil without any leaves.

Bees are searching the prickly gorse in large numbers, quite a long distance from the Farm. The woods and hedgerows are now gay with daffodils; our school-children are gathering huge bunches of them as they go home from school. The male flowers of willows are very beautiful, No wonder bees sing when Nature is opening her treasures for them! Those of us who till the soil must work with the same energy as the bees. A few lines I heard recited by a class of boys I used to take for mutual improvement nearly forty years ago (I learned a great deal from this class of boys, they recited pieces of

all nations that make up the United Kingdom):—

"We may learn from the bees the wise man's lore,
The hand of the diligent gathereth store;
She flies in her calling, from morn till night,
Nor tires of her labours, nor flags in her flight,
From numberless blossoms of every hue,
She gathers the nectar and sips the dew."

The little boy gave me his copy so as to prompt him if his memory failed him. The writer of it was not a bee-man, because it read: "*He* flies in *his* calling," "*He* gathers the nectar," etc. When told the workers were females, and that the writer had made a mistake, it was somewhat confusing to the little chap.

But the writer was right in the second line, "The hand of the diligent gathereth store." We shall not have it to gather unless we sow and plant. Just now it is the potato that is booming; good prizes are offered for the best tubers. I hope some amateur, who is a bee-man, will win some of them. The potato flowers are not much use to bees, or else there is so much else in bloom at the same time, but the tubers are good for man.

I was lecturing at Pamphill last Thursday on these edible tubers, a few weeks back (at the same place) on parsnips, but the people were more interested when they heard about bees—how they worked for one without pay sheets, that they were willing workers every hour it was fine, workers who did not want extra for overtime. It is easy to entertain when one gets on with the song of the bees. The chairman, who had done three years' campaigning, admitted he was afraid of them. Those of us who knew him knew that there was not much else in the world he was afraid of.

This village at one time had some good bee-keepers, but since the disease came into Dorset there are very few, but plenty of bees in hollow trees on the estate which is the home of the descendants of Lady Banks, who held Corfe Castle (which also belongs to them) against Cromwell's soldiers so long. The mansion is a very beautiful one with a marble staircase, and the park has magnificent trees, plenty of limes which help the bees so much, rich dairy pastures and rolling downs, with plenty of clovers and trefoil. It is to this neighbourhood that the swarms from our Farm have flown off when they have been taken in the skep after swarming. The Valley of the Stour is between the two hills; it was provoking, but their scouts knew where to go, knew that they would find food in plenty at Kingston Lacey and Pamphill.

These same scouts have a way of telling the others of this promised land, overflowing with honey. They start off quite close to the ground, and if they cannot be stopped with water before they leave the Farm, they are soon above the tree-tops, as the land drops on a steep incline to the valley; yet they never go swiftly, always with the same rotary movement, assuring the others it is not much further, or making sure the queen is still with them.

Bees are still booming. Letters still come for swarms when available, and offers for established stocks, but I cannot sell, as I do not think mine are all free from the taint of disease.—J. J. KETTLE.


BEES "DRIFTING."

This may be considered a supplement to my last contribution, "Moving Bees." I then stated it was a rule that when by orientation the bees of a hive had once fixed the site of their home in their minds, they kept true to that spot for the duration of their lives. Like all rules there are exceptions to this one. Bees, in truth, interchange hives far more frequently than is generally supposed, and the fact is capable of easy proof. The elucidation of the mystery is rather interesting. First let us glance at several circumstances under which the exceptions to the rule may occur.

*Young bees* seem to have a free pass which admits them into any hive during their early days. Youngsters, on essaying their young wings, take what is known as a play spell. They romp and play, wheeling in merry and happy abandon, testing the strength of their wing power, and in these merry gambols the bees from the various hives intermix. When the bright sunshine which has called them forth is followed by cloud they make hurriedly for the hives. Not too particular on which flight-board they may light, they either follow the crowd or accept the one nearest them, glad to get a rest after their merry-go-round flight. Wherever they light, in any part of the apiary, they are not only tolerated, but apparently heartily welcomed. Perhaps the guards in their wisdom recognise they are not enemies but friends and benefactors, and that their presence, instead of being a detriment, is really an acquisition of strength. Perhaps, again, it is that in their early days they have no marked scent. It may be further guessed that

their quiet, unoffensive conduct and gentleness of demeanour may disarm the hostility of the guardians at the doorway. There may, on the other hand, be a little art or device in their intrusive entrance. Being members of a crowd they may simply slink past the guards. Whichever of these reasons may account for it, or if all aid them, the fact remains they gain admittance, and are accepted as members of the community.

When bees, old as well as young, are flying on a fine, bright day, with a fairly strong breeze blowing from one side along the line of hives, the members of the crowd are pressed along in the other direction. They advisedly accept the situation, alight anywhere, and are generally allowed free toll. My memory calls up a line of a dozen hives of our own common bees, with No. 5 tenanted by a colony headed by a queen of an All Golden strain. The hives faced nearly south, and our prevailing summer wind blew down a narrow valley along the line of hives. After a few days of such a wind Nos. 1 to 4 had practically no yellows, whereas further along the line to No. 12 all showed a considerable percentage. In this case the cause of intermixture was patent.

Bees *do* follow a bee line, but by following the line of least resistance, rather than one absolutely straight and direct. Here they often strike for the small valley, and then follow it, making direct for the apiary. If the wind is strong it often carries many of the foragers past their own hives, towards one or other further along the line where they alight and coolly walk in. They "drift," and are not repulsed. Wise guards, they recognise that here are riches not to be despised, and thank they the gods for gifting them. From one direction my own bees do a considerable amount of this "drifting." Working on the heather their course leads them to the front or rear, and there seems to be no mixing.

In America where they cellar their bees during the long winter, and transfer their hives to summer quarters in spring, this drifting causes a considerable amount of trouble if high winds are prevalent at the time. The hives at the end of each row to which the wind is blowing often show a glut, while at the other end they are almost denuded of bees. At times the bee-keepers have to take forcible means of re-transferring them in large numbers to help to equalise.

In conclusion, three allied or kindred subjects may be noticed — runaway swarms, absconding bees, and hunger swarms. Why do bees drift, or go adrift, at times when swarming? In nine times out of ten the cause is negligence on the part of their owner. They are often left too long in the settled cluster before being hived, or they are too often left unshaded from the fierce rays of the sun; and either or both leads to uneasiness and discomfort, so they seek better quarters. At other times they may be visited by the scouts sent out from the hive earlier in the day to prospect for a new home. These may talk so favourably of the selected site that the whole body are moved to emigrate at once—and so a colony is lost, the bees drifting to extinction.

How tantalising it is when a bee-keeper has, as he thinks, safely housed a swarm to find a little after that they have absconded and drifted to regions unknown. They may have found something offensive in the new hive; some strong odour it may be; or they may have been hived without their queen, or they, too, may have been called away by the report of their scouts. I would not advise bee-keepers to go back to the days of coating the inside of the hive with "hog's-slavers," or any other device, but make sure the interior is sweet and clean.

If a swarm drifts out of a hive in early spring and settles down on a bush near by, it is an abnormality which should not be allowed to take place, being due to carelessness on the part of their keeper. It is a "hunger swarm" caused by starvation. Hive them at once on combs with honey; but this is a case where prevention is better than cure, and can't happen in an apiary where spring feeding is attended to in autumn.

## KENT BEE-KEEPERS' ASSOCIATION.

### BROMLEY DISTRICT.

A lantern lecture will be given in the Co-operative Hall, East Street, Bromley, on Saturday, March 23, 1918, at 6 p.m. precisely, by Mr. W. Herrod-Hempsall, F.E.S., on "Productive Bee-keeping." The chair will be taken by A. Goodwin, Esq. All persons interested are cordially invited. Honorary District Secretary, Mr. W. E. Clifford 63, Southlands Road, Bromley Common, from whom further information can be obtained.

### LECTURE AT BROMLEY.

A highly instructive lecture on Bee-keeping was given at the Co-operative Hall, East Street, Bromley, on Saturday evening, February 23, under the auspices of the Kent Bee-keepers' Association (Bromley District). The lecturer was Mr. F. W. Watts, of East Dulwich, who took as his subject, "Failures Through Bad Wintering and too Early Stimulation." The Chairman was Mr. A. Goodwin, who was supported by the Hon. Secretary, Mr. W. E. Clifford, of 63, Southlands Road, Bromley Common.

Mr. Watts, after a few introductory

words from the Chairman, commenced his lecture, which was listened to with rapt attention. The subject of wintering, he said, was of vital importance to the bee-keeper. To winter a colony of bees they must know the proper rudiments of the industry. A great many failures were made by people, who acted without science and skill. If the queen was an old one, and had proved herself unprolific, no feeding and allowing her to remain the queen mother would cause the colony to become a success in the following year. Mr. Watts related his experience with regard to the purchase of driven bees which had a queen and were introduced to a queenless stock. The driven queen, he said, was accepted with all her faults, and was made the head of the united colony. She might be old and worn out. She might be from a bad race inbred.

The doors of the hive should be gradually closed from autumn to winter, and remain so until spring, and then gradually extended in accordance with the temperature. The syrup for feeding should be of good quality, with honey mixed, if possible, as good feeding would be sure to build up strong bees. The lecturer spoke against too early stimulative feeding, and said when hot syrup was given in February the bees were so excited that breeding commenced too rapidly and food was soon exhausted, and in cold wet weather the young bees died, and the old bees were over anxious to gather crocus pollen, and died in the attempt, and this meant lessening the colony instead of increasing it, which was disastrous. Bee-keepers should always observe that sufficient pollen and food were stored for winter consumption.

The lecturer was cordially thanked at the close.

## THE INFLUENCE OF TEMPERATURE ON BEES.—IV.

### (5) METHODS OF ARTIFICIAL HEATING.

In an early communication published some weeks ago, I used the terms "*direct*" and "*indirect*" heating to denote the two main divisions of methods. *Indirect heating* could be applied through a conservatory or a bee-house, etc., and nearly all sources of heat are here practicable, provided a sufficient guard is kept on the temperature in order to maintain it at a certain level so as to insure a real gain from it without a risk of any ill-effects. Not only the steam pipes, but also the gas stove, the coal fire, and the electric radiator are all useful sources of heat for this purpose, though not all of them are equal in merit as controllable sources; the factor of *complete control* being a most important one in selecting a system of heating for our winter apiary. At the present time *indirect* heating is undoubtedly the most economical and is easily applicable in the greatest majority of cases, so long as a suitable shed is available; but it appears highly probable at the present moment that in the near future, through the efforts of the Ministry of Reconstruction, electricity will become very cheap, and will take the place of raw coal, which, for both economical and hygienic reasons, should never have been allowed lately any access to the ordinary factories and homes. This will certainly play an important part in popularising *direct* heating for hives as well as *indirect* heating by electricity.

Theoretically, *direct* heating of hives could be performed in several ways and with several combustibles; but for practical scientific reasons, we need only limit our attention to electrical methods, as if these are applied, there is then no fear whatever of a mishap through carelessness, as might happen, for instance, from the use of a hot-water bottle, over the heat given from which one has very little control; and though quite safe and helpful in judicious hands, might prove the very opposite in others.

To make a *perfect and safe* use of electricity for this purpose, a consideration of something more than a shaded carbon lamp is necessary. There is certainly no difficulty in devising a new hive with a detention chamber, and in fitting it with an electric heating apparatus in the same way that an electric incubator is fitted. With the temperature regulator the degree of heat inside the hive is varied according to the will of the apiarian, and the temperature is guaranteed to remain almost stationary, unless, of course, the electric current is cut off; but even then, the bee-keeper will not be left in ignorance of such an accident, as a bell indicator (placed in a convenient place and far from the hives) could be installed, and would ring when the main current is cut off. To guard against any ill-effects from such an accident the hive could be designed in a way and with materials fit to conserve heat for a long period. Better than designing a new *electrical hive*, would be the invention, perhaps, of a *standard heating stage* on similar lines, which could be made to fit any hive with few modifications.

I believe that neither Messrs. Hearson and Co. nor Messrs. Baird and Tatlock (London) are incapable of executing such work; but at the same time there ought to be a research fund to depend upon in the early experimental stage, as well as a supervising body, as previously suggested, to test these makes, and to continue the investigation until a satisfactory result is obtained.

*(To be continued.)*

# THE QUESTION OF POLLINATION OF FRUIT IN RELATION TO COMMERCIAL FRUIT GROWING.

*By C. H. Hooper, F.R.H.S., Member of Scientific Committee of the Royal Horticultural Society.*

## CHERRIES.

(*Continued from page* 80.)

*Black Tartarian or Turk* crops badly alone; it crops well with some varieties, and badly with others. At Borden it crops badly alone, but a little better next to Frogmore and Waterloo; whereas at Teynham it crops particularly well with Black Eagle. In pollination trials it shows itself somewhat self-fertile; good and plentiful fruits were obtained with pollen of Napoleon and of Elton, and to a lesser degree with Amber Bigarreau, Knight's Early Black, and Early Rivers.

In the article previously mentioned, Early Rivers is mentioned as being a good polleniser for this variety.

*Kentish or Amber Bigarreau* is another variety that grows to be a fine large tree, but does not crop well in some orchards, especially where planted alone; it is a variety that should not be planted in large blocks without another variety. At Chilham it is found to fruit regularly where interplanted with Black Eagle, Turk, and Elton. At Borden, this variety fruits well with Turk, Frogmore, and Waterloo, but in another orchard on the same farm it fruits badly with an occasional tree of Victoria Black and Napoleon. Amber and Cluster are found to fruit well together. Amber and Frogmore certainly fruit well together, also apparently with Governor Wood or Waterloo (*vide Board of Agriculture Journal*). This variety fruits badly in an orchard interplanted with Circassian. In two years' pollination trials no fruit has matured with its own pollen, whereas with pollen of Turk and Frogmore fruit set and matured well; with Napoleon only about one fruit per truss matured, ditto with pollen of Black Heart.

*Waterloo Black* in some places grows and crops badly. At Borden, among Circassian trees it crops well. In pollination trials in both 1912 and 1914 with own pollen no fruit matured.

In an orchard near Sittingbourne of healthy young trees, producing abundance of bloom, no fruit sets, apparently owing to the absence of a suitable mate. Cleveland Bigarreau does not cross fertilise it, though itself crops heavily.

In the Board of Agriculture investigations, both in the orchards of Waterloo and in the pollination trials, Waterloo was found to fruit well with Amber Bigarreau. Observations at other centres seemed to confirm the assumption that there is a mutual affinity between Amber and Waterloo.

*Napoleon* is a variety that should be intermixed with another variety in an orchard, being only self-fertile to a very small extent; it also seems to be somewhat particular as to the pollenising variety. At Borden, Napoleon fruits well in one orchard with May Duke, and in another it fruits well with Webb's Black. At Brenchley, interplanted with Governor Wood, it fruits well. At Selling, Napoleon and Malling Eagle are found not to crop well together, although they are beautifully grown trees, which blossom well year by year.

In pollination trials with Napoleon using its own pollen, in 1912, in one case three fruits matured; but in similar trials in 1914 no fruit matured. Good fruit matured with pollen of Waterloo, Amber Bigarreau, Morello, and Frogmore, but in one trial with pollen of Florence no fruit matured.

In California, Black Tartarian, Black Bigarreau, and Bing are found to be good varieties to plant with Napoleon; in Oregon it is found to fruit well with Deacon and Lambert.

*Governor Wood.*—At Goudhurst a two-acre orchard planted with two trees of Governor Wood to one of Elton bore a heavy crop. At Brenchley, Governor Wood intermixed with Napoleon is found a good mixture, both varieties cropping well and regularly.

*Old Kentish Black* is a very regular bearer, and may be self-fertile. In pollination trials, good fruit matured with pollen of Elton, Early Rivers, and Turk.

*Black Eagle,* where planted in a large block at Borden, it is found to fruit very little, but in pollination trials it shows itself self-sterile, in trials of its pollen with other varieties it seems to be a good polleniser. It fruits splendidly with Turk at Borden.

*Knight's Early Black,* from two years' pollination trials, would seem to be self-sterile; with pollen of Black Eagle it matured fruit, but in one trial with pollen of Old Kentish Black no fruit matured.

*Circassian* appears to be slightly self-fertile; but in one orchard where planted with Amber Bigarreau it crops badly. In pollination trials it set plentiful and very good fruit with pollen of Old Kentish Black; it also matured good fruit with Early Rivers pollen.

*Florence.*—This variety seems generally to crop well, though in pollination trials no fruit has matured in either year with its own pollen, and it would seem to be nearly or quite self-sterile; whereas with pollen of Napoleon and Early Rivers good fruit matured.

*Roundel* appears to be self-fertile to a very small degree, judging from my pollination trials. Very good fruit matured with pollen of Amber Bigarreau; but with similar trials with pollen of Early Rivers, Elton, Old Black Heart, and Kentish Black no fruit matured.

*Morello and Kentish Wye Morello* are both perfectly self-fertile. The latter wild variety comes true from seed, and though smaller than the true Morello, it is quite useful for cooking, and is to be found in most gardens in the neighbourhood of Wye.

The Board of Agriculture article suggests that some of the older varieties, such as *Reynold's Heart* and *Bloer's Black*, which are fine varieties, would do well for re-grafting in orchards needing cross-pollination.

In the article referred to there is a chart of the average order of blossoming of cherries, which gives them in the following order:—Early Rivers, Elton, Turk, Knight's Black, Victoria Black, Frogmore, Napoleon, Amber Bigarreau, Black Eagle, Waterloo Black, Cleveland, Governor Wood, Florence, Emperor Francis, Cluster, May Duke, Kentish, Morello, Noir de Guben, and Noble.

The period of blossoming of cherries is put down as 21 to 25 days, and of full bloom 10 or 12 days. Warm and sunny weather shortens the period, whilst cold weather lengthens it.

## GOOSEBERRIES, CURRANTS, RASPBERRIES, LOGANBERRIES AND STRAWBERRIES.

All these fruits set and mature fruit perfectly with pollen of the same plant or variety. Some of the varieties of strawberry grown in Canada and the United States need to be interplanted with another variety for cross-pollination.

The pollens of gooseberry and white, red and black currants are globular and glutinous, and cannot be carried by the wind; insects are absolutely necessary for the transport of these pollens, fruit will not set unless the stigmas are pollinated.

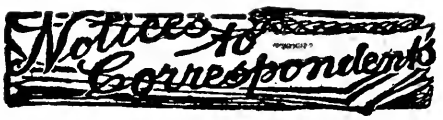
Raspberry and loganberry give only imperfect fruits unless insect pollinated.

Strawberries appear to be chiefly pollinated by the movement of the air, but are no doubt benefited by insect pollination.

For any one interested in further study of the subject of fruit pollination, there are articles on the subject in the *Journals of the Royal Horticultural Society* (vols. 37 and 38), and in the *Journals of the Board of Agriculture*; in the *Journal* for August, 1915, there is an article, with interesting tables, on "Pollination of Fruit Trees, Observations and Experiments," by W. J. Middlebrooke.

The Horticultural Branch of the Board of Agriculture, at Craven House, Northumberland Avenue, London, is collecting information on the subject of fruit pollination, with the object of helping fruit growers. The Board is glad to hear from any grower who will communicate facts likely to be useful in this investigation.

(*Finis.*)




*Correspondents desiring an answer in the next issue should send questions to reach this office NOT LATER than the FIRST POST on MONDAY MORNING. Only SPECIALLY URGENT questions will be replied to by post if a STAMPED addressed envelope is enclosed. All questions must be accompanied by the sender's name and address, not necessarily for publication, but as a guarantee of good faith. There is no fee for answering questions.*

W. G. W. (Bodmin).—*Onions growing in front of hives.*—We have had shallots and onions in front of our hives several times. It made no difference whatever to the bees.

A. Don (Enfield).—*Using honey from unsealed sections.*—The honey has probably fermented. Extract it, and you can then use the sections again. If the honey is fermented, better use it for making mead, or vinegar. If not, you may use it for feeding back to the bees, after boiling it for five or ten minutes.

F. S. (Brecon).—*Purchasing honey extractor from diseased apiary.*—The extractor will be quite safe if thoroughly disinfected. Wash out first with boiling water, then with a strong solution of disinfectant and water, finally rinsing out with more hot water.

"Zealous" (Leicester).—*Making a "Brice" swarm catcher.*—(1) The slot should be at the front edge of the floor A, so that the queen can pass up between it and the queen excluder. (2) The queen can return to the hive if she wishes, but is not likely to do so. (3) The zinc comes down on to the alighting board.

A. Law (W. Melton).—*Flour for bees.*—If you cannot get pea flour, use ordinary wheaten flour. Pea flour is better at any time, especially so now. Can you not get a packet of Symington pea flour? We should say the bees are pure Italians.

J. Merrick (Bristol).—(1) 70s. to 80s. Watch our advertisement columns; it will give you an idea of what prices are ruling. (2) We have not noticed any difference.

*Suspected Disease.*

"Novice" (Birmingham).—The symptoms you describe are those of "Isle of Wight" disease. Give the bees a little warm syrup, medicated with Bacterol or Izal. The subscription to the B.B.K.A. is 5s. per annum. Write to the Secretary of the Warwickshire B.K.A., Mr. J. Ingerthorpe, Knowle, Warwickshire.

P. P. (Camberley, Hants).—The bees are suffering from "Isle of Wight" disease.

D. B. (Towcester), G. Jones (Breconshire), G. M. Ellison (Newmarket), W. P. Gerrard (Liverpool), W. B. Chase (Market Drayton), M. P. R. (Essex), "Burnt Oak" (Herne Hill).—The bees sent were affected with "Isle of Wight" disease.

E. Grant (Herts).—The bees are suffering from "Isle of Wight" disease. Under the circumstances the better plan will be to kill and burn them. (1) We cannot say. (2) It is likely to do so.

H. B. Stebbing (Sussex).—The trouble is "Isle of Wight" disease. Your treatment could not have been better. The only thing you can do further is to see that the bees have access to a supply of pure water.

"Constant Reader" (Halifax).—All three samples of bees were affected with "Isle of Wight" disease. Boil the syrup for at least ten minutes, and when cool medicate it.

T. E. Lewis (Pem).—"Isle of Wight" disease. Natives.

A. O. Walker (Ayr).—Both are suffering from "Isle of Wight" disease. See reply to "Novice."

H. W. Learoyd (Halifax).—We are unable to say what was the cause of death. Natives.

"Gloy" (Surrey).—We failed to find disease in the bees.

**£4** 10s. offered for two strong Stocks of healthy Bees in Skeps, carrying pollen in; travelling crates sent.—LOXLEY, Northfield, Birmingham. c.52

WANTED, three Stocks of healthy Bees on frames.—DR. BARFORD, Selsey, Sussex. c.53

WANTED, ½ dozen Stocks, Dutch-Black Bees. —Price and particulars, B. R. OXBORROW, Kirkby Cross, Essex. c.54

WANTED, Extractor, large or small, geared preferred, in good condition. — C. S. MORRIS, 13, St. John's Road, Putney, S.W.15. c.55

WANTED, one or two healthy Stocks of Bees in bar-framed Hives or Skeps.—O. CURTIS, Great Wilbraham, Cambs. c.56

PAIR Indiarubber Gloves, size 8½, nearly new, will exchange for Straw Skep or Veil. Offers. —A. LAW, 39, High Street, West Melton, Rotherham. c.57

WANTED, up to eight Stocks of healthy Bees, English, Italian or Dutch; will give top prices.—GEATER, Leiston, Suffolk. c.58

WANTED, two Stocks of Bees, with good Queens; early delivery, Cheshire.—State price and particulars to Box "M 35," LEE & NIGHTINGALE, Liverpool. c.59

TO RECAPITULATE.—We claim no "cure" in Flavine. All we have said, written, or printed about this antiseptic is that it confers immunity from "Isle of Wight" disease for some time. We have printed three chapters of a booklet telling how we use it. Please read the Trade Announcements for particulars.—S. H. SMITH. c.60

WANTED, by Young Lady, post of establishing or managing Apiary, or Apiaries. First-class Expert, and large practical experience. —Box 14, BRITISH BEE JOURNAL Office, 23, Bedford Street, Strand, W.C.2. b.24

EXTRACTOR, reversible, three standard or six Shallow frames, £5; six single Wall Hives, 10s. each; cases containing two 28lb. tins, 2s. 6d.—GRANT, Huyton. c.21

**£3** 15s. given for a few good ten-frame Stocks of healthy Italian Bees; 1918 fertile Queens an advantage; end of April delivery.—Box 18, B.B.J. Office, 23, Bedford Street, Strand, W.C.2. c.22

ADVERTISER is open to purchase up to 50 Stocks of Bees; guaranteed healthy; hybrids preferred. Travelling boxes sent.—Quote quantity and price to Box 19, BEE JOURNAL Office, 23, Bedford Street, W.C.2. c.23

HONEY Extractor wanted, geared preferred in good condition.—CLAYTON, Rowley Road, Dudley. c.26

WANTED, few stocks healthy Bees, to be delivered in April.—Price to C. GODFREY, c/o Mrs. Withers, Littleport Street, King's Lynn. c.27

WANTED, strong stocks of Bees; guaranteed healthy: price moderate. — MEGGITT, Bramhall, Stockport. c.30

WANTED, two stocks of Bees, in good hives; also stock in straw skep.—REV. WILLIAMS, Pendoylan Vicarage, Cowbridge. c.35

WANTED, Extractor, good condition. Price and particulars.—DON, Gordon Road, Enfield, Middlesex. c.38

HANDS wanted, with slight knowledge of carpentry, for making bee-hive parts.—E. H. TAYLOR, Welwyn, Herts. c.40

FOR SALE, property of deceased bee-keeper, 6 10-frame W.B.C. pattern joiner-made Hives, constructed of very stout material, will last two life times, lifts with each to take two supers; one shallow frame, super with each, calico and zinc covered roofs, 35s. each; 90 drawn shallow combs, wired 17 ins. ordinary top bars, 9d. each; 17 ditto wide, 15 ins. top bars, 9d. each; nine ditto, Abbott's patent, top bars, 9d. each; seven with odd top bars, 6d. each; eight ordinary, 17 ins. top bar, shallow frames filled with wired foundation, 6d. each. Carriage extra for all but hives must be sent. No metal ends.—Box 17, BEE JOURNAL Office, 23, Bedford Street, Strand, W.C.2. c.8

WANTED, Man to hive swarms, also used to farm work and ploughing. State age and wages required, full particulars.—YOUNG BROS., 42, James Street, Cambridge. c.11

TWO 28lb tins pure light Cambridge Honey (guaranteed), 2s. 6d. per lb.; sample, 3d.—J. YOUNGER, 6, Maid's Causeway, Cambridge. c.16

## BUSINESS ADVERTISEMENTS.

COMFORTABLE APARTMENTS for Brother Bee-keepers visiting Douglas. Terms: Tea, bed, and breakfast, 3s. 6d.; or full board, 6s. per day.—HORSLEY'S, Merridale House, top of Castle Drive, Douglas, Isle of Man.

THREE-FRAME Nuclei, 28s.; Six-frame Stocks, 50s.; each carriage paid. Best selected, disease resistant; and honey-producing strain of Carniolan-Italian, native Italian, pure native, and Italian. Carrying boxes extra.—S. CRAWFORD, Apiaries, Castlederg, Co. Tyrone. c.9

STRICTLY BUSINESS.—Three chapters of our D.B. Booklet are out, and 160 D.B.'s have been supplied with free copies. Others will have to dig up sixpence. It is not worth it, but we need the money. Eight packages of Flavine and the booklet for 1s., post free. A Sprayer and the above combination for 5s. 6d., post free. Your money back if you don't like it.—S. H. SMITH, 30, Maid's Causeway, Cambridge. c.61

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# BURTT, Gloucester, FOR BEE APPLIANCES.
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## SEASONABLE HINTS.

The spell of warm weather will have caused the brood nest to be expanded at a quicker rate, and the aim of the bee-keeper should be to aid that expansion by stimulative feeding. Syrup may now be given in the place of candy, except in the cold northern parts of the country, where syrup should not be given for another week or more. The syrup should be thin, so that it is not necessary for the bees to go out for water with which, to thin it down, make it with barely a pint of water to each pound of sugar or pink candy. It should also be given slowly; the object is not that it should be stored in the combs, as in autumn feeding, but that it should be turned into bees by being used for feeding the larvæ. If a regulation bottle feeder is available, give access to only two, or at most three, holes. Make certain that the cap fits the bottle, so that it is quite airtight. A good substitute for the bottle feeder is a lever-lid tin, such as a Lyle's golden syrup tin. Punch two or three small holes in the lid, fill the tin with syrup, and invert it over the feed hole.

Where the combs are full of stores, it is a mistake to give more syrup. In that case some of the cappings of the food should be bruised occasionally on mild days. Do this round the edges of the patch of brood. The exposed food will then be used for feeding the larvæ, and more cells left vacant for the queen to utilise for egg laying. Remember the one object now is to raise bees, and as we have remarked before, a comb that is full of honey, or syrup, cannot also be full of brood. Do not let the bees at any time now suffer for lack of food. A week of cold weather, with no stores in the hive, will at the least cause a cessation of egg laying, the result of which will only be apparent in three weeks' time, when there will be a correspondingly small number of bees emerging from their cradles. To adapt an old proverb, "take care of the bees, and the honey will take care of itself."

On mild days spring cleaning may be taken in hand. The best method is to have a clean, empty hive into which the comb and bees from another hive may be transferred. This hive in turn may be cleaned, and another lot transferred to it, and so on till all the hives are cleaned.

Keep the bees warmly wrapped up. This is even more important now breeding is going on than it was in the winter. Nights are still cold and frosty.

## BRITISH BEEKEEPERS' ASSOCIATION.

### LECTURES AT GOLDERS HILL PARK.

A special course of six lectures on bee-keeping will be given in the British Bee-keepers' Association's Apiary, London County Council Park, Golders Hill, London, N.W., on Fridays, April 12, 19, 26, May 3, 10, and 17, 1918, at 6 o'clock each evening.

Those desiring to attend these lectures must make application at once for enrolment and particulars to,

W. HERROD-HEMPSALL,
Secretary,
23, Bedford Street,
Strand, London, W.C.2.

There will also be a popular free lecture on each of the above dates at 3 p.m., to which anyone will be welcome.

## A DORSET YARN.

Burns wrote in one of his short pieces:—

"It's a' for the apple he'll ne'er ask the tree;
It's a' for the *hiney* he'll cherish the bee."

That may be strictly true when the tiller of the soil plants his fruit trees and commences bee-keeping; but as each year adds to the growth of the one, and the production of valuable food by both, they give great pleasure to us who have them. It becomes a fascinating study to see each, in its own way, producing their luscious dainties. The tree in its natural system of growth, its straight bole, and its endless ramification of branches, now thickly studded with expanding fruit buds, and the bees hurrying in their flight to the opening flowers. As the same writer puts it, "While bees rejoice in opening flowers," one who loves both has a pleasure with each; though each "adds to the siller," each adds to the pleasures of life also, and that to me is what makes life worth the labour and the hustle; for just now it is all hurry.

Fine weather has enabled us to get in the corn; the soil worked splendidly owing to the drying winds of March, but wherever you are now, the bees are flying; they are strong on the wing, they know where their sweetest treasures are to be found.

One can see through the inspection glass that the cells that were empty at the top of the combs have now the shiny liquid in them, and other cells being made on the tops of bars between the strips of wood laid over them, all tends to show that "the hand of the diligent gathereth store." The wealth of willow flowers is the attraction to them; they are carrying in pollen of a bright orange colour. It seems too dark for willow pollen; it

may be crocus, there is a great quantity of them in the rectory garden close by the Farm; they have found the flowers of peaches, and may be seen getting even into the flowers that are only partly open, so great is the hurry to get the nectar. Though some have very large flowers and others very small ones, there are quite as many bees on the lesser-sized ones as there are on the large, which shows that each gives the same wealth of sweets for them. Peaches under glass are always attractive to bees. When the ventilators were open they would be sure to get through them, but after having filled the honey sac they could not find their way out, many died in their efforts to find the opening. At one place I worked we always filled the span-roofed peach houses with violets, and the bees were always in them in great numbers. I used to leave the doors open, as well as ventilators, to let them escape, but even then a great many could not get away.

It is very beautiful to see long peach houses in blossom, especially when they are planted with different varieties, the variable size of the flowers, and the shades of flesh colour that run through the whole; when the soil is planted with violets it adds materially to the beauty of the whole. Ruskin wrote of the beauty of apple orchards in blossom. I do not remember aught of peaches from his books, but I remember Boswell says of Johnson, "he would eat seven or eight large peaches before breakfast." They could not have been very large then, not as they are now—8, 10, or 12 ounces each, with good cultivation. To get size the chief agent is moisture; they are, when ripe, over 80 per cent. water, a sure proof that they require a fair amount when swelling. This is by the way; the flowers as food for bees is the chief interest to the bee-man, and to be of much service they must be in quantity.

Those who keep bees in Parkstone and Bournemouth must reap a fine lot of early bee food while the early breeding is in progress, as the almonds are delightful to see; but with the almonds there is no luscious pulp enveloping the stone, as there are in peaches and nectarines. Plant more peaches, let them grow into natural trees, the wealth of flowers is prodigious, and most years you will have fruit in addition to flowers. I have seen some very fine peaches raised from seed that have fruited many years, but in commerce they are budded on plum stocks—all the best varieties are. They are easily grafted just now on plum roots—that is, strips of root about 8 or 12 inches long, each cut in an oblique direction, and the peach and plum firmly bound together. These can be planted firmly in the soil, keeping the union 3 inches below the soil to keep air from getting to it. If you have a warm, close frame you could roll them in moist flannel and each day see the progress of the union, and when complete plant out in open ground. Plants are generally rather expensive, but established trees from the nurseries give quick results, as they flower the first year, and if three and four years' old will fruit the first year of planting, where plants raised from peach stones are a long time before they fruit.

Mr. Smith, of Cambridge, has sent me a pamphlet dealing with bees, which has been most interesting. This is what we want, all knowledge that can be gained of bees: all that tends to prevent diseases and help on the craft, as nothing is so discouraging as when they go under. He is a real good Samaritan; he has found a good thing and he passes it on to others.—J. J. KETTLE.

## THE BEE GARDEN.

THE OFFICIAL LISTS.—(*Continued.*)

The sages are the typical genus of the salvidæ, a family of monardeæ whereof the bergamots are the type. They owe their botanical name to their healing properties. The common sage, of which there are many varieties, is not only the best known culinary herb, but is also described as "a feeble tonic and astringent, and an efficient aromatic."

A native of the south of Europe it was introduced into England in 1597. It is an evergreen, shrubby plant, describable either as an under or sub-shrub, or as a herb, grown nowadays for the sake of its aromatic leaves, which are much used for flavouring and seasoning purposes. It has blue flowers, and has run into many varieties. Formerly it had a high reputation as a sudorific and an antiseptic, but it has now no place in the pharmacopœia. The Chinese, however, still use it as a tonic in debility of the stomach and nerves. The variety, *S. grandiflora*, is also used for culinary purposes. This variety which bears deep blue flowers in long racemes, makes a fine border plant. It reaches a height of 3 ft.

Although sage can be raised from seed with a minimum of trouble, yet this is one of the few instances where it is an advantage to propagate plants from a good stock by slips, *i.e.*, young shoots with a heel of older wood attached. These slips should be detached, by a downward pull, in April. Plant out in a nursery bed at 6 ins. apart. Keep moist, and when rooted, set out in permanent positions, allowing each plant a space of 15 ins. The difference between plants thus raised and seedlings will be obvious to any gardener who shall grow them side by side. Still, seedlings are often and quite easily

raised, and as annuals the plants are quite satisfactory. Sow under glass in February and March, and in open ground during April and May. The seeds should be sown 6 ins. apart in shallow drills, and transplanted, or every second plant lifted, leaving 1 ft. between them. Make a second row 2 ft. away with the lifted plants. A warm, dry position, in rich soil, is the best, although, as Mrs. Bardswill remarks, "Sage will grow anywhere, and is one of the few herbs that still belong to modern everyday life." Still do the cooks ask for it, and the gardeners bring it in; still does it mitigate for mortal man the richness of pork, ducks, and geese. "How can a man die who has sage in his garden?" is a proverb of Arabia.

"He that would live for age
Must eat of sage in May"

is an English one. They show how the herb has been valued both East and West. The Chinese cannot imagine why Europeans like their tea leaves better than home-grown sage-leaves for brewing. Time was when exchanges were made between the Dutch and Chinese—4 lbs. of tea for 1 lb. of sage! Sage, they say, makes a capital gargle, and the smell of it alone is sometimes strong enough to make the patient giddy.

Along with the green sage we like to grow the purple, both make nice hardy plants if cut back now and then. There is a variegated sage, too, of lovely colours. Meadow, or wild sage, *Salvia sclarea*,* never seen in gardens nowadays, is known about the countryside as Clary or Clear-eyes, and at one time was as much valued as the garden kind. Its names explain the reason why. It has also been called *Oculus Christi*. Occasionally the whole young plant would be eaten, either boiled or fried in sweet butter, with sugar, and the juice of oranges or lemons. We have it on good authority that "George Whitefield when at Oxford (1733) lived almost entirely on sage-tea with sugar and coarse bread." For winter use sage should be gathered in September, the shoots being tied in bunches and hung in a cool, shady place till dry. Strip the leaves from the stems, rub them fine, and store in well-corked, wide-mouthed bottles.

Meadow sage is a rare native, with rich violet-purple flowers, blooming through June and July. It is 2 ft. in height, and is well worth a place in the flower garden. Indeed a highly effective herbaceous border might be composed entirely of the showier relatives of plants grown only in the vegetable garden.

* *S. sclarea* is not indigenous to Britain. It is a native of Italy, Syria, etc., and in this country is at most an escaper. *S. verbenaca* is the wild English Clary or Vervain Clary.—A. F. H.

## THE INFLUENCE OF TEMPERATURE ON BEES.—IV.

(6) CONCLUSION.

For myself, no new proof is needed to convince me that the factor of temperature is a very important one in the organisation of bee life. With the little material at my disposal I taught myself something. I have been able to keep a weak stock (which I was not able to re-enforce in the proper time) in perfect health and in a satisfactorily general condition by the help of artificial heat, though applied in a rough way. When this stock was seen last September by Mr. W. J. Owers, to whose guiding experience I am greatly indebted, he prophesied that it could not live long. With artificial heating, I managed to observe instructive signs of prolonged breeding for some time, and with this heat I managed to experiment with some success on other points referred to in previous communications. In spite of the most severe January frost and cold, the bees did not suffer while heating was continued, a daily examination being made from a glass window over the frames; but when heating was stopped for a few days the bees on examination were found from many obvious signs to be dead from starvation. The hive was opened, and they were examined jointly by Mr. Owers and myself. No indications of any infectious disease were present, and the bees, when carefully examined, appeared to be quite healthy. Yet the signs of starvation, despite the presence of sufficient stores were unmistakable, and the reasons were sufficiently clear. A weak stock could not maintain the necessary temperature for feeding and general vitality inside a hive during a severe winter, and it is not always the case that a strong stock succeeds in this respect, to judge from the death-rate among bees in winter, which is not accounted for by an infection, and even with cases of infection it is quite probable that a low temperature is an important predisposing factor by lowering the vitality of the bees. It should be observed that in winter feeding, the bees in the warmest positions (inside the cluster and nearer the top) are responsible for distributing the food amongst the others, but when the temperature is too low, even this limited activity disappears.

With my very little spare time, in which a recreation in my garden-apiary and the hasty writing of these rough notes gives me a great pleasure, and with the lack of material and sufficient means at my disposal, it is not for me to undertake a thorough investigation on a big scale. I have repeatedly hinted that this is the *work of a capable committee and not of an individual*. My sole purpose therefore is to stimulate research on bee-keeping, to

direct attention to a new line of investigation well worthy of the best efforts, and to suggest to the mass of the craft whose bread and butter depend chiefly on their success in bee-keeping, that they should see to it that they are not behind any other craft or profession in keeping abreast with the times in scientific development.—A. Z. Abushady.

## LEICESTERSHIRE BEE-KEEPERS' ASSOCIATION.

ANNUAL MEETING.

Owing to the absence in France on Church Army hut work of the Rev. J. F. Anderson, of Great Glenn Hall, chairman of the Leicestershire and Rutlandshire Bee-keepers' Association, he was unable to attend the annual meetings held on Saturday, March 16, at the Vaughan College, Leicester, and Mr. W. K. Bedingfield (Lutterworth) was voted to the chair. There was a good attendance.

The 36th report showed a decline in membership of 45, although 27 new members joined. Mention was made of the havoc caused by "Isle of Wight" disease and the efforts made for re-stocking. The past season for those who had hives left was very good. The balance-sheet showed a cash balance of £7 5s. 3d., a decrease of nearly £6. The restocking had been successful so far. Three stocks of bees were purchased, taken to Enderby, and during the summer ten nuclei were sent out and the apiary increased to nine stocks for this season. Forty-one persons, shareholders, it was hoped would be stocked this year. Thanks were passed to Mr. Bedingfield for the gift of six hives, to Mr. Theakstone for providing a site in his garden, and to Messrs. Biggs, Bradley, and Theakstone for use of hives.

With a view to safeguarding members from purchasing bees or second-hand hives which might be infected, Mr. Hunt (Botcheston) asked for statistics as to the stocks lost and the districts affected. The Secretary (Mr. John Waterfield, Kibworth) said experts were not so careful as Mr. Hunt in filling up the information in their visiting books. All he could say was that the Loughborough district seemed to have been the most unfortunate during the past year. There were no less than 30 resignations in the Loughborough district, chiefly through members having lost their stocks. The Enderby district was said to have a number of infected hives lying idle.

Lady Levy was again elected president. The vice-presidents were re-appointed. The vice-chairman, Mr. Wm. W. Falkner, of Market Harborough, was elected to the chair, and Mr. G. W. Dunn, Glen Parva was chosen vice-chairman.

The executive of 13 was voted for, and the following appointed:—The Rev. J. F. Anderson, Mr. J. J. Abell (Newbold Verdon), Mr. S. Clarke (Leicester), Mr. A. J. Marriott (Market Harborough), Mr. A. E. Biggs (Cropstone), Mr. W. P. Meadows (Syston), Mr. H. Clark (Desford) Mr. E. A. Jesson (North Kilworth), Mr. T. H. Earp (Loughborough), Mr. T. H. Geary (Enderby), Mr. J. Thompson (Quorn), Mr. J. Hayward (Woodhouse).

Mr. H. M. Riley (Leicester) was appointed treasurer, Mr. W. K. Bedingfield auditor, and Mr. John Waterfield (Kibworth), hon. secretary. Representatives to British Bee-keepers' Association—Messrs. Riley and Falkner.

It was decided to increase the price for nuclei from 10s. to 17s. 6d., Mr. Moss stating that this was really one-half the market value. Mr. Hunt (Botcheston) moved a resolution urging Government action with reference to combating the disease and preventing infection and this was carried.

It was reported to the association that Mr. Lowe, the curator of Leicester Museum, who did good research work on "Isle of Wight" disease, had been endeavouring to persuade the Government, but unavailingly, to take up the breeding of bees and the supply of nuclei to keepers. Mr. Lowe had persuaded the Leicester Corporation to do a national work, and he hoped to be able to provide stocks to approved persons. The association's help in selecting applicants would be valued.

In the evening Mr. W. Herrod-Hempsall, F.E.S., gave a lecture on "Queen-rearing and Introduction.—*Communicated.*

## ESSEX BEE-KEEPERS' ASSOCIATION.

ANNUAL MEETING.

The 38th annual general meeting of the Essex Bee-keepers' Association was held at 7, Camomile Street, London, E.C., on Tuesday, March 12, at 5 p.m., Mr. W. P. Jobson presiding, when the following members were present:—Lady Gwendoline Colvin (President of the Association), Mrs. Perry (Leyton), Mesdames Tidswell (Woodford) and Darrington (Wenden), Messrs. Faunch, Kirschner, Kendell, Horscroft, Rae and De Save (Ilford), L. Belsham (Maldon), F. Claridge (Colchester), A. Hornblower (Leytonstone), and the Secretary.

The minutes of the last annual general meeting were read by the secretary and passed.

The Committee's Report for 1917, is-

sued to members, was adopted and passed unanimously, very general satisfaction being expressed therewith.

The balance sheet, which showed a surplus in hand of £19 6s. 10d., was presented by the Treasurer, and received by those present with considerable applause. The balance being larger than for several years past the Treasurer and Committee were complimented on their economical management of the finances of the association.

The retiring officers were accorded the best thanks of the association for their services during the past year, and were all re-elected, with the addition to the list of Vice-Presidents of General Colvin, C.B., M.P., Sir Frederick Green, Hon. E. G. Street, and C. E. Ridley, Esq., J.P.

The Secretary gave a brief account of the proposed programme which he had been asked to draw up for the consideration of the Essex County Council. This was heartily endorsed by those present, and many hopes were expressed that beekeeping lectures would be arranged for the whole of the county. The President, he said, had already moved on behalf of the Women's Institutes, and several lectures had been given, which were well attended, and more were booked. The Secretary remarked on the great assistance rendered to the association by the Lady Gwendoline Colvin, and now that her distinguished husband, General Colvin, had entered the House of Commons the industry possessed another M.P. who, he was sure, would do his best to further its interests.

Messrs. R. M. Wilson, B.Sc., and W. Robson, M.Sc., of the East Anglian Institute of Agriculture, and Miss Jameson, who has charge of the bees at the Institute, were unanimously elected honorary members on the proposal of the Chairman.

The best thanks of the association was voted to the President for her valued assistance during the past year, and to the Chairman for the use of his offices for meetings, whilst the Treasurer (Mr. G. T. Faunch) was heartily thanked for his work as local secretary at Ilford.—*Communicated.*

## BUCKS COUNTY BEE-KEEPERS' ASSOCIATION.

ANNUAL MEETING.

The annual general meeting of the association was held on March 9 at the Congregational Schools, High Street, Aylesbury, and in the absence of the President in Scotland, the chair was taken by C. G. Watkins, Esq.

The report and accounts were received and adopted. The Chairman, in his speech moving the same, commented on the steady increase in membership, viz., 69 in 1916, 110 in 1917, and 177 in 1918, and drew attention to the statement of accounts, which showed the association to be in a sound financial condition.

The Earl of Buckinghamshire was re-elected President.

The vice-president, the committee, auditor, treasurer and hon secretary were re-elected, and a vote of congratulation to the treasurer, Capt. J. Bell-White, R.N.R., J.P., on his being appointed High Sheriff of the County was passed unanimously.

The following resolution was unanimously passed:—"That the association fully approves of the standardisation of hives, and gives its full support to such a scheme."

It was also resolved that it was desirable to start a re-stocking scheme.

Letters were read from Mr. W. Underton and Mr. Coulson, urging the keeping of bees to ensure the pollination of fruit trees, and a discussion followed, in which the interesting papers by Mr. Hooper in the BEE JOURNAL were commended to the notice of all fruit growers.

The meeting ended with a hearty vote of thanks to the Chairman.


*The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.*

## THE SHEATH HIVE.

[9631] It is not quite clear from Mr. Atkinson's articles under above heading in last year's volume of the B.B.J., pp. 294, 304 and 392, whether he claims originality of design of what he terms the "Sheath" W.B.C. hive, or no.

In either case, it may interest him, unless he is already aware of the fact, that this pattern was made and sold by Messrs. Burgess & Son, of Exeter, some twenty years ago, but they tell me the reason they discarded it was that it could not be dovetailed by machinery (inferring that hand dovetailing would be too expensive), also considering their telescopic lift design an improvement in their own apiary (which

was at some distance from their store), by saving carting spare lifts.

In addition to their evidence, if Mr. Atkinson turns up Mr. Herrod's delightful little book, "Producing and Exhibiting Bee Produce," page 48, he will there see a couple of hives illustrated, being exhibited in 1901 (17 years ago), made on the same principle.

While pointing out these facts, let me hasten to add that my own opinion of the hive (or the "principle") exactly coincides with his (and the darkies'), and in future all my additions are being made on the conical design, adapted to fit my existing W.B.C. hives, my only objection to Mr. Atkinson's pattern being in the combined porch and alighting board, which to my mind, does not give enough room on the latter. I like mine at least 9 in. long. I may add that to overcome the difficulty of the expensive hand dovetailing I am having mine made with tongue and groove corner-joints for the better class hive, and for ordinary quality, the plain, butt-jointed corners, which are quite strong if properly put together. The floors have an entrance-well of $1\frac{1}{4}$ in. depth in front, with $\frac{3}{4}$ in. entrance under porch, yet leaving 1 in. under ends of frames. The sunk entrance tapers off to a feather-edge in centre of floor, thus leaving no "step-down" as is usually made, and consequently the floors are more easily cleaned.

The porch is made detachable with two screws, so that any outer case may be used in any place, top or bottom, no matter which.

I am hoping to get the Service Co., of High Holborn, to show one of this pattern W.B.C., which I think will be one (if not the most important, at least a "premier") of the "Standards." The chief difficulty at present is the supply of timber.—FREDK. M. CLARIDGE.

## SUGAR FOR BEES.

[9632] With reference to the feeding problem, perhaps something might be done if bee-keepers put their heads together. The present system is very unsatisfactory, as the candy that is made by Messrs. Pascall is both dearer than sugar and for autumn feeding very troublesome to convert into syrup.

We all appreciate, of course, the necessity of some means being taken to treat the sugar so that it cannot be diverted to human use after being purchased for bees. But surely this could be done by some means without making candy of it, and so save much time and labour and also fuel in boiling it down. I think, perhaps, it might be done by treatment with Izal. A very small quantity would make it quite unfit for human use, and at the same time serve as a disinfectant.

If any one can suggest a workable plan perhaps the B.B.K.A. would put it before the proper authorities. It seems wrong altogether, when everything is so difficult, to waste time and money in converting a comparatively cheap food into a dear one, which in its turn, in most cases, requires again time, trouble and expense to reconvert it into a usable article. A quantity of sugar that would fulfil all needs for bees would be so small compared with the quantity required in the whole country as to be almost negligible.—R. B. MANLEY.

## PAINTING INSIDES OF HIVES AND SPACING OF FRAMES.

[9633] I have seen from time to time the suggestion of painting insides of hives. I am up against it, for once painted with oil paint you can never disinfect the hive satisfactorily afterwards, although you may burn the hive with a lamp. Carbolic painting, or anything similar will never penetrate the wood satisfactorily after oil-paint has been used.

Instead of using broad-ends for spacing of the brood combs for wintering, use small blocks of wood, which can be withdrawn in the spring instead of having to lift the frames out to change the ends.—J. PEARMAN, Derby.

## CANDY TURNING SOFT.

[9634] Referring to Mr. Bright's letter (9619) in Feb. 14 BRITISH BEE JOURNAL, I purchased some Pascall candy on March 20 last, and what was not used at once quickly became soft, one or two cakes deliquoring so badly that there was a small pool of syrup at the bottom of the box. And this during summer! On August 30 I purchased some more, and this, what little is left, 8 to 10lb., has kept perfectly hard. I noticed that there was a great difference in texture between the two consignments, the first lot being of very smooth grain, of an almost creamy consistency, whereas the second lot was granular and much harder, more what one has been used to in bee candy. Of course, I am in no way complaining. I am only too thankful to Messrs. Pascall for what they have done for us.—H. W. DALTRY.

[9635] I have read letter No. 9619 with great interest, having had the same experience this winter.

I closed up my hive at the end of October, putting in two 1lb. cakes of Pascall's Bacterol Bee Candy under the quilts.

When I opened the hive a fortnight

ago, to see how the food was lasting, I found that there was still about 1½lb. left, but it was very soft and running down between the frames.

The bees were, however, quite healthy and the coverings quite dry. My stock is not a strong one, being a swarm received at the middle of last July.

There is in this case no question of dead bees being the cause of the candy melting, as they are out flying every mild day just now.

The weather here has been very severe this winter, as much as 12-in. of snow being built up on the roof and alighting board.

Trusting some other member of the craft will be able to explain this trouble, I will look forward to the next few numbers.—H. MALCOLM MACCALLUM.

[The candy will not turn soft unless kept where damp air can get to it.—EDS.]

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### A NOTE FROM ITALY.

[9636] In answer to THE BRITISH BEE JOURNAL. I must say I was very pleased to get it. It has been some little time since I had one; but I have been rather busy otherwise or I would have written before. I have seen very few bees up here as yet; there are plenty south. I may be paying you a visit shortly, as I am expecting leave, when, I just hardly know. We are having some grand weather here; in fact, it has been very nice all winter. I want to procure a hive of bees when I come from "somewhere," as mine are all gone now with the "Isle of Wight" disease. I just want a hive for the old folks to look after, then I may start in earnest after the fun is over. Thanking you very much for THE BRITISH BEE JOURNAL, and wishing all a prosperous season.—W. B. BROWN, Italian Expeditionary Force.

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## Notices to Correspondents

*Correspondents desiring an answer in the next issue should send questions to reach this office NOT LATER than the FIRST POST on MONDAY MORNING. Only SPECIALLY URGENT questions will be replied to by post if a STAMPED addressed envelope is enclosed. All questions must be accompanied by the sender's name and address, not necessarily for publication, but as a guarantee of good faith. There is no fee for answering questions.*

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G. M. R. (Paignton).—*Keeping extracted syrup for autumn feeding.*—The syrup will probably keep if it is boiled after extracting and kept in airtight bottles. You may yet find it useful this spring. Do not add any water if you store it.

W. R. ALLEN (Norwood).—*Making "Baby Nuclei" boxes.*—They are made large enough to take two sections cut down to ⅞in. wide. Ours are 5¼in. deep, 5in. long, and 3⅜in. wide.

J. H. NELSON (Ipswich).—*Using honey for spring feeding.*—Add enough water to make it as thin as the syrup used for spring feeding. Two to three ounces will probably be plenty.

"A LANCS. BEE-KEEPER" (Chorley).—*Becoming immune to stings.*—The number of stings to effect immunity will vary with different individuals, so we cannot say how many you would need. The lotion will make no difference.

"QUEENS" (Nottingham).—*Effects of hybridising.*—(1) The first cross between Italian and Natives are usually gentle. (2) It is usually considered that disposition is inherited from the drone, and working qualities from the queen. (3) Yes.

H. C. G. KELLY (Reading).—From what you say we should judge the bees are suffering from "Isle of Wight" disease. Use one of the advertised remedies, or destroy them.

WM. BOCK (Oswestry).—The queen excluders are often used on a frame and work fairly satisfactorily, but we prefer them without.

E. H. D. (Worcester).—The only remedy is to requeen. Try Italian-Native hybrids. Put the new queen in a cage in the hive about 12 hours after removing the old one.

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QUEEN Bee wanted at once for queenless stock. —State price, age, breed, H. HILL, Belmount, Ockbrook, Derby. c.66

WANTED, work in Apiary by Lady with 10 years' experience, or to take charge of small apiary; willing to help with garden work in spare time. Kindly state salary offered. Box 24, B.B.J. Office, 23, Bedford Street, Strand, W.C.2. c.67

WILL give £4 15s. each for two or three thoroughly strong ten-frame Stocks of Italian Bees for prompt delivery; must be guaranteed healthy; 1917 Queens.—State if have travelling boxes, and full particulars, to Box 25, B.B.J. Office, 23, Bedford Street, Strand, W.C.2. c.68

WANTED, Stock of Bees, Italians, Dutch, Carniolans, or Hybrids; must be strong. Delivery wanted now.—JOHN JAQUES, 66, Grove Road, Wanstead, E.11. c.69

FOR SALE, three Stocks Italian Bees on Lees' Standard Frames, £3 10s.—DR. COMPTON, Harefield, Middlesex. c.70

WANTED, to buy, two healthy Stocks of Bees. —LADY THORNYCROFT, Steyne, Bembridge, Isle of Wight. c.71

WANTED, good breech-loader Gun, 12 bore, left full choke; exchange healthy Dutch Bees.—GARNER, Wymondham. c.72

WANTED, good Stock Dutch Bees for delivery end of April.—Write, MISS WINTLE, Vicarage, Heversham, near Milnthorpe, Westmorland. c.73

THREE Stocks of healthy Bees for sale, £4 10s. per stock.—Can be seen at any time at Dancers Hill Farm House, Barnet. c.75

FOR SALE, two 10-bar Hives, in good order, with super filled with section boxes, zinc queen excluder, and quilts; cheap before removal. What offers?—BAIRD, Columba Road, Blackhall, Edinburgh. c.74

TO RECAPITULATE.—We have said, "Save your good combs diseased bees have died on." We have used such for two years without any harm resulting. When the D.B. Apiary is in shape we will ask you to bring along your diseased stocks and put them on top of our best stocks. In two weeks you may take them away, healed and immune for all summer. 1d. of Flavine will give the same results at home. Stamped, addressed envelope brings a circular.—S. H. SMITH, 30, Maid's Causeway, Cambridge. c.76

BEES.—Wanted six good, strong, healthy Stocks.—Price and race to GOLDEN, Leire, Lutterworth, Leics. c.77

FOR SALE, two new 10 Standard Frame Hives, and lifts, painted, unused, 25s. each.—W. WOODS, Normandy, Guildford. c.79

WANTED, Turkey Eggs, first week in April.—Crosby Croft, Latchingdon, Essex. c.80

FOR SALE, or exchange for poultry, ducks, or day-old ditto, a number of Hives in good condition. Full particulars posted on request.—AVERY, Deverill, Warminster. c.44

WANTED, for experimental purposes, few Frames, clean brood comb from stocks dead of "Isle of Wight" disease; 6s. dozen given.—Box 23, BEE JOURNAL Office, 23, Bedford Street, Strand, W.C.2. c.45

CAN spare two Strong Stocks, guaranteed healthy, delivery April-May, in supering condition, with good Hives and lifts included at £6 10s. each, f.o.r.—B. McCOY, 158, Patrick Street, Grimsby. c.50

WANTED, W.B.C. Hive, also Conqueror Hive. —W. WATTS, Castle Hill House, Bodmin. c.51

£4 10s. offered for two strong Stocks of healthy Bees in Skeps, carrying pollen in; travelling crates sent.—LOXLEY, Northfield, Birmingham. c.52

WANTED, three Stocks of healthy Bees on frames.—DR. BARFORD, Selsey, Sussex. c.53

£4 10s. given for a few good ten-frame Stocks of healthy Italian Bees; 1917 fertile Queens an advantage; end of April delivery.—Box 18, B.B.J. Office, 23, Bedford Street, Strand, W.C.2. c.22

HONEY Extractor wanted, geared preferred, in good condition.—CLAYTON, Rowley Road, Dudley. c.26

WANTED, strong stocks of Bees; guaranteed healthy; price moderate. — MEGGITT, Bramhall, Stockport. c.30

HANDS wanted, with slight knowledge of carpentry, for making bee-hive parts.—E. H. TAYLOR, Welwyn, Herts. c.40

FOR SALE, property of deceased bee-keeper, 5 10-frame W.B.C. pattern joiner-made Hives, constructed of very stout material, will last two life times, lifts with each to take two supers; one shallow frame, super with each, calico and zinc covered roofs, 35s. each; 90 drawn shallow combs, wired 17 ins. ordinary top bars, 9d. each; 17 ditto wide, 15 ins. top bars, 9d. each; nine ditto, Abbott's patent, top bars, 9d. each; seven with odd top bars, 6d. each; eight ordinary, 17 ins. top bar, shallow frames filled with wired foundation, 6d. each. Carriage extra for all but hives must be sent. No metal ends.—Box 17, BEE JOURNAL Office, 23, Bedford Street, Strand, W.C.2. c.3

## BUSINESS ADVERTISEMENTS.

COMFORTABLE APARTMENTS for Brother Bee-keepers visiting Douglas. Terms: Tea, bed, and breakfast, 3s. 6d.; or full board, 6s. per day.—HORSLEY'S, Merridale House, top of Castle Drive, Douglas, Isle of Man.

STRICTLY BUSINESS.—Flavine Candy is made by Pascall in 32lb. lots only, purchaser supplying the Flavine, instructions, and a statement that he orders on his own responsibility. We will supply the Flavine for 32lbs. (one boiling) for 1s., post paid. Our D.B. Booklet and eight packages Flavine 1s., post paid. The Sprayer and above combination 5s. 6d., post paid. Your money back if you don't like it.—S. H. SMITH, 30, Maid's Causeway, Cambridge. c.78

**HONEY AND BEESWAX PURCHASED.**
Run Honey in bulk. Sections per gross.
**HONEY FOR SALE.**
Cuban, Californian, English, Irish.
Free tins and cases, carriage paid. Cash with order. Samples, 3d. Prices on application.
**A. GORDON ROWE, 28a, Moy Road, Cardiff.**

# BURTT, Gloucester, FOR BEE APPLIANCES.

*ILLUSTRATED CATALOGUE FREE ON APPLICATION*


## SEASONABLE HINTS.

When bees are noticed to be carrying in pollen it may, as a rule, be assumed that the queen is all right, though at times even a queenless stock will carry pollen into the hive. Where no pollen is being carried in, and the bees do not work with vigour, an examination should be made on a mild day, and search made for the queen, or evidence of her presence in the shape of eggs and brood in various stages. If none of these are found, and there is food in the combs, the colony is most likely queenless, and should be united to a colony having a queen; weak colonies, also, are better united, one queen should be removed, and the one left be caged for 24 hours; the deposed queen may be sold, or introduced to a queenless colony that is strong in bees. The two colonies to be united should be side by side, within a yard of each other. If they are far apart each one may be moved a yard nearer the other each day bees are flying, until they are close enough together. Take out from the hive that is to be left all combs not occupied by bees, and spread the others so that there is room to insert another comb between each one. Having removed one queen and caged the other, sprinkle all the bees, on both sides of the comb, with flour, ordinary household flour or pea flour may be used, but dust them thoroughly; then lift combs and bees out of the hive to be removed and place them in the spaces left between those in the other hive, close up, cover down, and do not disturb them for 24 hours, when the queen may be liberated.

Spring cleaning may be proceeded with on mild days, scrape all propolis and bits of comb from the frames and sides of the hive, discarding any old, damaged, or misshapen combs, or those containing too much drone comb. As the bees need more room give frames of comb, or foundation, placing them next to, and outside, one of the combs of brood. Do not attempt to "spread" the brood by inserting empty comb or foundation in the middle of the combs of brood so early in the season. If the bees have a supply of food and are warmly covered they will spread the brood as fast as they can care for it, and keep it warm.

The handiest method of spring cleaning is to transfer the bees into a clean hive, but care should be taken not to lose the queen. It is advisable to see her if possible, but do not expose the brood too long, or it may be chilled. If there is more than one hive to be cleaned, the hive from which the bees have been moved may be cleaned out and the next colony put into it, and so on until all are done.

In the fruit districts, colonies that are covering eight or nine combs may be supered as soon as the fruit bloom is out. The supers must be well wrapped to conserve heat as much as possible, and if the hives are exposed it will be an advantage to rig up something to break the cold northerly or easterly winds.

Slow feeding should be continued when necessary until there is more forage and the weather is more favourable.

## BRITISH BEEKEEPERS' ASSOCIATION.

### LECTURES AT GOLDERS HILL PARK.

A special course of six lectures on beekeeping will be given in the British Beekeepers' Association's Apiary, London County Council Park, Golders Hill, London, N.W., on Fridays, April 12, 19, 26, May 3, 10, and 17, 1918, at 6 o'clock each evening.

Those desiring to attend these lectures must make application at once for enrolment and particulars to,

W. HERROD-HEMPSALL,
Secretary,
23, Bedford Street,
Strand, London, W.C.2.

There will also be a popular free lecture on each of the above dates at 3 p.m., to which anyone will be welcome.

### ANNUAL MEETING.

The forty-fourth annual meeting of the Association was held in the Council Room, 23, Bedford Street, Strand, London, W.C., on Thursday, March 21, 1918.

Mr. W. F. Reid presided, and there was a good attendance of members. The minutes of the annual meeting held March 15, 1917, were read and confirmed.

A number of letters expressing regret at inability to attended were read.

In presenting the report the Chairman said:—

It was satisfactory to note that in spite of the troublous times the membership had increased considerably. The matter of sugar for feeding bees and the obtaining of sections for supering was not yet settled in detail.

A deputation with regard to obtaining control of diseased bees and appliances, had waited upon the President of the Board of Agriculture, the Rt. Hon. R. E. Prothero, and although very sympathetic towards the matter that gentleman was unable at the present busy time to do anything in it.

The Council and representatives of Associations had been unremitting in their attendances at meetings and the work of the Association.

With regard to the financial position reference to the balance sheet would show that they were in a sound position in this direction. The secret of success was sound finance, and it was to be hoped that the coming year would be more successful than the one just passed.

The candidates obtaining certificates of proficiency were again numerous, indicating the success of the Association's educational work.

He moved that the report and balance sheet as printed be adopted. Mr. C. L. M. Eales seconded, and it was carried unanimously.

Mr. P. A. Cragg proposed, and Mr. Breach seconded, a hearty vote of thanks to the retiring Council and officers for the arduous labour given; this was carried unanimously.

The Chairman replied, saying that they were looking forward to a good time shortly.

The Vice-Presidents, hon members and corresponding members, hon. treasurer, auditor and solicitor were elected *en bloc* as last year.

A special vote of thanks was passed to the hon. auditor, Mr. G. H. Sanders, for the great help rendered.

The Council for 1918 were elected *en bloc* as 1917, with the addition of Mr. F. W. Watts in place of the late General Sir Stanley Edwards.

A discussion *re* prices of honey took place, and the meeting expressed the view that the following would be a fair minimum price retail for the 1918 crop of first-class honey:—Sections 3s. each, 1 lb. jars 2s. 6d. each.

Mr. Lamb said that he thought the meeting should not close without a very hearty vote of thanks being passed to Mr. W. F. Reid and Mr. J. Herrod-Hempsall. Members were quite unaware of the vast amount of work accomplished by the former in seeing officials, attending special committee meetings, drafting schemes which entailed a great deal of writing. Bee-keepers were also indebted to the Manager of the British Bee Journal, Mr. J. Herrod-Hempsall, for obtaining candy for bee feeding; although they might disagree with the Government's method of dealing with the matter, and the price charged, that was not his fault. The candy had been obtained, and there was no doubt it was the means of saving thousands of stocks of bees. Mr. Eales, in seconding, made complimentary remarks with regard to the work of the two gentlemen named. The resolution was put to the meeting by Mr. Lamb and carried unanimously.

Mr. Reid replied, giving thanks for the kind appreciation for work done; they were all out to carry on until better times arrived.

This concluded the business of the meeting.

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MONTHLY MEETING OF COUNCIL.

The monthly meeting was held immediately after the annual meeting on Thursday, March 21st, 1918.

Mr. W. F. Reid presided, and there were also present Miss M. D. Sillar, Messrs. W. H. Simms, C. L. M. Eales, A. G. Pugh, G. Bryden, T. Bevan, F. W. Watts, J. Herrod-Hempsall, G. W. Judge, and the Secretary (W. Herrod-Hempsall).

Letters of regret at inability to attend were read from Messrs. T. W. Cowan, F. W. Harper, G. R. Alder, A. Richards, and G. S. Faunch.

Mr. Reid, in proposing the election of Mr. T. W. Cowan as Chairman of the Council, paid a glowing tribute to the great services rendered by that gentleman to the Association and to bee-keeping generally. The election was carried with applause.

Mr. Eales proposed, and Mr. Pugh seconded, the election of the Vice-Chairman, Mr. W. F. Reid, and both expressed the deep debt of gratitude of the Council for the sterling hard work done by the Vice-chairman for the Association. The election was carried also with applause.

The rest of the committees were elected as last year, with the exception of Mr. G. W. Judge, resigned from the Finance Committee, his place being filled by the election of Mr. F. W. Watts.

The minutes of Council meeting held on February 21, 1918, were read and confirmed.

The following new members were elected:—Mrs. P. Aitkens, Mrs. A. F. Cameron Wilson, Messrs. C. F. Worters, J. J. Kettle, L. H. Wraith, J. Thorn, J. E. Seaton, W. Richards, A. J. Marshall, W. J. Genna, C. R. Chick Beadle, J. G. Bale, and O. M. Brown.

The following Associations nominated representatives on the Council, and all were accepted:—Kent, Capt. C. C. Lord; Gloucester, G. Thomas; Somerset, Col. H. F. Jolly; Derby, G. F. Pallett; Notts, G. Hayes; Bucks, Rev. T. E. Peters; Lancashire, F. H. Taylor; Essex, J. Rae.

The report of the Finance Committee was presented by Mr. J. Smallwood, who stated that payments into the bank for February amounted to £25 11s. 5d. The bank balance on March 1 was £132 1s. 1d. Payments amounting to £47 7s. 6d. were recommended.

Resolutions in favour of the standardisation of hives were received from the Nottinghamshire and Lancashire Associations.

Council meetings for 1918 were fixed for the third Thursday in each month, except August, when there will be no meeting.

Next meeting of Council, April 18, 1918, at 23, Bedford Street, Strand, W.C.2.

## A DORSET YARN.

A week of variable weather. Sunday, fine and warm, bees were having a fine time, working with that feverish haste that the bee-man likes to see. The rate they are carrying in pollen shows that the queen is laying freely, and there are plenty of young to feed; they have had a great harvest from the willows. Peaches are in flower in great abundance; Prince of Wales plums and the blue native ones of Dorset are one sheet of white; last, but not least, they have found some of the gooseberries open; even on the cold, windy days that followed the warm Sunday they were to be seen on the gooseberries at some time in the day (I think a lot of these bushes for bees). When in the fields on Good Friday afternoon I noticed bees were out and working zealously.

Some visitors from one of the great dairies in Bournemouth were over. I took the opportunity of showing them the sections. Plenty of them had the shiny nectar in them; they said that they would tell the buyers they had seen the sections nearly full (they were drawn out ones that were not filled last season). The bees had gathered some off the willow blossom, and were carrying in the pollen on their baskets. When shown this the visitors said they would not gather more of the willow palms, they did not like to rob the bees; they gathered the daffodils in the meadow instead to take back as a memento of their visit to the farm. They had never noticed the difference in the sexes of willows before; some of the hedgerows were almost entirely females, the pollen-bearing ones were very few. They admitted they had learned a lesson in natural history.

There were plenty of hazel catkins, and the crimson stigmas of the female flowers are still to be seen; all shows how wonderful everything in Nature is, nothing left to chance. The sharp frost browned off the earliest male flowers, but others, which had not opened early, were now yellow with pollen for the winds of March to blow upon the late crimson stigmas of the seed-bearing ones.

In one cottage garden just now is a fine plant of Cydonia, up to 1 ft. high, and covered with rosy crimson flowers. Many of our Dorset cottages have these beautiful plants; their big apple-like flowers last a good time. I have seen them flower very early in the year when on a wall.

Our bees do not work the daffs. much; I do not know if they are distasteful to them, or whether the great wealth of gooseberries that is in the next field entices them away.

The bumble bees are on the peaches at 7 and 8 o'clock in the morning, and as late as 7 in the evening they are still searching for food.

Work on the land now is all hurry. Acres of potatoes were put in this week, women and boys did the planting, the main crops were Arran Chief and Golden Wonder, the early ones, Sharpe's Express and May Queen; we do not grow too many varieties, but what gives good quality as well as quantity. We believe in early planting; we got some in during February between the lines of young apple trees. Each year we try a new sort; but if it does not come up to the others in worth we do not extend it.—J. J. KETTLE.

A misprint occurred in the quotation from Burns in last week's yarn. It should read—

"It's a' for the apples he'll nourish the tree." —J. J. K.

## THE SUBURBAN BEE GARDEN.

On reading over my notes of January 27 in the B.B.J., dated February 21, I offered my thanks in thought to the editor for remembering to insert the date when they were written, and was also struck by the rapidity with which the time had passed.

As the circulation of the JOURNAL extends over the whole of the British Isles, with its varied temperatures and seasons, it is due to my readers to explain where the particular suburb from whence these notes emanate is situated. Well, we are about fourteen miles south-west of that hive of industry known as the BRITISH BEE JOURNAL office off the Strand; it is one of the high spots outside the hills which encircle London on the south-east and south-west, from which it is separated by the valley of Mitcham, celebrated for its famous lavender and peppermint distilleries, and when we first settled at Carshalton, a good many years ago now, many acres of the rather lightish loam found over the chalk bed of this neighbourhood were covered with these two crops.

The enormous variety of foliage, both of large trees, flowering shrubs, and plants of every description, which is found upon this chalky soil, is known to everyone, and before the houses came to replace the field crops I used to have fine takes of honey in quite average years. Of more recent years, however, what with ardent residents and a too enthusiastic District Council

the beauties and advantages of the spot have been so advertised that the jerry builder could not fail to hear of them, and he has been followed by hosts of city toilers, until here am I, who have never moved for a decade and a half, writing from what once was more like a country cottage, under the heading of a Suburban Bee Garden.

The earliness of this soil and situation must be realised in order to understand my notes. Crocuses are over here—and I have many hundreds in the garden—while in the clay valleys nearer London they have hardly shown themselves, despite the warmth of January. Over a week ago (February 25) my little girl returned from school with some sprigs of willow catkins to show me, while, top of the avenue of elms which my garden abuts on to, which is separated from the back of my hives by a high stone wall, is a dark reddish colour, indicative of the return of the sap to the extremities of the new-formed leaf buds. Yet nothing is visible to the eye, save that colour change from winter brown and seeming death to the dull-red fringe indicative of hope and the promise of the future.

All these changes in the foliage and the flowers should be carefully observed by every beekeeper, for the changes he sees there are only parts of those which are running throughout all nature, and he must learn to read them, for they should indicate to him by a very natural sequence of thought, which, if analysed, might be set out somewhat as follows:—

The sap is running up into the extreme branches of the trees; the stir of a new movement is evident there; the crocuses are pushing out and opening their florets to the fertilising visits of the bees; life is re-starting there. My bees must then be on the move also. Eggs are being laid and grubs hatched, so that stores are being consumed. I must look into this, and on the first fine day go into the apiary with my hive records and candy box and make sure there is enough food to meet the extra demand this new-born effort is evidently calling for.

A carefully kept record book and an observant eye on surrounding nature will save the bee man an endless amount of trouble and the bees a great deal of harmful excitement, for in time these outside things come to tell us all about the inside of the hive and its requirements, just as clearly as an examination of the combs would do, and then you, whose queens have been balled by too early manipulations in the spring would never know what it is to lose a queen at all. When I want to know something about the inside of my hives I take a circumambient walk round them at a radius of about three-quarters of a mile, and I come home with all the knowledge I want, for this, plus hours when flight is possible, enables us to arrive at what we want to know.

February fill dyke has come and gone, with hardly a spot of rain. It has been a comparatively uneventful month. There has been practically no rain and, generally speaking, never very cold nor too warm, with just sufficient of those warm days which enable the cluster to move to the more plentiful supply of food. Look out this present month for starvation, for consumption will now have started in earnest, and a continuous spell of warmth makes a great inroad into somewhat meagre stores. When this gets into the JOURNAL it will be time for spring cleaning in all probability, and I think, from what I saw last year, that readers should be warned not to forget all about foul brood in their concern about "Isle of Wight" disease, or they may be in serious trouble. I use Herrod's Apicine in all my hives, and am always very careful to put it in early in the spring, when breeding commences, which often means prevention, which is so much better than cure. In March, also, we take an early opportunity when this fine spell comes, of moving our frames up together again—they being all fitted with W.B.C. metal ends and having been spaced out in the autumn—our theory being that the conservation of heat is most important now, and, if not already done, add further warm wraps above.

I am finishing this off on the first day of March, which has come in like a lion with a biting east wind driving sleet before it; but there is mercy in its wings, for it is holding back the too forward blossom for the time when all nature will be more kind and receptive towards it, and although we may not wish to see spring delayed this year as it was in 1917, we shall never forget the wonderful fruit crop which resulted from the general retardation and simultaneous blossoming, causing, I believe, both pollen and stamen in many generally self-sterile varieties of fruit to be ripe together and for that season, at any rate, to become self fertile. I have a pear tree, purchased many years ago, from an *un*reliable small practitioner in this neighbourhood, under the name of Jargonelle, but I was had, not for the first and, no doubt, not for the last time. It has generally produced a small crop of fair-sized fruit: last season the crop was not large, but all the fruit very small, with no flavour, and I can only attribute this to self-fertilisation having been possible, owing to this retardation and sudden simultaneous ripening of all blossom; perhaps our fruit experts will supply some ideas on this question.

ARNOLD RICHARDS.

## KENT BEE-KEEPERS' ASSOCIATION.

*Hon. Sec., Geo. W. Judge, Barrowdene, Shepherd's Lane, Dartford.*

NOTICES, APRIL, 1918.

The war renders it incumbent upon bee-keepers to do the utmost with their bees. Neglect is to-day an offence against the nation. Remember, the Association is always ready to give advice, do not hesitate to ask.

April 5th (Friday), 7.30. Gillingham, Y.M.C.A. Hut. Lecture by Mr. W. Herrod-Hempsall. Subject: "Bee-keeping for Discharged Service Men."

April 6th (Saturday), 7 p.m. Rochester, The Guildhall. Lantern Lecture by Mr. W. Herrod-Hempsall. Subject: "Productive Bee-keeping."

April 6th (Saturday), 3.15. Orpington, Chislehurst Road Schools. Frame building demonstration, etc., etc., by Mr. W. H. J. Prior.

April 9th (Tuesday), 8 p.m. Gravesend, Milton Barracks (permission Col. Grantham). Lantern Lecture, Capt. C. C. Lord, "Some Interesting Facts about Bees."

April 10th (Wednesday). 7.30. Belvedere, All Saints Parish Room. Lecture by Capt. C. C. Lord, R.A.M.C. "Interesting Aspects of Bee Life."

April 13th (Saturday), 6.30. New Eltham, Blenheim, Main Road. Lecture by Mr. F. C. Hodgson. Subject: "Work of the Coming Season."

Additional meetings arranged during month will be advised locally.

## BEE-KEEPING IN SOUTH STAFFORDSHIRE.

Mr. C. W. Tilley, an energetic local secretary of the South Staffordshire B.K.A., residing at Witton, has shown what can be done to stimulate bee-keeping among the residents of towns.

Formerly a bee-keeper in Gloucestershire, but selling up on being called to the Army, he, on his discharge, was sent to work on munitions at Kynocks' ammunition factory close to Birmingham.

During last summer his little daughter came with the news that a swarm of bees was on a house in an adjoining street.

Being most eager to get them, he did so quite successfully during the dinner hour, to the amazement of his fellow workers who were gazing on.

On his return to the workshop it was all bees, bullets being laid aside for the moment, and bees his comrades would have, cost what they may.

The "bee fever" spread rapidly, and eventually Mr. Price, hon secretary of South Staffordshire B.K.A., was consulted, the result being that a demonstration was given in September last in an apiary comprising one stock only. However, fifteen persons attended, and questioned the demonstrator with a deluge of queries, that were readily answered.

Shortly afterwards the managers of Kynochs, Ltd., were consulted, and provided the use of a room for a course of lantern lectures, which Mr. Price kindly gave gratis, the result being a considerable addition to the membership of the South Staffordshire B.K.A.

Mr. Tilley has on several occasions during the winter given most instructive lessons on appliances, etc., and other members of the South Staffs. have also given valuable services to the Branch.

The result of all this is that a Bee Club has been formed, called the "Lion Works Bee-keepers' Co-operative Society," for the purpose of purchasing bees and appliances for its shareholders, and up to date considerably over £40 worth has been bought and distributed.

It is a rule of this Bee Club that all its members possessing bees shall be members of the South Staffordshire B.K.A., from which it has derived so much valuable assistance.

A plot of land has been secured as a common apiary, for educational purposes, until all its members are fully acquainted with the use of appliances.

All are now looking forward to the spring, and are hoping to get a good summer and a good harvest of honey, which will repay them for some of their outlay.

The South Staffordshire Association is very proud of this young child, and its members are all prepared to give it all the assistance they can.—*Communicated.*

## A PRISONER OF WAR.

The following cutting from a Gloucestershire paper will interest our readers. Mr. Desmond is well known as a regular contributor to our pages before the war:—

Pte. G. G. Desmond is still solacing himself with "treacle duff" and other German dainties in his Westphalian home of detention. There is no word of complaint in his letters, but as time goes on he evidently feels impelled to extend his studies, for writing home he says:—"We get a few Italians in our group sometimes, and I shall have to learn another language. Man opposite me is learning Chinese while I write. I almost wish I had my Russian grammar, but I don't suppose this tomfoolery will last much longer." He says, "About the youngest man in the Army belongs to the 4th Gloucesters. His name is Thorne, and is even now less than 16. So we two

Gloucesters would make a good group of the old and the young of it." In another letter the writer says, "I get a walk up and down with the sergeant-major and the padre every morning, and it does me good." Of course, but how he must long for a swinging tramp over the Cotswolds in pursuit of his favourite studies and hobbies. He says he has written a sketch for the "Gaff"—the Camp theatrical show—which has been promised production. There are nine Partridges imprisoned in Germany, but, adds Pte. Desmond, "none from Sheepscombe." Evidently they were stronger on the wing that the nine unfortunates, which may be due to Cotswold air or Gloucestershire stamina, or both.

## THE GERMAN BEE-KEEPING INDUSTRY.

The German bee-keeping industry dates back to the beginning of the thirteenth century, and at that time was especially important around the city of Nuremberg, where there were large forests and tracts of heather and cranberry bushes which were considered ideal for bee-keeping. During the thirteenth century the "Imperial Bee Garden" was established at Erlangen.

The gathering of honey was at first confined wholly to the wild product found in the forests, but as the industry gained in importance hives of various kinds were constructed and put into use, and bees gradually became domesticated. About the year 1300 there were ninety-two bee farms in and around twenty-seven villages in the neighbourhood of Nuremberg. Bee-keepers were under the protection of the law, and had to pay a special money tax to the authorities or its equivalent in honey.

Bee-keeping was especially important as honey was the only sweetening stuff. Besides wine, sour honey water, called "met," was much in favour, and was exported to Constantinople and Palestine. Beeswax was the only material used for making candles for the church. It was also used for wax writing tablets, plasters, etc. A swarm of bees commanded a high price at that time, as it is known from an ancient document that a beehive was sold for three gulden while a cow cost only five gulden.

Later, about the middle of the sixteenth century, with the clearing of the forests and the cutting up of the wooded tracts into farms, bee-keeping began to lose its importance as an industry. Honey was imported from abroad, "met" was replaced by beer (the districts of important "met" production became the centres for beer-brewing), and other sweetening stuffs, such as cane sugar, were introduced.

It is estimated that the present yearly production of honey and wax in Germany has a value of £1,000,000 to £1,400,000. The following table shows the number of beehives and their value, according to the census of December 2nd, 1912 :—

| Districts. | Number. | Value. |
|---|---|---|
| | | £ |
| Silesia .. .. .. | 188,169 | 232,800 |
| Prussia .. .. .. | 1,509,586 | 1,383,100 |
| Total for all Germany . | 2,636,337 | 3,180,000 |

According to the *Statistische Jahrbuch für den Preussischen Staat*, published in 1915, £1,200 was transferred from the general fund for the promotion of agriculture to the Silesian bee-keepers in 1913, as against £2,100 to East Prussia and £40 to the Rhine Province.

German apiarists keep their bees in wooden hives of different kinds. The enlargeable wooden hive with movable combs and separate parts for breeding and storing purposes are preferred now. To make bee-keeping more profitable, reports the late United States Vice-Consul at Breslau, it has been suggested that bee-keepers travel with their hives to districts of good meadows and few bees. Cheap freight rates are granted to apiarists, and it is known that every year about 375,000 beehives are transported in special trains to the heaths near Luneberg and Oldenburg.

Special "wandering carts" have been invented which have a row of hives on either side, the space in the middle of the cart being used to store separators and other necessary equipment. These carts are mounted on four wheels and are drawn by men or horses.

Bee-keepers complain of the competition of cheap foreign honey, artificial honey, and honey powders, which are sold at very low prices. (At the present time about 200 factories are manufacturing artificial honey and honey powders in Germany.)

The bee-keepers have their own societies throughout the country and hold regular meetings. In 1914 it was decided to unite all societies in one large union, with branches throughout Germany. The general union has suggested that a law be enacted which protects bee-keepers against the competition of foreign honey of inferior quality. They also want to propose a law against "foul brood," such as already exists in some other countries.

For the benefit of bee-keepers the society established a bee garden at Koenigsberg,

East Prussia, with the assistance of the Government. This garden serves also for experimenting.

There are insurance companies for the bee-keepers, one of which is very popular in North and Middle Germany. Beehives are insured at three pfennigs per hive per year.

The following table shows the quantity of honey and artificial honey imported into Germany during the first six months of 1913 and 1914, and the chief supplying countries :—

| Imported from | January to June. | |
|---|---|---|
| | 1913. | 1914. |
| | Lb. | Lb. |
| United States .. .. | 499,082 | 406,756 |
| Hawaii .. .. .. | 337,748 | 210,762 |
| France .. .. .. | 358,030 | 212,084 |
| British West Indies .. | 210,762 | 266,098 |
| Chile .. .. .. | 579,154 | 647,498 |
| Cuba .. .. .. | 1,477,538 | 1,699,323 |
| Dominican Republic .. | 197,965 | 229,281 |
| Mexico .. .. .. | 294,758 | 276,459 |
| Haiti .. .. .. | 269,184 | 528,017 |
| Other countries .. .. | 199,509 | 408,237 |
| Total quantity imported | 4,373,730 | 4,884,515 |
| Total value .. .. | £55,300 | £61,800 |

Exports of German honey and artificial honey amounted to 2,615,100lb. in the first six months of 1913, and to 2,445,124lb. in January to June, 1914.

The exports of German wax and empty combs—which went mainly to Austria-Hungary and Russia—totalled 1,637,373lb. and 2,456,368lb. during the first six months of 1913 and 1914 respectively.

The following table shows the imports into Germany of the crude wax of bees and other insects, and of combs without honey during the first half of 1913 and 1914, and the principal countries of origin :—

| Imported from | January to June. | |
|---|---|---|
| | 1913. | 1914. |
| | Lb. | Lb. |
| France .. .. .. | 54,013 | 50,486 |
| Great Britain .. .. | 60,848 | 14,550 |
| Italy .. .. .. | 126,766 | 66,800 |
| Netherlands .. .. | 18,298 | 14,330 |
| Austria-Hungary .. | 36,817 | 74,296 |
| Portugal .. .. .. | 144,844 | 309,308 |
| Spain .. .. .. | 108,027 | 129,191 |
| Turkey .. .. .. | 55,777 | 84,437 |
| Abyssinia .. .. | 285,058 | 412,044 |
| British East Africa .. | 56,659 | 35,054 |
| German East Africa .. | 204,809 | 317,245 |
| Madagascar .. .. | 233,469 | 358,912 |
| Morocco .. .. .. | 80,248 | 93,917 |
| Portuguese East Africa .. | 138,891 | 145,726 |
| Portuguese West Africa .. | 111,994 | 153,442 |
| British India .. .. | 231,926 | 311,513 |
| Brazil .. .. .. | 66,359 | 138,009 |
| Chile .. .. .. | 72,532 | 19,842 |
| Cuba .. .. .. | 209,219 | 149,253 |
| Dominican Republic .. | 205,471 | 153,883 |
| Total quantity imported | 2,545,875 | 3,219,608 |
| Total value .. .. | £170,600 | £215,700 |

Honey imported in beehives with living bees—brought chiefly from the Netherlands—amounted to 6,393lb. in the first six months of 1913, and to 19,180lb. during the like period of 1914.

There are numerous ways of separating the honey from the comb, but the centrifugal process is considered the most satisfactory and practical, as the honey won by this method is pure, being free from other ingredients, and the empty combs with the frames may be used again. This particular honey is known as "Schleuderhonig," and ordinarily retails at a shilling a lb.

The present price of honey is about 3s. a lb. This extraordinary increase in price is mainly due to the very poor honey harvest of the spring and summer of 1915 and 1916, and to a falling-off in imports. —From the *Journal of the Royal Society of Arts.*

## Notices to Correspondents

***Correspondents desiring an answer in the next issue should send questions to reach this office NOT LATER than the FIRST POST on MONDAY MORNING. Only SPECIALLY URGENT questions will be replied to by post if a STAMPED addressed envelope is enclosed. All questions must be accompanied by the sender's name and address, not necessarily for publication, but as a guarantee of good faith. There is no fee for answering questions.***

T Bain (Stirling).—Native brown bee.

*Suspected Disease.*

"Bee" (Montgomery).—Nos. 1 and 2 died from "Isle of Wight" disease. We do not find disease in No. 3.

G. A. J. (Wilts).—The bees are suffering from "Isle of Wight" disease. Continue the treatment given, and also clean out and disinfect inside of hive as soon as practicable.

J. D. Newman (Devon).—The cause of death was "Isle of Wight" disease. No variety of bee is immune from the disease. You will not get any better than those you had, a cross between Italian and Native.

G. Henderson (Beal).—Bees died from "Isle of Wight" disease. We can supply "The Bee-keepers' Practical Note Book" for 1s. 1d., post free.

Burton Joyce (Notts).—"Isle of Wight" disease was the cause of death. The soiling outside the other hive may have been done by bees from the diseased colony. Wash it off with disinfectant and water, and treat the bees with one of the advertised remedies.

F. Shackleton (Goole), Miss S. Fox (Newnham), Mrs. Barnes (Melton Mowbray), R. W. Rowland (Evesham), W. Rickard (Nelson), G. Soper (Herts).—The cause of death was "Isle of Wight" disease.

M. Arnold (King's Langley).—We do not find disease in the bees sent.

## Special Prepaid Advertisements.

**Two Words One Penny, minimum Sixpence.**

*Will advertisers please read these Rules carefully in order to save trouble, as they will in future be strictly adhered to.*

**Trade** *advertisement of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at* 1d. *per word as* **"Business"** *Announcements,* immediately under the *Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of* 3s. *per* ¼*in., or* 5s. *per inch.*

*PRIVATE ADVERTISEMENTS are only intended for readers having* **Surplus Stock** *to dispose of.* **Driven Bees, Nuclei,** *and* **Queens that are reared or imported for sale,** *are Trade Advertisements, and can only be accepted under trade terms. A charge of* 6d. *extra will be made if a box number is used.*

*Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.*

*Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.*

### PRIVATE ADVERTISEMENTS.

PRACTICAL Instruction wanted in Bee-keeping, Poultry-keeping, Fruit and Vegetable Growing.—Box 26, BRITISH BEE JOURNAL Office, 23, Bedford Street, Strand, W.C.2. d.1

WANTED, by wounded soldier, few Stocks of Bees; Dutch or Italian preferred.—Price to R. FLINTOFF, Carburton, Ollerton, Notts. d.2

WANTED, one Stock healthy Bees.—Write, stating price, MARK POORE, ESQ., Greenwich, S.E. d.3

WANTED, two Swarms.—Particulars to WM. WHITLAM, 9, The Grove, Normanton, Yorks. d.4

FIFTY-EIGHT lbs. prime English Honey, granulated solid, 2s. 6d. lb.—VINCENT, 152, Croydon Road, Anerley, S.E.20. d.5

CARNIOLAN Queens, 1918, fertile, four wanted, early in May; guaranteed pure, and from healthy stock. Price moderate.—J. M. BONNYMAN, Clochan, Portgordon. d.6

WANTED, a Queen Bee. State price.—J. CLAPP, Durlston, Salisbury Road, Horsham. d.7

"HE who knows, and knows that he knows, is a wise man: follow him!" John W. Moir, Esq., three times Chairman of the Scottish Bee-keepers' Association, writes us under date of March 26: "I have tried Flavine, and I recommend it."—S. H. SMITH, 30, Maid's Causeway, Cambridge. d.8

FOR SALE, a few Section Racks, complete, as new, 2s. each.—W. WOODLEY, Beedon, Newbury. d.9

WANTED, immediately, Queen; Italian or Carniolan preferred.—58, Cromwell Road, Beckenham. d.10

WANTED, healthy Stocks of Bees.—PRYOR, Breachwood Green. c.62

WANTED, two early Swarms; price, carriage paid. Deposit.—FRED GILLETT, Lambourn, Berks. c.64

SELL, moderate price, few sound, clean W.B.C. Hives and parts thereof.—Particulars, T. ATKINS, Ripple, Tewkesbury. c.65

WANTED, work in Apiary by Lady with 10 years' experience, or to take charge of small apiary; willing to help with garden work in spare time. Kindly state salary offered.—Box 24, B.B.J. Office, 23, Bedford Street, Strand, W.C.2. c.67

WILL give £4 15s. each for two or three thoroughly strong ten-frame Stocks of Italian Bees for prompt delivery; must be guaranteed healthy; 1917 Queens.—State if have travelling boxes, and full particulars, to Box 25, B.B.J. Office, 23, Bedford Street, Strand, W.C.2. c.68

WANTED, to buy, two healthy Stocks of Bees.—LADY THORNYCROFT, Steyne, Bembridge, Isle of Wight. c.71

WANTED, good Stock Dutch Bees for delivery end of April.—Write, MISS WINTLE, Vicarage, Heversham, near Milnthorpe, Westmorland. c.73

WANTED, three Stocks of healthy Bees on frames.—DR. BARFORD, Selsey, Sussex. c.53

WANTED, strong stocks of Bees; guaranteed healthy; price moderate. — MEGGITT, Bramhall, Stockport. c.30

FOR SALE, property of deceased bee-keeper, 4 10-frame W.B.C. pattern joiner-made Hives, constructed of very stout material, will last two life times, lifts with each to take two supers; one shallow frame, super with each, calico and zinc covered roofs, 35s. each; 53 drawn shallow combs, wired 17 ins. ordinary top bars, 9d. each. Carriage extra for all but hives must be sent. No metal ends.—Box 17, BEE JOURNAL Office, 23, Bedford Street, Strand, W.C.2. c.8

### BUSINESS ADVERTISEMENTS.

COMFORTABLE APARTMENTS for Brother Bee-keepers visiting Douglas. Terms: Tea, bed, and breakfast, 3s. 6d.; or full board, 6s. per day.—HORSLEY'S, Merridale House, top of Castle Drive, Douglas, Isle of Man.

BACTEROL.—Should any Bee-keeper in York or district have difficulty in procuring this, I can supply it, *to collers only*, at 2s. per bottle. I cannot undertake to send by post.—W. J. GIBBS, York House, Gillygate, York. b.34

**HONEY AND BEESWAX PURCHASED.**
Run Honey in bulk. Sections per gross.
**HONEY FOR SALE.**
Cuban, Californian, English, Irish.
Free tins and cases, carriage paid. Cash with order. Samples, 3d. Prices on application.
**A. GORDON ROWE, 28a, Moy Road, Cardiff.**


## A ROLL OF HONOUR.

Although bee-keeping is considered a minor pursuit, we venture to say that it has provided more fighting men than the usual average of any industry. To place on record the part the members of our craft have played in the present war we propose to make a "Roll of Honour," and shall be pleased if our readers will forward us the NAMES and ADDRESSES, together with the REGIMENT and RANK, of any bee-keeper serving his King and Country at home or abroad; also if killed or wounded.

We print a further list of names to those sent in, and shall be pleased to have other names as soon as possible.

Pte. F. H. Hubbard, 44, Wilmington Road, Leicester—R.A.M.C., Egyptian Expeditionary Force.

Pte. J. Kenney, Cosby, Leicestershire—1st Lincolns, B.E.F., France. Killed in action January 25, 1918.

## BRITISH BEEKEEPERS' ASSOCIATION.

LECTURES AT GOLDERS HILL PARK.

A special course of six lectures on bee-keeping will be given in the British Bee-keepers' Association's Apiary, London County Council Park, Golders Hill London, N.W., on Fridays, April 12, 19, 26, May 3, 10, and 17, 1918, at 6 o'clock each evening.

Those desiring to attend these lectures must make application at once for enrolment and particulars to,

W. HERROD-HEMPSALL,
Secretary,
23, Bedford Street,
Strand, London, W.C.2.

There will also be a popular free lecture on each of the above dates at 3 p.m., to which anyone will be welcome.

## A DORSET YARN.

What a wealth of flowers for the bees on our farm now. Many varieties of plums are in full bloom, but the gooseberries are the greatest attraction. In the afternoon of April 1 bees came in crowds to a two-acre field of these berries. I have one hive of hybrids, about 300 yards from them, but they seem to all come this way. There is another field of older trees at the back, but not nearly so many bees are on them, which shows me that the younger trees have the most nectar in the blossoms; these always produce the largest fruit, though the flowers themselves are of no great difference in size. It is this hive that has the most honey in the sections; they are so strong one would look for them to swarm early. I want to increase from this lot, as they look to be a good, clean, healthy colony.

A great many in one of my apiaries have gone under during this last month; the great weight of honey in them is a proof it is not want of stores. On fine days they streamed out as if they were going to swarm, but they never went back. I shall not put any more in this place for a time, but shall extend them down the valley. Until last season there have been no bees down there since 1905; one would look for better wintering from taking the swarms to a fresh site.

I have one stock of pure Italians, a very large one I acquired late in July last. All the autumn it was robbing other colonies; they must have sampled all the stores from other hives, yet there does not seem anything to denote that the stolen honey was tainted with disease, as they are very vigorous, their numbers are great, and one sees them a long way from home. Those that went under are on grass, the same as the Italian stock; grass holds a lot of moisture, and the moisture attracts frost, which makes all the surface very cold. When the sun comes out in the early morning of such days the outer case of the hive soon gets warmed; it was so the greater part of March.

Dr. Abushâdy writes of artificial heating. If the hive was in a greenhouse the bees would all still try to get out into the air. They seemed to know that they were tainted, and all wanted to get away from their home, so that those which were sound should not run the risk of infection. If that is so, it shows they are self-sacrificing little creatures; when a colony loses so many workers at this time of the year the stock, if it does survive, gives no profit to the owner. Still, I am thankful others are strong; some have plenty of vigour, for they were out most days of a very boisterous week. Even to-day (Saturday), with a wet, windy morning, at 3 o'clock, when the rain stopped, they were round the gooseberries. They must have sipped water, as well as honey, so much wet was on the bushes. They were over the plum trees, which are in the same lines—big trees of the Blue Diamond seemed a great attraction. Plums have so many flowers; even though the amount from each is small when it is all stored in the cells, they are soon filled.

I anticipate, if next week is fine and warm, that some of the sections will be

capped over; all shows me how advantageous it is to have wealth of food for them close to the hive. What a harvest the bee-men must be reaping where plums are in great numbers. How white the orchards of plums must be, and what music so many bees make on them at this time only the bee-man knows, and at night, in the full hive, the music is like June evensong instead of April. I am listening each night for the song of the young queen in the cells. I remember I waited last year, but they did not pipe till the last week in April.—J. J. KETTLE.

## THE BEE GARDEN.

THE OFFICIAL LISTS.—(*Concluded.*)

Thyme is a small, but not distant, relation of marjoram, belonging as it does to the origanidæ.

Garden Thyme is a native of the southern countries of Europe, from Portugal to Greece.

At Cintra, in the former country, thyme grows abundantly. It is, too, one of the sources of the renowned *miel de Narvonne* that *glorie du midi*. The classic honey of Greece that gathered on Mount Hymettus was yielded chiefly, if not exclusively, by the thyme that covered the mountain sides. By the way, another link between rosa and the Lea was added to the garland-chain by the ladies who founded the Order of the Rose, that mediæval society whose object would appear to have been the protection of individual members of the fair sex from the inconstancy and indiscretions of the mere male. Sub Rosa is now universally understood as an equivalent of secrecy, privacy, confidence. The origin of the expression would be the exaction—from any man desirous of improving the acquaintance of any of its members—of a promise that everything should be conducted with chivalrous regard for the lady's reputation and feelings. The penalty for breach of this undertaking, given under the Rose, emblem of the Order, being set out in the minatory recital ending, "and may all the bees of Mount Hymettus pierce me with their stings."

This small, much branched shrub, is a pungent aromatic, used extensively for seasoning and flavouring purposes. Common thyme is easily raised from seed in shallow drills, 6 in. apart, in April. Both this and lemon thyme can also be increased by division of the plants in April and by cuttings firmly inserted in partial shade in summer. Both are often used as an edging, for which purpose they are very effective, only requiring dividing and re-planting every three or four years. Both require a light, dry soil, and a sunny final position. The shoots are gathered and dried for winter use in the same way as sage.

Lemon thyme is a variety of *t. serpyllum*, wild thyme, the only species native of Britain. This variety is called the *t. citriodorus* on account of its lemon scent. I find that the best way to get a stock of this is to peg down the branches and cover the lower portions with light, sandy soil into which roots are made.

Lemon thyme is more robust than the green-leafed kind, and keeps its foliage better in the winter. It is thought that lemon thyme when raised from seed is not so delightfully scented as when struck from cuttings or by division.

My final quotation from Mrs. Bardwell's fascinating book must be the following rhapsodic passage:—"Thyme! What a lovely thing to write about, to think of! Lemon thyme, so clean-smelling, so fragrant, such a pleasant seasoning; wild thyme on the bank, 'with oxlips and the nodding violet'; common thyme on heath and down, that spreads the softest carpet foot of man can tread and helps, *along with the small striped snails*, to make the plump Down-sheep into such delicious mutton. I am glad to know that there are few gardens in England without a patch of thyme, the larger the patch the better. There is a lovely little dwarf thyme, too, with flowers of crimson, that loves to creep about among the stones. I think it is either *t. montana* or *t. corsicus*.* This and the golden thyme† and the silver thyme‡ and a variegated form§ of the lemon-scented thyme are all desirable."

Frankly, I am somewhat taken aback by the statement, which I have italicised, that sheep eat snails. South-downs, too, of all breeds. Had it been of Cotswolds that the statement had been made I should be less surprised. The writer has often enjoyed a dish of *Helix pomatia* both in Soho and nearer even to Rome than is Rupert Street, W.C. We are told that this snail was a favourite article of food with the Romans, and the latter have been credited, but, I understand, erroneously, with its introduction into England. I am told, on good authority, that it is a native British species. Be that as it may, the sight of the big cream-coloured shells will always remind me of three modern—and worthy—compatriots, and, I dare say, descendants of the old bearers of eagles.

All three notable men these with whom I have foregathered around a dish all too little known. Comm. Vittorio d'Ortengo,

* *T. S. coccineus*, or perhaps t. Marchallianus.
† T. cit. fol. anr.
‡ T. cit. fol. arg.
§ One of the two preceding, or, possibly, t. s. subcitratus parviflorus fol. var.

stoical in his endurance; Guiseppe Magrini, one of the finest swordsmen that ever engaged; Prof. Guiseppe Fanchiotti, resourceful journalist, raconteur, remarkable for his ability to read palimpsests in many tongues, and, too, for a faculty, doubtless a physically phenomenal peculiarity of vision, for reading a book lying on the far side of an ordinary table and, to him, upside down.

The two first have already passed over, alas! and possibly the last of the three, too, has fallen on the Piave, endeavouring to stem the tide of invasion that threatened to submerge his beloved old University, Padua la Dotta.

A far cry from the restfulness of a herb garden drowsy with perfumes and the hum of bees, but how poignant a reminder of the need for balms both physical and spiritual, for the healing of the nations.

In common, I think, with most people, I had believed that the distinctive quality of Southdown mutton was due to the breed of sheep and to the salinity of the pasturage. So, too, with the *pré salé* t'other side the Channel.—A. F. H.


SEASONABLE TOPICS.

*Outside Observation.* — Unless in the South, this is the only species of inspection hives of bees should have undergone up-to-date; but a considerable amount of useful information should have accumulated as a result of carrying out this mode of examination systematically during early and late spring. A mere glance daily suffices, as a rule, because this is ample, revealing as it does if anything abnormal is showing at any hive entrance. A robbing boom clearly manifests itself, even a mild attempted depredation attracts both eye and ear. A case of a home colony having discovered any stolen sweets at a distance is unmistakable. A hive showing no busy bees at the entrance, when others are carrying pollen in bountiful loads, points to weakness, disease or extinction. Lazy loitering, with few signs of industry, may imply queenlessness. A rushing throng, darting sharply on to the flight board, followed by a hasty race into the hive, tells with no dubiety that a supply of honey from somewhere has been tapped. Normal, steady work reveals that all is well with that colony. Deductions can safely be drawn and a diagnosis of the welfare of each can be made as certainly by this outside observation, and as accurately as if the hive were opened and the interior examined.

*Spring Examination.* — Not until the final week in April in the North, perhaps a month earlier in the South, should the interior of a hive be examined thoroughly; and even then select a fine day for the operation. Have decided objects in view before starting manipulations. Very little smoke should be used at this season, as bees are seldom in a combative mood. The act of opening the hive, handling the frames, the return of these, and the final closing up should be carried out expeditiously, and every movement should be undertaken with gentleness and precision. The objects would include observations confirming the presence of a queen; a rapid estimate of her abilities as a mother, the condition of the brood as to health; whether, as regards bees, the stock should be classified as strong, medium or weak; a rough calculation of the amount of sealed stores, and whether there is an ample supply of pollen. Then a note should be taken of any defects in comb construction, whether they reveal an overplus of drone cells; any signs of mould, if any show old cappings with dark depressed sealing, if any of the combs are twisted, corrugated or otherwise deformed; or if any are bound to each other by braces or attached to the dummy. The worst of these defective frames, if the faults are detrimental, had better be withdrawn, and temporarily placed behind the dummy. Even minor faults will affect the percentage of efficient worker bees reared throughout the season. Carry on a perpetual war against faulty combs, and endeavour to have all as near perfection as possible.

*Renewing Combs.*—Renewing or replacing the defective combs mentioned in the last paragraph should be attended to a little later. The worst of those withdrawn should be given to the bees to clear out any honey, and then run down into wax at any convenient time. The slightly defective should be given to the bees to patch. Always renew combs by placing frames with full sheets of foundation in the hive when an early flow sets in, or when any feeding is being done. Place them between well-formed combs with smooth regular faces, and if possible with sealed brood facing the new comb. It is not advisable to withdraw combs merely for their being long in the hives. Experienced bee-keepers don't discard combs which have been in use even for twenty or thirty years, and many declare that they find them thoroughly serviceable. Take out only really faulty frames. Some of these may contain too large a proportion of drone cells. Retaining these you are compelling workers to rear useless consumers, who cost the colony a heavy tax in not only rearing and feeding these

undesirable males, but in also hindering them from breeding a large number of thousands of desirable females. Above everything else, wage a relentless war on any signs of disease. All frames showing even slight symptoms of it are better out than in the hive. Submit them to curative treatment if you have any faith in it, but, personally, I prefer the more drastic "cure" of never again inserting one of these in any hive.

*Equalising.*—When carrying out this spring examination, make a mental calculation of the amount of honey in each colony, and transfer one or more frames showing a solid block of honey to another hive exhibiting scant stores. When doing so scratch the surface of one side, placing this face next to the outside frame showing brood, filling the space they occupied by exchanging two dry frames. The running honey will soon be scented by the nurse bees and transferred to the comb in which their brood is being fed. This is by far the best spring stimulant, and if a little more is exposed about once a week on the other comb faces, the bees, trusting that they have discovered an El Dorado, encourage the queen to increased laying. The supply is small but steady. It is obtained without leaving the brood nest, and it is pure honey. Moreover, they have to handle it, the order and cleanliness so characteristic of *Apis Mellifica* compelling them to store it anew, and this they do close up to their brood where it is easily available.

Equalising brood is a much more delicate business, and should not be undertaken by the novice. At any time it has to be done with circumspection. It is a valuable aid to progress, however, and helps in two ways. A comb of brood taken from a very strong stock and given to a weaker one should benefit both. It may check all thoughts of or preparations for swarming in the strong one; and the sealed brood nearly ready to hatch will greatly aid the weak one. The strengthening may put such life into it that it may force its way to the front before the end of the June flow, making it able to take a place in the front rank.

## PERSEVERANCE.

"AN ANT STORY."

While resting under a friendly tree and being pestered by our numerous enemy, the fly, I came across the following example of methodical temerity, which we might copy in some respects, in our efforts to secure legislation on the subject of bee-keeping. When we think of all we know of the ant it is not so very remarkable, but in this case they were, I think, the smallest I have seen.

I had made a small hole to receive the corpses of the flies I killed. When I had secured two, I found they had the attention of three little ants; a few moments after I noticed two of them running about at top speed in a very erratic manner, in about a quarter of an hour some fifty had gathered in the hole, my toll having amounted to five; they appeared to be all pulling against each other, I suppose, for dissection; at any rate, one secured a leg and another a wing. The track the wing champion took was shortly the scene of a steady and continual flow of reinforcements. They now divided up, and it was not long before the hole was empty and the flies were steadily propelled in a most remarkable manner to the place of business, some four yards away. I found, about half-way, a few leaves had gathered, three inches to one side at the start, would have avoided this obstacle, yet as the guide had gone this way they must need drag their loads along the side of a wall, which they did with very little inconvenience as far as I could see. The entrance itself I found behind a leaf, and heap of sand, while a couple of leaves were dragged into the opening, no doubt to keep it from closing. Another "deadun" was placed in front of a scout; he immediately fetched two others and went for more. I moved the fly, but they came as straight as a line to the same place. Do they secure scent from the victim or emit one themselves?

A MORAL.

This can be applied to every phase of human life, of course, but for the purpose of this letter I will choose the topic at the heading. We have about "potted," if not quite disposed of, the chief arguments against the necessity of legislation. We know the chief obstacle now, but have we any scheme ready to bring our case on again. We are practically agreed that it will benefit bee-keepers as a whole; any scheme that produces capital is a national asset. The Government are considering, proposing and alloting money for development schemes. Where do we stand? Our industry will compare very favourably with any they have, both for the weak and strong. At resettlement time, at least, we ought to be ready with machinery to meet it; if fresh evidence is required, who is to provide it? In any case we want a permanent committee against the Government. At present who is our strong man at the "British Association" to start this big ball rolling? How can we all contribute our mite? Can we agree, whether a regis-

ter of members in favour is needed, or would be useful. We don't expect to provide the money, say, through every pound of honey we sell, or the number of hives we manage; neither do we expect to get an allowance for our first sting, but being a scientific calling, we do expect to have a voice in the management and method of spending this money (supposing we get it) in return for services rendered. But I believe the whole status of bee-keeping will be altered if we do get legislation in England. Anyhow, it is as well to look big enough, and I hope some plan will be evolved to start the thing going from our point of view. I'm afraid I have rather resembled that erratic ant, but there is no doubt we can do a good deal if we put our heads together and push with our legs. But we can hardly expect our turn to come nowadays without effort, and sometimes by the side of the wall.—A. H. HAMSHAR.

## FLEET AND DISTRICT BEE-KEEPERS' ASSOCIATION.

At a meeting held at Fleet on Friday evening, March 15, it was decided to start an Association, to be named "The Fleet and District Bee-keepers' Association." The objects of the Association are to assist cottagers and bee-keepers by supplying them with bee-keeping appliances and assisting them in the management and care of bees. Quite a satisfactory start was made with ordinary members, and four life members were secured within three days from start.

Any bee-keepers in the district will be made very welcome amongst the members.

The following committee was appointed:—Mr. A. Goddard, Mrs. Deacon, Mr. Prizeman. Hon. treasurer, Mr. W. Goddard. Hon. secretary, Mr. J. Ritchie, Clydesdale, Fleet, R.S.O., Hants, from whom further particulars may be obtained.

## NOTES FROM FRANCE.

I thought that you would like to have a few Bee notes from France. In the part of France where we are at present for a rest behind the Lines, there are a good lot of bees kept in the straw skeps, but I have only seen a few wooden hives in one garden, and they were a poor sample; not like our modern bar frame hives. Yesterday, February 24, was quite warm and like spring here. The bees were flying very strong from some of the hives, and were carrying in pollen freely. They got it off the daisies, as there are plenty out here, and I saw hundreds of bees on them. There was an article in the B.B.J. a few years ago about "Does the Bee Visit the Daisy and the Buttercup." A good many people think they do not. But had those people been here yesterday they would soon have been convinced that they did. Of course, I know that they do not visit them when there are plenty of better flowers out, and when the blossom appears. The bees out her that I have seen are very much the same as our English Blacks. I have seen one lot of very good blacks, and I should have liked to bring them back to England. They were as if they had been polished with black lead, and they were a good size, too. I don't think France is a very good country for honey gathering for quantity, as most of the land is arable. I have not seen many lime trees, and there are very few hedges round here. There are plenty of bees in the farm buildings and houses that have been stray swarms. I cannot get to know much of the French ways as I cannot understand much of their language. I don't think that there has been much of the "Isle of Wight" disease here, as there are plenty of bees about. I am an old reader of the B.B.J. of about 25 years, and sent a photo of our apiary, in 1908, I think it was. So I will conclude by wishing all the B.B.J. beekeepers a better time for 1918.

No. 33488 Pte. M. E. VARTY,
14th York and Lancs. Regt.,
B.E.F., France.


*The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.*

## A NOTE FROM NEW ZEALAND.

[9637] A copy of your JOURNAL, dated October 4, 1917, came into my hands a few days ago. Much of the reading matter is very interesting, especially to one who left the Old Land nearly 60 years ago. I like your correspondent, G. Ward; do a little myself in trying to find out the pitch of the varied notes made by animals, insects and birds under varied conditions.

Bee-keeping in New Zealand is, I should

think, easier than in England. So far we have only "foul brood," and I, personally, have never had it in my apiary during the 40 years I have been keeping bees.

My plan is to renew the combs of all hives every three seasons, e.g., swarms on foundation, use the following year, next season, place a swarm beside it, and in the autumn unite, by putting it on top of the swarm, using a sheet of newspaper between; by the end of a couple of days the bees eat or bite away the paper, and the scent of each seems to mingle, one queen survives the "battle royal" and the bees agree. Late in the autumn I drive all the bees down into the lower hive, making all snug for winter. I then melt down the old combs for wax, feeding any odd bits of honey to the weak hives, or making mead.

Extracting just on with us now. Took off first sections this week.—F. W. Sandford.

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ROBBERS—THE "WET PACK."

[9638] Robbing is a perennial, and will soon be with some of us. With it, as with all other apiary problems, procrastination is the root of all evil.

Before the season begins, see that every hive, occupied or temporarily free, is bee-proof everywhere but at the legitimate entrance; and bee-proof there also whenever so wanted. In a word, "efficiency."

When robbing gets going, see that you are in possession of a 60-ft. well of water, giving a soothing temperature of 40 deg. on a baking day in midsummer. Otherwise, the best available. And a good garden syringe, a pail, and an old sack or its equivalent.

Shut up the robbed hive, friend and foe within, no matter. With your pail of "soother," syringe, and a freshly soaked sack, "stand by" for a few minutes, until the queue forms up, as it will very quickly. When the scramble for "fat" is well worked up, swish the lot off the flight board and entrance on to the grass or ground with a powerful jet. Stand by again for the next queue, which will soon arrive, and repeat. A third repetition may be called for, and another for a bad case. Then on top of the soaked robbers, throw the wet sack to cover them all, and syringe it with the remains of the pail of water. That completes "the wet pack." It is surprising how sweetly peaceful the surroundings become in 15 minutes.

If the robber hive is known, shut it also, and keep shut for three days; the robbed hive for the same period; swinging the entrances round from south to north on one leg, and you lift nothing. If your hives have no legs, put some on. They have several uses besides ornamentation.

The bees in the "pack" will suffer nothing, if on grass especially, but a just remorse, and by the time they have found a new home with other bees, their own closed to them, will be better bees.

To temporise with robbers is never wise. They never share your ideas on the subject, and a root cure is quickest and therefore safest, or you imperil a whole apiary. You cannot baulk a robber by inviting him to sample some other hive; but if you have him in "the wet pack" it is safest for him and best for you, likewise vice versa —M. Atkinson.

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EARLY DRONES.

[9639] It might interest you to know that I saw a *drone* flying from one of my hives on March 17. It is an exceptionally strong stock. Is it not unusual being so early?—W. Dollemore.

[It is unusually early for drones to be flying.—Eds.]

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CANDY TURNING SOFT.

[9640] With reference to the above letter in your issue of February 14, 1918, in the Journal, I have one W.B.C. hive in my garden, and when packing up for winter last September, I put above the frames two 1 lb. pieces of Pascall's candy.

On turning back the quilts two weeks ago to see how they were off for food, I found that the candy had positively melted and run down the combs. The bees were and are in great form, flying very freely, and I consider that the cause of candy melting is the heat thrown off from the cluster of bees while wintering. —A. B. C.

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STRANGE MEN OPENING HIVES.

[9641] During the late snow-storms we noticed several foot prints around the hives, and lately I found many nine and ten frame stocks dead. One Sunday we saw figures moving round the hives, but before my neighbours and myself could get down they cleared off. They were evidently looking for honey or candy, and disturbed the bees, as the packing was not in the position I left it.—W. Green, Laindon.

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All Nature seems at work. Slugs leave their lair—
The bees are stirring—birds are on the wing—
And Winter, slumbering in the open air,
Wears on his smiling face a dream of Spring!
*Coleridge.*

## WEATHER REPORT.

WESTBOURNE, March, 1918.

Rainfall, 1·15 in.
Heaviest fall, ·49 in on 30th.
Rain fell on 12 days.
Below average, 1·22.
Sunshine, 165.7 hours.
Brightest day, 23rd 10·4 hours.
Sunless days, 3.
Above average, 14·2 hours.
Maximum temperature, 66 on 24th.
Minimum temperature, 29 on 10th.
Minimum on grass, 22 on 16th.
Frosty nights, 7.
Mean maximum, 51·6.
Mean minimum, 35·6.
Mean temperature, 43·6.
Above average, 2·3.
Maximum barometer, 30·503 on 22nd.
Minimum barometer, 29·224 on 31st.

L. B. BIRKETT.

## Notices to Correspondents

G. LEVICK (Sussex).—*Using combs containing mouldy pollen.*—It will be quite safe to use these; the bees will clear out the old pollen. If the combs are mouldy, you might treat them with a 5 per cent. solution of Formalin, spray, or soak them.

A. GREENHORN (Somerset).—*Making an artificial swarm.*—Follow the instructions in the "Guide Book" implicitly. Moving the old stock to a new location means exactly what it says. It may be only a yard, or any distance beyond that. The new hive containing the queen, and one or more combs from the old stock, is placed on the old stand. The old flying bees will return to it, and form the swarm. As the young bees in the old stock fly, they will locate their hive wherever it is, and return to it. There is no need to place dried grass, or any other obstruction, in front of the entrance; in fact, that would defeat the object in view when moving the hive, and should only be done when moving a hive of bees to a new location without dividing the colony. The queenless lot will raise a queen, or you could defer the operation until queen cells are started. Only allow them to retain one queen cell.

T. R. (Essex).—*Transferring bees from hive roof.*—You may move the bees to your orchard any time, the sooner the better. You might turn the roof up, as you suggest, and place a standard brood box, with frames of foundation over it, or place the roof right way up over the box. In either case, as soon as the queen is laying in the new combs, confine her to them by placing a queen excluder between the roof and the new body box. Three weeks later clear the bees out of the roof, and take it and the comb away; do not let it stay any longer. If the bees are carrying pollen in such quantities, you may take it for granted the queen is all right. You will have to keep on the look-out for wax moth. The bees will attend to the ventilation if the entrance is large enough, and kept clear.

A. W. (Wolverhampton).—*Sending bees by rail.*—We think it will be quite safe to do this, if plenty of ventilation is given, and they are sent by passenger train.

J. JONES (London).—*Queen failing.*—(1) We cannot say what is the cause. If you have another stock take away the failing queen and unite the bees, or you might keep the stock going for a week or two by giving them a comb of eggs from another lot once a week until you can get a queen. (2) No, it is impossible. A queen can mate only once in her life. (3) You may introduce a queen of any variety or strain of hive bee. (4) You cannot tell exactly how old a queen is. A young queen is hairy, carries her wings neatly folded over her back, and their edges are clean cut, and she is sprightly in her movements. The wings of an aged queen are more or less frayed, and carried partly open, she moves slowly, and her body is black and shiny owing to the hair being rubbed off.

T. A. E. (Devon).—*Keeping bees in a loft.*—The bees will do quite well in that position. Stray swarms often flourish at greater heights.

"H." (Normandy).—*Using honey in comb for feeding.*—Better give the comb as it is, after bruising the capping. It will probably be difficult to extract the honey now.

BEE-JAY (Woodford).—*Disinfecting combs with Izal.*—Soak them in a solution of one teaspoonful to a pint of water, see that it gets well into the cells, and allow to stay for three or four hours, longer if you like, then rinse well with clean water, using a garden syringe if you have one, and hang them for a day or two where air can circulate freely among them. (2) Yes, one teaspoonful to 8 lbs. sugar.

R. O. FORDHAM (Biggleswade).—You may examine the bees any time from the middle of this month, choosing a warm sunny day.

E. E. TUELA (Wimbledon).—The secretary of the Surrey B.K.A. is Mr. F. B. White, Marden House, Redhill.

C. WILSON (Rotherham).—Bees may be kept in a smaller garden than yours. A swarm is not at all particular what kind of tree it clusters on.

*Suspected Disease.*

P. A. CRACKNELL (Kent).—The bees should have been sent in a box—a match box will do. They were smashed flat, so could not examine them, but so far as we can see the trouble was "Isle of Wight" disease. The honey, if clean, is quite fit for human consumption. There would be a risk of fresh bees contracting the disease, but you could make it very slight by carefully disinfecting all appliances, liming and digging the ground where the old stock stood, and using new frames and foundation, and new quilts.

WANTED, six pure fertile Carniolan Queens. State price and delivery. Have 200 Shallow Frames for sale, new, 13s. per 100.—C. YOUNG, 29, Central Road, Sudbury, Middlesex. d.16

WANTED, by Lady, private Instruction in Bee-keeping; near London preferred.—Apply, BEAMOND, Norbury Hall, Bishop's Castle, Salop. d.17

WANTED, to purchase, healthy Stock of Bees; also Geared Honey Extractor. Willing to pay good price.—J. P. BLAND, Greenhill, Kidderminster. d.18

£5 GIVEN for strong 9 or 10-frame Stock of Italian or Carniolan Bees, guaranteed healthy, with 1917 Queen. Write A. MARSHALL, Motor Caravan, Cobham, Surrey. d.19

WANTED, good Stock Dutch Bees, near end of April. Write MISS WILLIAMS, Hodshill, Southstoke, Bath, Somerset. d.20

WANTED, two strong Stocks at once.—VINTER, Greenroyd, Apperley Bridge, Yorks. d.21

WANTED, two strong healthy Stocks of Bees. —BOOTH, 27, Well Lane, Rock Ferry, Cheshire. d.22

WANTED, Cowan Rapid Extractor, two or four Frames.—CONRAD GURTEEN, Woodlands, Haverhill. d.23

WANTED a Stock of Healthy Bees.—MORELAND, 79, Birkhall Road, Catford, S.E.6. d.24

FIVE 15 in. by 15 in. Wilkes' Wire Queen Excluders; sell 15s., carriage paid.—8, Orchard Road, Colchester. d.25

WANTED, three strong Stocks of Italian Bees on 8 or 10 frames; guaranteed healthy. Particulars, DUTTON, Acton Nursery, Wrexham. d.26

WANTED, few Stocks Healthy Hybrids or Italians on frames (Taylor's); April delivery.—LEE, Normanby, Potters Bar. d.27

"INTENSIVE Bee-keeping for Honey Production and Disease Control" is the title of our D.B. Booklet. There are only three chapters, but they tell you how we do it. Price 6d., post paid. Your money back if you don't like it.—S. H. SMITH, 30, Maid's Causeway, Cambridge. d.30

PRACTICAL Instruction wanted by Lady in Bee-keeping, Poultry-keeping, Fruit and Vegetable Growing.—Box 26, BRITISH BEE JOURNAL Office, 23, Bedford Street, Strand, W.C.2. d.1

WANTED, by wounded soldier, few Stocks of Bees; Dutch or Italian preferred.—Price to R. FLINTOFF, Carburton, Ollerton, Notts. d.2

WANTED, two Swarms.—Particulars to WM. WHITLAM, 9, The Grove, Normanton, Yorks. d.4

FIFTY-EIGHT lbs. prime English Honey, granulated solid, 2s. 6d. lb.—VINCENT, 132, Croydon Road, Anerley, S.E.20. d.5

FOR SALE, a few Section Racks, complete, as new, 2s. each.—W. WOODLEY, Bredon, Newbury. d.9

WANTED, healthy Stocks of Bees.—PRYOR, Breachwood Green. c.62

WANTED, immediately, Queen; Italian or Carniolan preferred.—58, Cromwell Road, Beckenham. d.10

SELL, moderate price, few sound, clean W.B.C. Hives and parts thereof.—Particulars, T. ATKINS, Ripple, Tewkesbury. c.65

WANTED, to buy, two healthy Stocks of Bees. —LADY THORNYCROFT, Steyne, Bembridge, Isle of Wight. c.71

FOR SALE, property of deceased bee-keeper, 2 10-frame W.B.C. pattern joiner-made Hives, constructed of very stout material, will last two life times, lifts with each to take two supers; one shallow frame, super with each, calico covered roofs, 35s. each. Please note all combs are sold.—Box 17, BEE JOURNAL Office, 23, Bedford Street, Strand, W.C.2. c.8

## BUSINESS ADVERTISEMENTS.

COMFORTABLE APARTMENTS for Brother Bee-keepers visiting Douglas. Terms: Tea, bed, and breakfast, 3s. 6d.; or full board, 6s. per day.—HORSLEY'S, Merridale House, top of Castle Drive, Douglas, Isle of Man.

**1918** PURE ITALIAN QUEENS, from disease-resisting strain; guaranteed healthy. Ready in May. Now booking orders for above. Stamped envelope for particulars.—CROWE, Merriott, Crewkerne. d.28

SECTIONS, 1⅛ in., two bee-way, split for foundation; per 100, 4s. Sample by post, 2d.—S. J. BALDWIN, Apiary, Bromley, Kent. d.29

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**There will also be a popular free lecture on each of the above dates at 3 p.m., to which anyone will be welcome.**

## A DORSET YARN.

On April 8th the first drone was seen on the top of sections. In the same hive the bees were clustering on the outside of brood-chamber. (Most of my hives have a free way all round the inside of outer case.) One of my neighbours had his clustering outside a skep on the same day. All shows me it is the great wealth of flowers that count for early progress. One can still extend plums and gooseberries, with advantage to the bees, as well as wealth of valuable fruit. I consider ripe fruit this year will be eagerly cleared, as when ripe it can be eaten without sugar. Gooseberries want a lot of sugar when green. When ripe, last season, they realised 2s. a dozen more than when gathered green. It is remarkable what variations there are in the foliage and flowers of these berries. Some are in bloom ten days before others; flowers of some are a pleasing yellow, others have quite a purple colour on the petals; foliage of some is dark green, while others are quite a pale shade of green. I notice a great many Italian bees over them. I assume they must come from Mr. Young's apiary, about a mile away from our farm. He has several stocks, all Italians, while I have only one. He has a pretty bungalow, 'mid pine-trees and heather, on the hills that overlook the sea.

The bees are extending the length of cells in sections, and are filling them with honey very fast. They seem to be emptying a lot of the brood-combs to make room for brood. Our lot always seem to fill up every available cell in late summer with the nectar from the heather. My friend Squire Tomlinson tells me his Italians empty even the outer frames of comb for the queen to lay eggs in.

One has little time to observe the hives in daylight, as work on the land now is very exacting. We start at 4 a.m., have breakfast, see to the animals, start to work in the fields as soon as one can see at 5.45, at 7 the members of the staff come, and this showery weather we are planting out violets between the lines of fruit. (Am just keeping my stock till happier times come again. Have taken advantage of the showers to get out the early cauliflowers (sown in autumn in a glass frame). Ailsa Craig onions we have planted between the violets. We always plant lettuce between violet plants; they are harvested in May or June; then the violets have all the room to themselves. We have dinner at 12. We walk round the hives to see if there is anything unusual happening, and then into the fields till 5, when we have tea. Those who like leave off, others work on till dark at 8; but wherever we are at work the bees are flying round us. They have plenty of flowers to look over—some of the Brassica family are in flower—and next week some turnips will be in blossom. We have a large piece of Seville broad beans with their flowers expanded. Jargonelle pears are open, as are Beurre Hardy and Louise Bon of Jersey. Victoria plums are now opening their white flowers; truly, the farm now is full of promise. The cornfields are putting on their mantle of green. There will be no scarcity of food for the bees, for in the wheat fields the charlock plants are already established, and will soon be sending up their growth.

But the labour problem is the one factor of doubt with us—who will till the soil. We are getting in the crops, but manpower is diminishing. Our women are doing a great deal, but they have not the strength or endurance of men. It is something of a gamble if we can gather all the crops in perfection; even the boys have the strike fever now. Three of my staff—13, 14, and 15 years old—struck for a 2s. a week rise; they are getting more than men had before the war. With the exception of corn, all crops want so much hoeing to keep them clean, or they do not develop well, and the more the soil is moved on the surface by hoeing the better the crops grow.

This week has not proved an ideal one for bees, as the days have been mostly wet, and only occasional spells of sunshine. Still, March was very dry; it is seasonable for showers now, as our springs get low in summer when the springtime is dry. I notice our bees are using a lot of water.

Our farm is on a hill; water is 54ft. down through gravel. Down a steep hill in a by-lane water is always rising in the road (where the gravel ends and clay begins). Bees are to be seen in great numbers here, as they know they are safe on the road from drowning. They have a preference for rain-water. I have seen them round the sides of an iron boiler that had filled with the rains in winter. It astonished me how quickly they used it all. When our honey-plates are used in the house, a little boiling water is poured on and placed on top of an empty hive. I notice the bees use up every drop of it. One always notices it is when the bees are multiplying their population that they use most water. It is a proof to me that it is used to mix with the pollen and honey for food for the young bees. The water in the road has the sun on it. I assume it gets soft like rain-water. Anyway, they prefer it to well water, which is hard. (The sun warms the water, which is probably why the bees prefer it.—Ed.)

Many of our bees are bringing in pollen which is nearly white, others a deep yellow colour. I assume the deep yellow is from dandelion, or it might be gorse. On Wednesday at noon they were quite intoxicated with the warmth of the sun, and all seem to be having a rehearsal of swarming. It is singular that this should always be so. I often think it is to encourage the young bees to come out into the air and try their wings in the sunshine. I have not read many bee books (the JOURNAL excepted), so cannot tell what other writers say of the matter. Books on insects generally I have read a great many, and I still have them sent me. The insect kingdom is a very remarkable one; but I notice this assembling of bees round the front of hives each year is a preliminary to swarming.

Those bee men who have cabbage to sell will get good prices, as spring cabbage realised 3d. each at the farmers' market hall in Bournemouth last Tuesday, but should advise them to leave a line for seed, as stocks of seeds will be scarce again, and the flowers will be of great value to the bees.—J. J. KETTLE.

## AN OXFORDSHIRE YARN.

I have read with delight the weekly Dorset yarns which appear in THE BRITISH BEE JOURNAL. How I wanted to send you one from my county; one full of the joys and sorrows of a junior bee-master; but, try as I would, I could not put my sorrows and joys on paper, good enough for our splendid little journal. However, after many weeks of brain toil I have concocted the following effusion, which, at least, possesses one good point —its truth!

Early in 1917, I had a burning desire to commence bee-keeping. I bought books, read the JOURNAL, and studied hard; I was at the very bottom of the ladder, with the name in large letters at the top, "COUNTY EXPERT."

Next followed two hives, veil, smoker, feeder, etc., bought from a bee-keeper going to France, who had lost all his bees the year before with "Isle of Wight" disease.

I made brood frames, proper size, wired as per book of instructions. All I wanted was bees. I sent to the three largest "everything for bees" men. Not one of them could supply me with the much-wanted insects. So I gradually cooled down. Fate was against me; I was not to be the county expert.

Days grew into weeks, weeks into months, and I was still where I started—nowhere. One morning towards the end of August, a painter where I am employed came to me with, "You're a bee-man?" "Rather," I replied. "What do you want to know?" "I want to know if you want to buy a swarm of bees; I found one last night and I have got them home in a skep?" "I don't know," I said, thoughtfully, "if I've room for them; it's rather late in the season." "I'll sell them cheap," said he. "How much?" said I. "Seven and six." "They're mine." "Do you think you've got room; it's very late?" "Never mind about that; I fetch them to-night or in the morning."

It was Saturday, how I longed for one o'clock. I could not rest, I was suffering from the same disease I contracted in January, viz., "MUST have an apiary." When I finished work for the day I suddenly thought (I had been thinking for hours), "How about foundation?" I did not possess an inch. What was to be done? I did not purchase any in the early part of the year. Why foundation, if no bees? I thought. Now the grand overture was about to commence, I was minus one of the principal instruments.

Now opened one of the most enjoyable Saturday afternoons I ever spent.

Without a clean up I started for Mr. S——, our village expert. (I live in a village adjoining a large town). Mr. S—— not at home—check number one. "When will he return," I asked, politely. "Maybe a few minutes; maybe hours," was the answer. I returned home, had a hurried dinner, and back again. All out this time. Home again, changed, back again, and found him. Good! "Can you oblige with one or two sheets of foundation?" "Sorry, I let Mr. G—— have the last two yesterday"—check number two. I next visited Mr. F.——, the B—— county expert, after two calls his wife

told me he had given up business owing to the war—check number three.

Next morning, at five o'clock, I fetched my swarm. They were in an old straw skep, with a large hole in the top. I had to carry it two miles, tied up in a blanket. I was very pleased when I had them safely planted on my allotment. I had a cake of candy which I put over the hole in top of skep, covered it with one of the wife's pastry tins, and returned home to breakfast.

I wrote for a pound of foundation which duly arrived. My next job was to get it into the frames. The wax seemed rather weak, or I did not use it right. The hot poker I was using in place of Woiblet spur embedder, would go right through the stuff. Perhaps I was not careful enough. When I had finished four frames I could not wait any longer. I *must* get the bees into the hive.

I invited my wife, daughter, and daughter-in-law down to the allotment to set how a bee-master transfers from skep to hive. I set out large pastry board and sheet (as per book), lit my smoker, and dressed myself in veil, straw hat, etc. I now approached the skep.

The weather must have changed very quickly, for I became so very hot, and shook slightly. I suppose there was thunder about. I seized the skep and darted for the hive—one mighty shake. Put the skep down as quick as possible, and stood back (still very warm, still slightly shaking) "There you are, mother," I said, "it's easy enough; they're all right now." "Has the queen gone in?" she shouted. You see, she didn't shout because I'm deaf, she was some little distance off. "Not yet," I replied—the fact was I never thought to look. I moved a little nearer, and looked hard. I saw nothing but one sort of bee, all the same size, shape and colour, all alike.

"See if they are all out of the basket," (skep), the wife called. "All out" I replied, in a tone a schoolmaster might use to a pupil. "Do you think any could hang on after a shake like that?" "Turn it up and look," (how like a woman).

"See for yourself," I said, picking up the skep and walking towards her. "Look." I held the mouth in her direction. "Oh! she shouted, "it's full of bees and pieces of white stuff." I looked inside, and saw more bees than I had thrown out on the sheet, and four or five pieces of comb hanging from the top. The weather seemed to get more sultry. What was to be done.

I held the skep over the cloth and hammered the sides. I nearly dropped the lot on to the crowd below, for something bit me on the wrist, a pain shot up to my elbow, I looked and saw a bee trying to fly away, but she seemed to be anchored to my flesh. I put the skep down and flicked her off, went for it again, and hammered away. I had another pain close to the first one. I began to get savage, and talked to myself (I do if I get wild—habit, I suppose). Wife said she thought she would get home. She went, also remainder of family. I turned the skep upside down, and gave them smoke, and then more smoke. I had another pain, then followed more habit.

The weather changed again. It began to rain and rained hard. How I wished I could have got a little expert advice. I think I wanted it then, more than any bee-man in the world.

I suddenly had a brilliant idea. I wanted to give them beans: why not a beanstick? I got one, broke off the combs with it, inverted the skep, and again cast on to the cloth, bees, combs, pieces of dust, etc. The bees were covered with water, clustered together and refused to move.

I lifted the end of the sheet and jerked them towards the opening of the hive. Another stab! That did it! I poked them in with the stick, smoked them off the combs, gave the sheet another good shake, packed up and went home wet through, left dozens outside, hanging on the hive under the porch.

Arrived home ten minutes past ten (at night) with five pieces of comb, thirteen bees alive and kicking in my clothes, and seven pieces of bees sticking in my flesh. —BORN ON A FRIDAY.

## SWARMS, AND SWARM MANAGEMENT.

The swarming season will soon be upon us, and a few observations and hints based on personal experience may prove useful.

I like to see a reasonable amount of swarming, which I take as a sign of prosperity. It is the best way of obtaining increase, and even if increase is not desired, it pays on account of its invigorating effect. Certain it is, that if a stock does not reach swarming strength its contribution to the honey harvest will be a small one. There is no good, but oftentimes a lot of harm, done by trying to prevent swarming. To upset the bees by taking "preventive" measures, and then tinker with them, and disturb them a second time to get artificial increase, as is often done, is, to my mind, a splendid example of how *not* to do it. As to the cause of swarming, I have not yet seen or heard a satisfactory explanation. I have known bees swarm under every condition, and have therefore come to the

conclusion that they do so because "'tis their nature to."

*Swarming Procedure.*—If left to their own devices, the following seems to be the natural and usual sequence of events connected with swarming. The swarm issues and clusters somewhere in the immediate vicinity. Scouts are then sent out to search for a new home. (I have watched these searching under the eaves of houses, etc.) If successful, they return, and act as guides to the swarm; if unsuccessful, the swarm absconds and reclusters in another district, where the scouts again make a search. This process is repeated until a home is found, or, as in two cases I have known, the bees succumb to inclement weather.

*Preparing for Swarms.*—On the approach of the swarming season fitted hives should be got ready and placed on their stands. For "taking" the swarms there is nothing better than a clean, sweet skep, which should have a strong cord tied securely round it, and crossed in both directions over the top so as to form a handle. Thus prepared, it can be used with one hand and tied to, or hung from, the branch of a tree. Under certain conditions a fitted brood chamber can be used, but as the heat of the swarm puts an undue strain on the foundation, this plan is not recommended. After a skep has housed a swarm the inside should be rubbed over with a few black currant or elder leaves to mask the odour of the previous occupants. Otherwise it is usually a difficult task to get bees into a skep which has recently been occupied by another swarm.

*Swarm Management.* — The conditions under which swarms have to be "taken" vary so much that no rule can be laid down. Resourcefulness is necessary. One good plan, which I practice myself when circumstances permit, is to capture the swarm before it finally clusters. As soon as an indication is given as to the point of clustering, place the skep over it, and the bees will usually enter it straight away. If it is intended to hive the swarm on a new stand, the following is the best method of disposal that I know of: After the swarm has been "taken," remove the skep gently and place it on the top of a fitted brood chamber. Put on lifts and roof and open entrances, and leave till evening. By that time quite half the bees will have passed down among the frames. Remove skep, place excluder in position, transfer a partly filled super from the old stock, and put on quilts. Shake the remainder of the bees out of the skep in front of the hive in the usual way. This plan, of course, is applicable to the W.B.C. type of hive only. With other hives that will not hold the skep, place same in front of new stand and hive in the evening. In any case remove the swarm from the clustering position, so as to foil any attempt on the part of the scouts to lead it away. In my own apiary most of the swarms are hived on the old stand. This practice has no adverse effect on the amount of honey stored, and gives a splendid chance of rearing young queens, or making increase. In this method the swarm should be removed and placed in front of the new site. Except in very favourable weather, swarms should not be left without food. This can be provided as stated above, or by a comb of honey from the brood chamber, or super, of another stock, or a bottle feeder. To leave full scope for the queen, discourage at the swarming season the use of the brood chamber for honey storage. With this end in view, provide each swarm with a super containing empty combs.

A correspondent has recently complained that the B.B.J. has drifted largely into matters horticultural. Whilst admitting the justice of his complaint, I suppose its readers are partly responsible. I have no doubt that the editors would welcome some practical correspondence from experienced bee-men. Let such give their views on the important question of swarming for a start.—W. H. WHITE, Harlington, Beds.

## MAKING THE BEST OF THE "ISLE OF WIGHT" DISEASE.

On the assumption that no cure for "Isle of Wight" disease is immediately forthcoming, the following notes have been written with a view to evolving a method of bee-keeping which does not depend for its success upon the complete elimination of the disease.

The "Isle of Wight" disease, like most other diseases, cannot make a complete extermination of the race of its hosts. It kills the individual bee attacked and the whole of the colony dies, but the race of bees still continues to exist.

The disease is most destructive where bees are intensively cultivated. Where the hives are widely scattered, separated by distances of, say, a mile or more, it is slow in progressing from hive to hive, and under such circumstances, if natural swarming takes place freely and frequently, there should come about a condition of equilibrium (more or less) in which the disease and the bees would co-exist. It is well to keep in mind that there is also Foul Brood as well as "Isle of Wight" disease which has to be evaded.

The problem is how to amend present

methods so as to enable a bee-keeper to carry on in spite of the "Isle of Wight" disease, and make a profit.

Our forefathers carried on bee-keeping in the skep days by destroying a number of their colonies every year, and thus procured the whole of the honey crop gathered by the bees selected for the sulphur pit. If the "Isle of Wight" disease existed in England in those days this process of "taking" probably more than half of the colonies each season must have been an effective deterrent; it would have been so, I believe, in regard to Foul Brood. I speak of the time before the skeppist used supers or dandies, or fixed a rack of sections on the skep, which innovations revolutionised the old and well-tried system.

I propose to follow in some degree the plan of the old skeppists, but I would destroy only colonies that show signs of the "Isle of Wight" disease.

The disease does not kill off a colony (speaking generally) during the winter season. It is in the autumn and winter when the bees are confined to the hives that the disease plays most havoc. My experience bears this out. In the autumn of 1911 I lost 20 stocks. The bees and hive contents were consigned to the flames, and I regret to say that the honey in the brood combs was all destroyed, which, if realised as run honey, would have exchanged for not less than £20.

The skeppist counted his success in the number of swarms. He had no regrets when swarms were on the wing in June. The swarm was sure wealth. Nor did he, nor could he, prevent the issue of swarms. He would sell them, or give them to neighbours when he had too many. Thus bees prospered, and disease took its toll, but like the owls and the birds, the diseases carried on, and the race of bees persisted.

Can we outrun the constable by letting the swarming instinct have full play, and indeed be heartily encouraged? Swarming is nature's way of persisting, and has proved successful against all odds so far, or there would not be any bees. In a let-alone fight, say, in pre-history days, the bees that swarmed most would win through: as a result the swarming instinct would be accentuated. Is there not some evidence of this in the variations in swarming proclivity in our own bees, and in the excessive swarming of Carniolan and Dutch bees? When I first saw the phenomenon of "crawling" (about 20 years ago) it was a Carniolan stock. It was no doubt "Isle of Wight" disease, but designated "May Pest" in those days.

The modern bee-keeper might not know what to do with the swarms. If he has no spare hives he should sell them—I need not suggest giving them away, as bee-keepers are not unfamiliar with this graceful act of fellowship. I would go so far as to make it a criminal offence to indulge in the suicidal and selfish returning of swarms to the parent stock. If we had a shortage of cows by any mischance, might we not make it an offence against the realm to kill a female calf?

Amidst all the disasters of "Isle of Wight" disease, bee-keepers are still harping about the prevention of swarming as much as ever they did.

Swarms are now in great demand, and it would be easy to impress upon most of our bee-keepers the desirability and profitableness of selling swarms. If the price of swarms is too low (I think it is) then put up the price! When a bee-keeper compares the profits of non-swarming with swarming methods, he does not reckon the potential profit of the swarms accruing in the seasons to follow.

When a swarm leaves a hive it takes away from the home (supposing "Isle of Wight" disease had already commenced an attack) nearly all disease-attacked bees. If a second swarm leaves the same hive there will be less disease in the home. If a third, less still; and thus the disease may be cleared out and dispersed, and would not (possibly) get a strangle hold before swarming time came round again in the following year, to afford a further flight-of-escape. Suppose the swarming took place before the attack of "Isle of Wight" disease, would not some of the increase survive? Swarming is in the direction of safety from "Isle of Wight" disease in very many other ways, e.g., it leads to more energy in the open, and therefore the diseased bee will probably die in the fields before the disease can be much developed, and passed on to other bees in the hive.

I do not propose to offer a complete scheme that will fit every bee-keeper. The following examples will enable any bee-keeper to steer a course most suited to his own circumstances:—

DURHAM COUNTY COUNCIL APIARY—RYTON-ON-TYNE.

Spring count 1917.—One stock (3 stocks had died during winter including 2 of "Isle of Wight" disease).

This stock sent off a swarm in June, 1917. The swarm was sold to the leading local bee-keeper who had lost his bees, and the stock was then divided into three portions.

*Result*:—At the end of season there are 4 stocks in existence. One of the three lots, however, which were got by dividing, has developed "Isle of Wight"

disease and will be destroyed. Net result:—Three stocks to winter, i.e., two at the apiary and the one that was sold.

MY OWN BEES AT STOCKSFIELD.

Spring count 4 stocks.

No swarms issued owing to methods of prevention.

After the heather harvest three of the stocks showed "Isle of Wight" disease. These were destroyed and the brood combs cut up and strained to obtain the honey.

| | | | |
|---|---|---|---|
| *Result*:—45lb. of good heather-blend honey, worth 1s. 6d. per lb. (pre-war price) ..... | | £3 | 7 6 |
| Wax obtained from the brood combs ..... | | 0 | 6 0 |
| | | £3 | 13 6 |
| *Less*: 3 swarms ordered from Ireland for delivery next June ..... | £1 16 0 | | |
| *Add*: Cost of brood foundation to hive the 3 swarms ..... | 0 10 0 | | |
| | | 2 | 6 0 |
| Net profit ..... | | £1 | 7 6 |

NOTE.—No swarms having issued, this apiary looks like being completely wiped out until the Irish swarms arrive.

APIARY OF MR. ROBT. FOREMAN, STOCKSFIELD.

Year, 1916.—Spring count, 1 stock.

Four swarms issued, all were hived, and the 5 lots were sent to the moors for the heather harvest. During the autumn three lots showed "Isle of Wight" disease. The bees were destroyed, and the brood combs were cut up and strained.

*Result*.—40lb. run honey, heather blend, and two stocks remained to be wintered.

Year 1917.—Spring count 2 stocks.

Stock (a) did not swarm.

,, (b) swarmed three times and all were hived.

After the moor harvest, stock (a) was destroyed ("Isle of Wight" disease), and the brood combs realised 15lb. of run honey. Swarm No. 3 has been destroyed ("Isle of Wight" disease), and 6½lb. of honey obtained from the brood combs.

Present position:—

Stock (b) in trim for wintering.
Swarm (1) do. do.
,, (2) do. do.

N.B.—These statistics do not give the usual clover and heather surplus harvests (which, however, were very satisfactory). They show only the economical realisation of brood combs, and they indicate a margin of survival of race by swarming increase.

In short, it is predicated that the disease takes a toll of the stocks of bees. That toll must be more than met by increase. The losses when they come must be netted by turning into cash the honey and wax in the detroyed stocks. The prompt destruction of stocks that show crawlers is the pivot on which the scheme turns, and that promptness of destruction gives the protection from disease that is equivalent, or almost so, to the condition of isolation instanced above, where widely separated hives cause a slowing down of the attack of the disease: prompt destruction of the diseased stock is man's aid to Nature to enable him to carry on in his manner of intensive cultivation of bees. Man creates intensiveness against Nature's habit, and he must provide special protection from the "Isle of Wight" or any other disease. Beekeepers have been trying to give this help by using antiseptics. If a stock which has been attacked by "Isle of Wight" disease can be held together until the autumn by antiseptics, it would be a valuable aid to economic bee-keeping, and to the scheme I have endeavoured to outline.—J. N. KIDD, Stocksfield.

## HANTS AND ISLE OF WIGHT BEE-KEEPERS' ASSOCIATION.

ANNUAL MEETING.

The 35th annual meeting of the Hants and Isle of Wight Beekeepers' Association was recently held at Southampton, when the chairman, Mr. E. H. Bellairs, presided over a good attendance, which included Mrs. H. Robson, Mrs. Henshaw, Misses Minns, Morgan, Hosking, Gruning, Peckham, Dr. Milburn, and Messrs. H. M. Cooper, A. F. Hardy, H. J. Hewett, H. H. Welch, C. Martin, S. J. Leigh, H. H. Hall, E. Stewart, and others. Apologies for absence were intimated from the Rev. W. E. Medlicott, Rev. G. Field, Miss Martin (Swanmore), Messrs. E. J. Bedford, L. H. Marsh, J. Draper, and C. Browning.

The annual report stated that the season of 1917, although opening with a fair promise of success, could hardly be described as having been a good one for local beekeepers, and it was feared that, owing to a shortage of winter stores and difficulty in obtaining the necessary sugar for syrup feeding, considerable mortality had occurred. In fact, in three areas nearly 200 stocks were known to have succumbed from this cause.

It was evident that much greater interest in beekeeping had been taken during the year, and it was confidently anticipated that it would continue to grow during 1918. The work of the association consequently had grown, the membership having increased by a hundred, this being

due in a great degree to the activities of the members, particularly at Winchester, Bournemouth, and Wickham.

Demonstrations had been held at Alton, Ryde, Wickham, and Winchester; others which had been arranged to take place at Bishop's Waltham and Bournemouth were somewhat interfered with, the former having to be abandoned altogether, and the latter having to take the form of an indoor lecture owing to the inclement weather. Through various circumstances other demonstrations had to be postponed or declined.

During the year six members were granted Expert certificates. Various districts were visited by the association's experts during the spring and autumn, and it was reported that, although more hopeful views were entertained of the ravages of the bee scourge declining, it was to be regretted that a reliable cure had not yet been discovered.

Beekeepers were urged, in view of the sugar difficulty, to make sure of a sufficient supply of stores being left in the hives before the autumn sets in.

There was every prospect of the prices of bees and honey being further increased during the coming season.

An appreciation by the hon. secretary of the valuable services rendered to beekeepers in general, and to the members of the association in particular, by members of the committee and others, closed the report.

The balance-sheet for the year ending December 31, 1917, produced by the hon. treasurer, was of a very satisfactory character, the receipts being considerably in advance of those of the previous year.

It having been stated that more interest had been taken in the large library, it was decided to expend a sum not exceeding £3 3s. in the purchase of further books.

Dr. Milburn submitted to the meeting a full and comprehensive scheme for further organising the scope of usefulness of the association. It was decided, in view of the importance of the question, to defer its further consideration until a future meeting.

Mr. W. G. Nicholson, M.P. (Petersfield), was thanked for having, at the instigation of the association, brought up an important question in the House of Commons.

H.R.H. the Princess Beatrice was re-elected president, and the following ladies and gentlemen were elected vice-presidents:—Lady Calthorpe, Hon. Mrs. Eliot Yorke, Lady Evelyn Bradford, Mrs. Montagu G. Knight, Miss Beryl Bradford, Miss Morris, the Lord Bishop of Winchester, Sir Heath Harrison, Bart., Rev. W. E. Medlicott, Col. A. Bibby, and Messrs. E. H. Bellairs, W. F. Perkins, M.P., W. G. Nicholson, M.P., Daniel Coats, Arthur Baring, G. C. Howard, Gerald Hall, A. F. M. Downie, T. A. Chalcraft, and Richard Eggar.

Other subjects of importance to beekeepers were dealt with, and a most successful meeting closed with a vote of thanks to the chairman, who, it should be mentioned, was the founder of the association.

The hon. secretary, Mr. F. D. Hills (Ivanhoe, Alton, Hants), will be glad to answer any inquiries from beekeepers or others who may be desirous of becoming members of the association.

## CORRESPONDENCE

***The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.***

### A PONY WITH A "SWEET TOOTH."

[9642] Your readers may be interested in the following extract from a friend's letter.—C. T. B.

"I had a novel experience this winter. Our pony took it into his head to examine my bees, and, being a quiet time, they did not appear to resent it, so he went further and tasted the honey, and found it sweet to his taste, for he turned over the hives and ate every bit from four of them. On proceeding to others, the bees were more lively, so I was able to save them. It must have been going on for some days, as I only discovered it on Saturday afternoon, having seen them the previous Saturday. Did you ever hear of anything like it?

"When taking a journey two gentlemen were discussing the beneficent effects of honey for diabetes and other complaints, when I discovered that they were patients to whom I had recommended honey some years since. It was then very pleasant to exchange mutual views. Whilst doing so, a lady in the carriage apologised for intruding, but the subject was so interesting, and having her son an invalid, she wondered if it would benefit him. He was a flying man, but had crashed to earth and smashed his machine with himself, a great shock, with consequent upset of all

his nerves and digestive organs. The doctors could not help him, only giving him drugs. I sent her some honey. She has had two lots since. You will be pleased to know I had a very grateful letter from him and his mother, speaking of his gradual improvement from its use."

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PREVENTION OF SWARMING.

[9643] Mr. Kettle, in his Dorset yarn, says, "I am listening each night for the song of the young queen in the cells." Would he tell me, a novice, what steps he intends to take when he hears it? I, too, heard this last year when I listened at the hive, but I did not know what to do when I heard this piping. *I did nothing*, but was cursed with the swarming fever for weeks.

Another question: I wonder whether Mr. Puck, of Chingford, a contributor to your paper, and who appears to be so successful in the prevention of swarming, would, through the medium of your paper, tell me, and also others who are learning the art, what precautions we must take to try and prevent swarms, when we are working solely for extracted honey, and if our stocks do swarm, tell us exactly what to do then, so that there shall be as little delay as possible in the gathering of the honey harvest in such an important time as May and June.

I for one should appreciate the advice, and no doubt many others would too.—"ANXIOUS TO LEARN."

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PREVENTION OF DISEASE.

[9644] I notice our old enemy "Isle of Wight" disease is still with us in some districts.

But I am confident that "Isle of Wight" disease has a great deal too much blame which ought to be put on the "keeper of bees," not "beekeepers," and if "beekeepers" would take the following precautions we should hear of less trouble:—

1. Always clean, disinfect, and paint hives in spring.

2. Renew one-third of brood-combs yearly.

3. Introduce new stock every year to breed from.

4. Replace queens in August by good young queens from prime stocks that have proved their value.

5. The first week in September feed slow for a week (which causes the queen to lay and produce bees to carry on in spring), then feed solid all they will take, which gives stocks time to seal over before cold nights set in.

6. During the three winter months, occasionally and quietly lift front of hives and clear floor of all dead bees.

7. Unless you can guarantee cane sugar always medicate food. Remember "prevention is better than cure."

Now, the reason I suggest clearing floorboards is it tends to keep a healthy atmosphere, also relieving the bees of hard work when they may be better employed gathering pollen and carrying water.

Re Winter Ventilation.—Some beekeepers advise 6in. entrances during winter. Now, during prolonged severe weather, to maintain the necessary temperature, stocks must consume more stores than, say, with a 2in. entrance.

During long periods of frost, may I suggest this must have a deterrent effect on the bee, owing to it being unable to void its excreta.

Also, I have found queens seem later in commencing to lay in spring, which beekeepers know is vital to honey production.

Where bees live in their natural state, in trees, one usually finds very small entrances.—H. R. OBORNE, Hants.

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ASSOCIATIONS AND THEIR WORK.

[9645] Although the above subject has had a good "hiding," in the forcible sense of the word, it might not be out of place if at this interval I take up the cudgel in their defence once again. I notice that although your correspondent, 9598, page 401, signs himself, "Still a Novice," he refers to an incident which he says occurred "some years ago." Of course this may be a mere handle, or a shelter for the modesty, which he otherwise fails to hide; be this as it may, he strikes me, to say the least, as rather presumptuous in his criticism of a movement which he fails to support or find any usefulness in. One must come to the conclusion that he is as cold as the "snowball" club he is pleased to liken us to—which, however, has failed to gather him in. It is gratifying to know he managed to "slide" to the demonstrator, which brings me to my point. How does he imagine these are paid for: and even the "lifting of hive roofs," which most novices are only too glad to accept, but which he thinks useless, has to be paid for, and if we all took the wooing he appears to think necessary to win ardour I'm afraid we should be worn out, as well as bankrupt. I rather like his simile of "motor cyclists," but they would be in a sad condition without petrol. Now, friend, what is the grievance? Is the sub. too small? Is the mode of entry too simple? Look at the good you are leaving undone. "Several members only want asking";

join up, do your bit, throw in the weight of all this cheap advice, read the middle and last six lines of your letter again, and all the pleasures of membership and usefulness will be added to "your own personal effort." I ask you!

It does appear that we members do not do as we should in proffering the helping hand and friendly intercourse so necessary for success, especially when the very continuance in safety of the craft seems to depend on a united front, or, as we say nowadays, a declaration of war-aims: we shall never be able to drive a better bargain than to-day.—A. H. HAMSHAR.

## PAINT INSIDE HIVES.

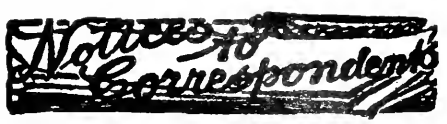
[9646] With reference to No. 9633, by Mr. J. Pearman. If the idea is to give a coat of paint to the inside of hives for the sake of cleanliness, I may say that I have used, and seen others use, Hall's distemper for this purpose. You can put lzal or other disinfectant into it before using, and it avoids Mr. Pearman's objections in the case of paint.

As to the second part of his letter, please let me advise all those who use metal ends and blocks of wood, etc., for spacing frames, to use their eyes instead, and throw all their ends away. Anyone who has once tried to do without ends will, I am quite sure, be very loath to go back to them. In my opinion they are a nuisance, and quite useless. I have used none myself for seven or eight years.

*Re* Mr. Claridge's article, No. 9631, I have no doubt that these hives are good, but they *must* be more difficult to make true, and I have always found that it is not at the plinths (if put on with paint under as they should be, and fitted properly) that wet gets in, but through the roof. Now nine roofs out of ten are made with too little pitch. The one in illustration, referred to by Mr. Claridge, in Mr. Herrod-Hempsall's book has a very good roof. A roof should be made of grooved and tongued matching, well painted, covered with calico, and painted again at least once a year. If this is done little trouble will be given by wet. A roof made of overlapping boards, like the ones in centre of illustration referred to above, is not often satisfactory.

A good roof always means a dry hive. Too much stress can hardly be laid on this fact.

*Floorboards.*—I have found that my own plan is quite satisfactory. I put a ½-in. thick strip round three sides of floorboard, enclosing an area equal to that of inside of brood chamber. This gives entrance ½-in. deep and full width, and leaves nearly an inch clear under frames. —R. B. MANLEY.




***Correspondents desiring an answer in the next issue should send questions to reach this office NOT LATER than the FIRST POST on MONDAY MORNING. Only SPECIALLY URGENT questions will be replied to by post if a STAMPED addressed envelope is enclosed. All questions must be accompanied by the sender's name and address, not necessarily for publication, but as a guarantee of good faith. There is no fee for answering questions.***

H. WRIGHT (Market Rasen).—*Transferring from skep to frame hive.*—How to do this is fully explained on page 149 of "The Guide Book." The best time to do it is when the skep is becoming crowded with bees, and there is a fair amount of flowers in bloom, with weather suitable for the bees to fly out and collect nectar.

When making an artificial swarm it is better to give the queenless lot a fertile queen.

J. H. SMITH (Notts).—*Transferring bees from old hive.*—Your hive is evidently an old "Stewarton." We should prefer to transfer by the method given on page 149 of "The Guide Book." We do not think either of your plans would be successful. The first would be almost certain to end in disaster, as all the flying bees would return to the old stand, leaving the queen with too few bees in the other hive. Your second plan would probably result in the bees all going to the combs containing the brood, leaving the queen to perish.

C. S. GURTEEN (Haverhill).—*Treating honey to remove the flavour for cooking purposes.*—Use a mild flavoured honey, such as clover, or sainfoin. You cannot get rid of the peculiar sweetness of honey, although by boiling the aroma is destroyed, and the taste of the honey not so perceptible. The honey should be diluted, otherwise it would be burned, and then it tastes more like burned sugar.

A. Z. A. (Ealing).—We know of no book that treats of the detailed practical work on dissection of the bee. In the Bibliography at the end of Cowan's "Honey Bee" you will find a list of a large number of papers dealing with the different organs and parts of the bee, and these go into such details as you require. Possibly "The Anatomy of the Honey Bee," by R. E. Snodgrass, would answer some of your requirements. It is Technical Series No. 18, published by the U.S. Department of Agriculture, Washington, D.C., United States of America.

We shall be pleased to supply you with diseased bees if we have any at that time.

*Suspected Disease.*

BEGINNER (Dunmow).—The bees are probably exhausted after a long flight. If you fit up an extension to the alighting board a good many will be saved.

"DURHAM" (Durham).—No. 1 sample had "Isle of Wight" disease. We could not find disease in No. 2.

J. A. RICHARDSON (Ambleside).—There were symptoms of "Isle of Wight" disease, but the bees were too dry to enable us to say definitely that they were diseased.

J. ADAMSON (Gerrards Cross).—The bees were too dry for diagnosis.

F. HOBBS (Chesham).—The bees were too dry for diagnosis. The appearance of the piece of comb suggests starvation.

P. A. CRACKNELL (Kent), J. FITZWILLIAM (Beds.), "H. G." (Yorks.), REV. C. F. BINGERS (Wilts.), "J. C. B." (Atherstone).—The trouble was "Isle of Wight" disease.

J. CASTINAN (Hever).—We do not find any disease in the bees.

## Special Prepaid Advertisements

**Two Words One Penny, minimum Sixpence.**

### PRIVATE ADVERTISEMENTS.

£5 GIVEN for good ten-frame Stock Healthy Italian Bees; also same price for ten-frame Stock Healthy Dutch Bees. Delivery as early as possible.—C. RENTON, Naseby Hall, Rugby. d.35

A. H. BARTLETT can book few Swarms Italian Hybrids; guaranteed free from disease, very quiet; second to none as workers. Price on application. Two good Stocks in Skeps for sale, in best of condition.—High Street, Crowthorne. d.35

TWO gross W.B.C. Ends, 2s. 9d. per gross; new; post free.—MISS ADAMS, Dunton, Biggleswade. d.37

FOR SALE, four J. Lee's W.B.C. Hives, complete; used once. Strong stock Golden Italian Bees wanted.—Price and particulars, OXBOR ROW, Kirby Cross, Essex. d.38

120 LBS. BEESWAX for £12 2s. 6d., on rail; sample 3d.; deposit B.B.J.—HAWKES, Barley, Royston, Herts. d.39

FOR SALE, four Stocks of Bees with Hives, two with double walls back and front, two with double walls all round; all in good condition; each with nine standard wired frames; strong with bees and brood; Hybrids; 1917 Queens; never had disease. What offers?—FROSTAD, The Lodge, Pinewood, Wokingham, Berks. d.40

STOCK of Bees for Sale, Italians, £4 10s.—L. CHRISTMAS, Holybourne, Alton, Hants. d.41

A FEW 10-frame Stocks of Italians, also Hybrids, 1917 Queens, guaranteed healthy, £5 each.—GRAHAM, 6, Merch Terrace, Cadoxton, Barry, Glam. d.42

FOR SALE, Simmins' "A Modern Bee Farm." Good condition.—BLAND, Greenhill, Kidderminster. d.43

WANTED, immediately, one good stock Bees; also early Swarm.—WOOD, Manor House, Neston, Cheshire. d.44

WANTED, early Swarm. Price, carriage paid. —K. PAUL, Bradford Abbas, Sherborne, Dorset. d.45

WANTED, immediately, strong ten-frame stock of Bees; Dutch or Italian preferred; guaranteed healthy.—HOUSE OF MERCY, Maplestead, Halstead, Essex. d.46

IN high-class honey-producing district, North Essex, 8-roomed House; suit two families; coal, fowl, wash-houses and stabling; one acre; freehold; £550 only. Four miles main line G.E.R., 40 London. Particulars, stamped envelope.—DARRINGTON, Wenden, by Saffron Walden. d.47

EGYPTIAN QUEEN, 1918, fertile, pure strain, guaranteed healthy, wanted by end of May.—Box 30, B.B.J. Office, 23, Bedford Street, Strand, W.C.2. d.48

WANTED, immediately, Warwickshire district, two strong 10-frame stocks of Italian Bees, 1917 Queens, from apiary guaranteed free from disease. Would pay £5 each delivered.—Box 29, B.B.J. Office, 23, Bedford Street, Strand, W.C.2. d.49

BEES.—Wanted one or two healthy Stocks, 1917 Queens. Moderate price given. — Apply, GEO. WARD, Langley Mill, Notts. d.50

TWO 28 lb. Tins pure light Cambridge Honey (guaranteed), 2s. 6d. per lb; sample, 3d.—J. YOUNGER, 6, Maid's Causeway, Cambridge. d.51

WANTED, Stocks of Bees.—Particulars and prices to WM. WOOD & SON, LTD., Wood Green, N.22. d.52

TWO new Standard Frame Hives, with lifts, painted, 27s. 6d.; two ditto, with telescopic lifts, 32s. 6d.; f.o.r.—W. WOODS, Normandy, Guildford. d.53

WE have drooled along in these columns during the winter months and kept the Flavine banner flying more to cheer up the D.B.'s than anything else. Nothing could be proven during that period, but we asked you to look over our literature and think it over. The season is now approaching when 1d. spent on Flavine will insure the average apiary from "I.O.W." disease during 1918.—S. H. SMITH, 30, Maid's Causeway, Cambridge. d.54

WANTED, two or three cwts. of Honey.—Quote lowest price on rail and sample to Box 31, BEE JOURNAL Office, 23, Bedford Street, Strand. d.54

TUITION given in Commercial Bee-keeping in exchange for services. Applicant must be capable and used to work.—Address, "B. Z.," c/o J. W. VICKERS & CO., LTD., 5, Nicholas Lane, E.C.4. d.55

WANTED, 10 to 15 Swarms, delivered not later than June 14. Willing to pay good price for good swarms.—Reply to "Swarms," B.B.J. Office, 23, Bedford Street, Strand, W.C.2. d.57

WANTED, two or three Stocks of Bees, guaranteed free from disease.—HILL, West Hanney, Wantage. d.13

WANTED, Cowan Rapid Extractor, two or four Frames. — CONRAD GURTEEN, Woodlands, Haverhill. d.23

WANTED, few Stocks Healthy Hybrids or Italians on frames (Taylor's); April delivery.—LEE, Normanby, Potters Bar. d.27

PRACTICAL Instruction wanted by Lady in Bee-keeping, Poultry-keeping, Fruit and Vegetable Growing.—Box 26, BRITISH BEE JOURNAL Office, 23, Bedford Street, Strand, W.C.2. d.1

WANTED, two Swarms.—Particulars to WM. WHITLAM, 9, The Grove, Normanton, Yorks. d.4

### BUSINESS ADVERTISEMENTS.

COMFORTABLE APARTMENTS for Brother Bee-keepers visiting Douglas. Terms: Tea, bed, and breakfast, 3s. 6d.; or full board, 6s. per day.—HORSLEY'S, Merridale House, top of Castle Drive, Douglas, Isle of Man.

1918 PURE ITALIAN QUEENS, from disease-resisting strain; guaranteed healthy. Ready in May. Now booking orders for above. Stamped envelope for particulars.—CROWE, Merriott, Crewkerne. d.28

SECTIONS, 1½ in., two bee-way, split for foundation; per 100, 4s. Sample by post, 2d.—S. J. BALDWIN, Apiary, Bromley, Kent. d.29

**HONEY AND BEESWAX PURCHASED.**
Run Honey in bulk. Sections per gross.

**HONEY FOR SALE.**
Cuban, Californian, English, Irish.
Free tins and cases, carriage paid. **Cash with** order. Samples, 3d. Prices on application.

**A. GORDON ROWE, 28a, Moy Road, Cardiff.**


## SEASONABLE HINTS.

The weather is now very trying for everyone and everything. Those who have taken the advice, so often given, to look after the stores and feed their bees, will have the satisfaction of knowing they are all right; but probably a number of colonies will go under unless the weather improves very shortly. Do not attempt to pull the combs apart until the cold spell is over, but proceed with spring cleaning directly it is warm enough. Some bees had the supers on before the weather changed: these should be kept warmly wrapped. Another effect of the cold will be to check swarming. No doubt, in some hives queen cells were started, but these will be discontinued, or if they contained larvæ they will be killed and thrown out.

Our correspondent, Mr. Manly, last week advised the scrapping of metal ends and the spacing of the combs by the eye alone. This may, probably does, suit Mr. Manly, but it is advice to which we are strongly and totally opposed. We would especially warn any inexperienced bee-keeper—the old hands need no warning—against discarding the metal ends or the wood shoulders with which some frames are made. Whenever the combs are examined always be sure that they are pushed up until all the shoulders or metal ends are each pressing tightly against its neighbour. If they are not, misshapen combs will be the result.

There are several disadvantages in frames without ends. The combs will become "lumpy" and misshapen through incorrect spacing, and from the same cause too much drone comb may be built. Supers—especially section racks—do not always cover the whole length of the top bars, and spaces are left for the passage of draughts and bees.

Those who intend rearing their own queen should make preparation, if that has not already been done. Drone comb should be placed near the comb of brood in those colonies that are desired to furnish the drones for mating the young queen, so that at the right time there may be a great number of drones from the selected stock on the wing, and the young queen will have a correspondingly better chance of mating with one of them.

The nucleus hives, from which the young queen is to take her mating flight should be placed in position and made ready to receive the combs, bees, and queen cell or young queen.

## NOTICE.

Will the secretaries of every county and district bee-keepers' association in England and Wales, kindly send me, as soon as possible, their name and address, together with the name of their association.

The information is required to further the interests of, and benefit the craft.

W. Herrod-Hempsall,
23, Bedford Street,
Strand, W.C.2.

## PRE-PAID ADVERTISEMENT RATES.

Will advertisers please note that, commencing with the issue for May 9, the rates of the above will be raised by ½d. per word. Private advertisements will be 1d. per word, and those under "Business" 1½d. per word.

## BRITISH BEE-KEEPERS' ASSOCIATION.

The monthly meeting of the Council was held at 23 Bedford Street, Strand, London, W.C.2, on Thursday, April 18, 1918.

Mr. W. F. Reid presided, and there were also present Messrs. J. N. Smallwood, G. Bryden, G. S. Faunch, G. R. Alder, W. H. Simms, F. W. Watts, J. B. Lamb, J. Herrod-Hempsall, G. J. Flashman. Associations' representatives: E. Ff. Ball (Bucks), J. Rae (Essex), Rev. A. C. Atkins (Sussex), and the Secretary, W. Herrod-Hempsall.

Letters of regret at inability to attend were read from Miss M. D. Sillar, Messrs. T. W. Cowan, T. Bevan, G. W. Judge, A. G. Pugh, and C. L. M. Eales.

The minutes of Council meeting held March 21, 1918, were read and confirmed.

The following new members were elected:—Lady Hawkins, Mrs. Kettle, Mrs. A. M. Cleminson, Miss F. Reed, Miss E. Boyns, Lieut. J. G. Eaton, Messrs. P. G. Mackinnon, E. Stevens, W. P. Jones, R. B. Waite, E. Stucke, C. H. Montgomery, P. Bebbington, and F. Warren.

Life member, Lieut. O. M. D. Renton.

The following Associations nominated representatives on the Council, and all were accepted:—South Staffs., A. E. Taylor. Sussex, Rev. A. C. Atkins. Norfolk, H. W. A. Deterding. Surrey, W. E. Hamlin. Northumberland, P. C. Swan. Mid and West Herts., F. H. Brown.

The report of the Finance Committee was presented by Mr. Smallwood, who stated that the payments into the bank for March amounted to £32 1s. 8d. The bank balance on April 1, was £116 15s. 3d. Payments amounting to 18s. 6d. were recommended.

Next meeing of Council, May 16, 1918, at 23, Bedford Street, Strand, London, W.C.2.

## A DORSET YARN.

The week ending April 20 has been a bitterly cold one, not a bee to be seen until 2.30 Thursday, then for an hour or two the sun shone clear and bright, and our bees were soon over the fruit trees; one stock has been clustering round the brood chamber the whole week, and part of last; they are waiting a favourable day to swarm; the drones are more in evidence over the sections; the wind has gone south-west to-day, so shall look for them to-morrow if warm, when the church bells ring out the call to service; have heard the young queens two or three days ago; one must be out of the cells during this long wait. The workers must have enough to do to keep the old and young queens from meeting, as when fully developed they bite off the capping. I have cut out the queen cells to stop swarming after the first, in other years, and I have watched them bite round the sides until they get their heads out, and the cover is pushed back. That seems to be the best way to stop continuous swarming, as there cannot be any more queens till after 21 days; this is easy with bar frame hives when the weather is fine and warm, but it cannot be done in the open with biting north winds blowing a gale over the hives.

"To be or not to be, that is the question," so wrote the Bard of Avon. It is the same with the yarns from Dorset, to write or not to write. I am giving offence to some of your readers by bringing in horticulture and not enough about bees. Please do not look for another yarn for a month, it will give those who quibble more space in the JOURNAL. I only write of what I know and have seen in the years among bees and flowers.—J. J. KETTLE.

[We think there are very few who will quibble at the hints on horticulture given by Mr. Kettle, or at other articles on the same subject that have appeared lately. The two crafts are not only allied, but are dependent on each other. If it was not for the flowers bees would die of starvation, and many plants are dependent on the bees for the perpetuation of their species. In the past, bee-keepers were wont to complain that the farmer and the horticulturist were antagonistic to the bee, which it was contended—and rightly—was one of their best friends. Now the bee is being appraised by them at its true value, and, forsooth, some bee-keepers grumble at a little prominence which is given to hints on the culture of plants, etc., that are not only useful to man in themselves, but are also of special value to the bee.

There is also one other aspect we have in mind at the present time. It is an absolute necessity that everyone should not only produce as much honey as possible, but also other kinds of food, and we look upon any help we can give in that direction as a national service.

Our readers will know that Mr. Kettle is a very busy man, and we are sure the majority of them, judging by the number of letters of appreciation of his articles we receive, will be sorry to miss any, if he can find time to continue them.—EDS.]

## THE BEE GARDEN.

THE OFFICIAL LISTS.—(*Continued.*)

| | Values. Honey. | Pollen. |
|---|---|---|
| *Althæa rosea* ... ... | 3 | — |
| *Alyssum maritimum* ... ... | 1 | — |
| *Anchusa italica* ... ... | ? | ? |
| *Impatiens* ... ... ... | 2 | — |
| *Iberis* ... ... ... ... | ? | ? |
| *Campanula medium* ... ... | 2 | 1 |
| *Centaurea cyanus* ... ... | 2 | — |
| *Centaurea moschata* ... ... | ? | ? |
| *Cheiranthus Cheiri* ... ... | 3 | 1 |
| *Clarkia pulchella* ... ... | 2 | — |
| *Coreopsis tinctoria* ... ... | ? | ? |
| *Eschscholtzia crocea* ... ... | — | 1 |
| *Eutoca viscida* ... ... | ? | ? |
| *Hedysarum coronarium* ... | 3 | 3 |
| *Gilia tricolor* ... ... ... | ? | ? |
| *Helianthus annuus* ... ... | 1 | 1 |
| *Limnanthes Douglassii* ... | 3 | — |
| *Lobelia speciosa* ... ... | ? | ? |
| *Reseda odorata* ... ... | 3 | 2 |
| *Myosotis dissitiflora* ... ... | 2 | — |
| *Tropæolum majus* ... ... | 2 | — |
| *Nemophila insignis* ... ... | ? | ? |
| *Nemophila maculata* ... ... | ? | ? |
| *Nigella damascena* ... ... | 2 | — |
| *Papaver somniferum* ... ... | — | 3 |
| *Phacelia congesta* ... ... | 1 | 1 |
| *Phacelia lanacetifolia* ... | 3 | 2 |
| *Phacelia campanularia alba* | 1 | 1 |
| *Saponaria calabrica* ... ... | ? | ? |
| *Schizopetalon Walkeri* ... | ? | ? |
| *Silene pendula* ... ... | 1 | — |
| *Whitlavia grandiflora* ... | ? | ? |

There is no clear line of demarcation between the so-called annuals, biennials and perennials. Plants are arbitrarily placed in one or other of these three categories, according to their general duration under average climatic conditions and ordinary garden treatment in this country. Certain subjects treated as annuals here are true perennials in their homeland, while some others may, by special treatment, be developed into perennial shrubs—*e.g.*, mignonette.

As, however, it is precisely as open ground subjects that flowers are of interest and value to beekeepers, the classification will be adopted here, with certain reservations. An annual is defined as one that is raised from seed, germinates,

grows, matures, seeds and dies a natural death within a year. A biennial differs from an annual in not flowering until the second year after sowing.

According to their power of resistance to climatic rigor, annuals are described as hardy, half-hardy and tender. The last-mentioned class needs to be grown entirely under glass, so has no interest for the average beekeeper. Half-hardy subjects need to be started in heat and gradually hardened off previous to being bedded out.

Hardy annuals are those which need no protection during an average winter. Few kinds are exposed to this risk, however, as the general run of gardeners are too busy in autumn to sow annuals then. If, however, an early-blooming season be desired, autumn-sown plants are to be recommended. They are, too, the best and strongest.

There are some situations in which it would be inadvisable to sow in autumn—glacial, wind-swept places—as the percentage of survivors would be low. It should be borne in mind that autumn sowing is Nature's way, to be followed with discretion.

*(To be continued.)*

## SOUTH STAFFS. AND DISTRICT BEE-KEEPERS' ASSOCIATION.

ANNUAL MEETING.

The fifth annual meeting of the South Staffordshire and District Bee-keepers' Association was held on Saturday, March 28, at the Temperance Institute, Dudley. Mr. C. Thompson presided over a very large attendance of members.

The annual election of officers was duly carried out, and Mr. Robert Clayton, of Tettenhall, was elected president for the year. Mr. J. T. Homer, of Sedgley, was added to the list of vice-presidents. Mr. A. E. Taylor, of 202, Willow Avenue, Edgbaston, was elected as hon. secretary, in place of Mr. J. Price, of Old Hill, on his resignation to take up his duties as County Instructor. Mr. A. Cheshire was re-elected assistant secretary. Messrs. Robinson, J. Walton, Middleton, and Tilley were added to the present committee.

The report and accounts for the past season were presented by Mr. Price, and were considered most satisfactory. There had been a considerable addition of new members during the season. Sixty-four members had paid their subscriptions, and a balance in hand of £7 replaced the £1 1s. 9d. of last year. Two most successful honey shows had been held at Sedgley and Halesowen, in which the members were awarded prizes. Messrs. Cheshire and Taylor had done exceedingly well. There had also been an exhibit of bee produce at Dudley in connection with the Food Allotment Show, and many of the members sent honey for this purpose, and an attractive trophy was staged. Special thanks are due to Messrs. Cheshire, Mason, Taylor, Thompson and Griffiths for making this possible. Two meetings had been held, one at the apiary of Mr. E. H. Hipkins, of Dudley Castle Mill Farm, and another at the apiary of Mr. A. Cheshire, of Coseley. At the Coseley meeting the members partook of an excellent tea in the grounds of Mr. Lathe, and which was the most successful gathering that had yet been held.

He (the Hon. Sec.) was pleased to note that many members who had lost their bees continued to pay their subscription. This was very encouraging, and he thought that all members who still had bees should try to fit up their less fortunate comrades as soon as possible at a nominal charge, and so prevent possible re-introduction of disease by importing fresh bees, and also tend to counteract the exorbitant prices that are asked for bees by advertisers. The price of honey during the last six months had gone up considerably, as also had the price of appliances. The latter was natural, but the price of honey at 2s. 6d. a pound was certainly beyond the buying power of many. Most of the members of the Association had sold out at far less than this price, and had been very well satisfied. The question of re-stocking required immediate attention, and they were glad to know that the County Council had some idea of developing this in the near future.

Mr. Middleton, of Birmingham, thought that the British Bee-keepers' Association, as parent Association, should issue a statement concerning the possibility of curing bees suffering with Isle of Wight disease. He thought the majority present were agreed that there was no reliable cure as yet, and a statement by the parent Association would prevent a lot of dabbling with diseased stocks, which in many cases meant an easy way of spreading the disease.

Mr. Price thought a great drawback was the negligence to remove combs on which bees had died, at once. These were sources of attraction to healthy bees, and constant means of infection to bees that were left, and to any fresh bees that were brought into the district.

Mr. Taylor (the new secretary) said he had been very successful since his restart three years ago, but it required constant attention to keep disease away as long as there were the sources of evil that Mr. Price had referred to. He douched his bees occasionally with a solution of Izal, and kept only hybrids.

Mr. A. Cheshire said he would not like to see this meeting close without offering their congratulations to Mr. Price, who had started the Association and kept it going till now, and who had been appointed to the post of County Instructor for Staffordshire, and he thought the Committee might seriously consider whether their appreciation should not take a more substantial form than mere hearty applause.

The matter was unanimously left in the hands of the Committee to deal with.

Mr. Price, in replying, said that although he was giving up the post of secretary, he hoped to be in constant touch with all members in his new berth, and thought that there was a great future for the Association.—*Communicated.*

## THE NEW FOREST BEEKEEPERS' ASSOCIATION.

ANNUAL MEETING.

The annual general meeting of the above was held on Saturday, April 13, in the Brockenhurst Parish Room, at 3 p.m. A good attendance of members was presided over by the Rev. L. W. Mylrea, M.A., Chairman of the Association, who was supported by the Hon. Secretary and Expert, Mr. H. Bright, and Mr. C. S. Lemitte, Hon. Treasurer.

After the minutes of the last annual meeting had been read and confirmed, the Chairman, in presenting the report and balance-sheet for 1917, commented on the favourable way in which the association had grown since September, 1916, when it had been founded. Now they had nearly 80 members scattered over the New Forest area. Features of the past year's work had been the opportunities afforded the association at the Ringwood Food Economy Exhibition and the Arts and Crafts at Brockenhurst, in addition to the valuable help given by the Hon. Secretary in visiting and inspecting hives. This year more than ever bee-keeping should be encouraged and developed in the national interests. The association would endeavour to arrange to look after hives of any members called up on war service, and had also ordered a supply of accessories which might be bought by members from the Hon. Secretary. He wished to thank the President, Vice-Presidents, the Committee, Mr. Lemitte, the Hon. Treasurer, and Mr. H. Bright for all the valuable help they had given him in forwarding the interests of the association.

Sir Louis Dane, in proposing the adoption of the report and balance-sheet—receipts £17 17s. 2d., expenditure £8 15s. 7d., thus showing a favourable balance of £8 11s. 7d.—complimented the Chairman on the satisfactory state and growth of the association. He was sure that everyone present would be glad to see Mr. Bright with them once again, fit and strong after his serious accident, which laid him up for six months. Mrs. Power seconded the adoption. The President, Lady Gertrude Crawford, with the Vice-Presidents, were re-elected, as also the Chairman, Hon. Secretary and Hon. Treasurer, with the former Committee. The following new members were also elected on the Committee:—Lady Egerton, Miss Bowden Smith, Mrs. Groom, Miss Judd, Sir Louis Dane, Mr. B. H. Dalrymple, Mr. H. Moser, and Mr. Hamilton.

An honorarium of £2 2s. was unanimously voted by the association to the Expert as a small token of their appreciation of his work.

Mr. H. Bright then delivered a most interesting and practical talk on "Swarm Preventing," "Feeding," and "How to Remove Bees from Trees or Buildings." He illustrated the various methods under discussion by ingeniously made models of skeps, hives, and a brick pier, which excited much interest and admiration. Questions were invited, and many were answered.

In conclusion, the Chairman asked all present to do what they could in becoming missionaries of bee-keeping, so that they might induce others to take to the craft. He was quite sure that much might be done through the women's institutes that now existed in nearly every village. The association would always be ready to give lectures and demonstrations where practicable, and he asked the members to make this known to others. In thanking those who had so kindly lent them the room for their meeting, the Chairman made a sympathetic reference to the sad death of the Vicar of Brockenhurst, Rev. A. Chambers. —(*Communicated.*)

## NOTES FROM ITALY.

For over eighteen months I have been on Active Service in France and Italy, and during that period I have never seen a modern hive.

Whilst in France I saw two apiaries, and the bees there were housed in the old-fashioned skeps resting on, in one case, a long board, and in the other case in two tiers, with a roof of thatch to keep off the rain.

It is surprising how wild flowers grow in shell-torn ground after a short interval. I passed over a portion of ground four months after we had driven the Germans out, and it was then carpeted with flowers of every hue. I don't think there could have been a foot of bare earth for five or six miles. It was a beautiful sight.

During the first three months of my stay in this country (Italy) I never noticed a beehive; it may be that I saw them but failed to notice what they were. Since that time we have moved from the plains to a hilly part of the country, and it was then that I noticed the first beehive. One day on climbing one of the hills I heard the hum of some bees quite near, but for some time failed to locate their position, This was because I was looking for a modern hive, or failing that, a skep, so you can judge my surprise when I saw the bees flying in and out of an oblong box containing comb.

The box was about 3 ft. long and 10 ins. square at the ends. One end was closed and the other fully open, with no means of restricting the entrance. This box was placed on a trestle, with the open end about 3 ins. lower than the closed. The comb ran from front to rear.

This box is evidently *standardised*, for since that day I have seen well over 100, and they have all been of the same size and shape, with one exception, this was the same size but tubular. The first was the only one I have seen on a stand; the others have been either on the top floor of the open-sided barns or were hung under the projecting eaves of the houses or barns, the entrance in every case being lower than the closed end.

I think bees must be kept mainly for wax production, as pure wax candles are used in the churches of this country. They are certainly not used for sections, as there are no means of supering.

The northern slopes of the largest hills are still covered with snow, but the southern slopes are more pleasing, as they are covered with wild flowers, the crocus predominating. Primroses are in full bloom, and there are large quantities of daffodils, hyacinths, snowdrops and a few clumps of violets. There are also large patches of purple heather, but, so far, I have not seen the white variety. There is also a flower about the size and shape of the anemone, with a stalk about 4 ins. long; it is perfectly green, even the pollen being the same colour.

On the plains enormous quantities of acacias are grown; they seem to be used as wind-breaks round the scattered farmhouses. Nearly every house has a large clump of bamboo growing.

The vines are all trained now, and are showing bud. The vineyards extend for many miles; every house has its own vines, and they are even cultivated up the sides of the hills. Wine is drunk at all meals here, and the best wine is made from grapes grown on the hills.—Sgt. H. JENKINSON, D.C.M.

## ECHOES FROM THE HIVES.

AN ECHO FROM HERTS.

How quickly the time flies! It hardly seems a week ago that the little coppice by my house was covered with snow; now it is rapidly coming into leaf, while the birds sing their loudest from daybreak till dusk, and the cuckoo is already calling.

The exceptional weather of early March brought on the trees, and we have had no check so far. Bee fodder is very plentiful round here—wild cherry, plum, and blackthorn, among the larger varieties; speedwell, dandelion, celandine and a host of minor flowers along the hedgerows all gladden the bee man's heart. My red currants and gooseberries are also in full flower, and if the work of the bees goes for anything, should bear heavily.

There is still a discordant note in the harmony. "Isle of Wight" disease is spreading, and, unfortunately for me, is getting far too close to be pleasant. However, I hope for the best, and it perhaps would not be for the best that bee-folk should have too easy a time. The best results generally follow repeated failures, and perhaps this scourge will teach us useful truths connected with our little friends.—G. J. F.


***The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.***

## PRICE OF HONEY.

[9647] I notice in the JOURNAL, as an old reader, the extraordinary price of honey, wholesale, compared with the price of honey in 1914. That year the price was about 60s. per cwt. This last week's price is advertised up to 2s. 6d. per lb. wholesale. To put my own case, I lost my bees three years ago, having a good retail sale at that time; since then I have bought extensively to keep up that trade. This season I have had a good sale. I might say I have sold hundreds of pounds, mostly to relatives and dependents of the brave fellows who are laying down their lives for us in each of the different theatres of war. I think,

above all, these and those they have left behind should be our first consideration, and let them see we are not out for all we can get out of those they have left here whilst they are fighting for us. Of course, it suits the well-to-do people better—also the large wage earners—but I think it a step too far at 2s. 6d. per lb. wholesale, and glass jars at 36s. per gross. A man could not sell it out retail at much less than 3s. per lb.. I am well aware appliances have gone up double, but I don't think it comes in line with the other, being thoroughly acquainted with the losses attached to the bee industry. Wishing all bee-men of the old country a successful season.—ALFRED WILLMOTT.

## MAKING THE BEST OF "ISLE OF WIGHT" DISEASE.

[9648] I read with some interest the article in this week's issue of the B.B.J. by Mr. J. N. Kidd, on "Isle of Wight" disease.

In the first place I cannot see any use in the theory of destroying stocks that shown signs of "Isle of Wight" disease, for it is of the utmost importance to bee-keepers, that this dread disease be combated by finding a curative, or, better still, a preventive treatment, and this, surely, can never be attained by following the destroying process.

It has already been proved that many cases have been cured, even when in a very bad way.

Secondly, I believe it is an axiom in bee-keeping that one cannot have swarms and a good surplus of honey, and I suppose Mr. Kidd, as every other bee-keeper, keeps his bees primarily for the purpose of surplus. Naturally, increase by swarming is good, if a large addition to an apiary is wanted, but in nine cases out of ten this will be to the detriment of any surplus stores.

I think Mr. Kidd is fundamentally wrong when he says he would make it a criminal offence to return swarms to parent hives, as doing so is one of the first principles of bee-keeping—*vide* the authority of the British Bee-Keepers' Guide Book.

If one makes a nucleus from the parent hive after swarming, and returns the bees, increase goes on without any detriment to the surplus honey. Mr. Kidd says that "when a swarm leaves its hive it takes away nearly all diseased bees," and in the same breath advocates the selling of swarms—this cannot be to the satisfaction of the purchaser or to the elimination of the disease. He also says that he thinks the price for swarms is too low; I will admit he shows in his estimates to have paid 12s. a swarm, and this is a very reasonable price, but just now swarms and stocks are fetching excessively and unreasonably high prices.

Finally, as regards the statistics of the stocks given, I consider that the amount of honey gathered is very poor, which goes to prove that the unrestricted swarming method is wrong from this important point of view, and also that the disease seems just as prevalent in the bees, which disproves that the swarming tactics are right from the standpoint (also very important) of the checking of the "Isle of Wight" disease.—FRED. L. WILSON.

## DISINFECTING FRAMES.

[9649] Considering the difficulty experienced last year in getting frames, and the common, pithy and badly-seasoned wood they were when one was fortunate enough to obtain a supply, it seemed to me a great waste to feel obliged, as often advised, to burn the combs taken from a stock which had succumbed to the "Isle of Wight" disease, frames and all.

One cannot afford in these times to use the same drastic measures practised before the war, and I have proved to my own satisfaction that if these frames and fittings are thoroughly cleaned and disinfected they are quite safe for re-use, and it may interest some to hear my procedure.

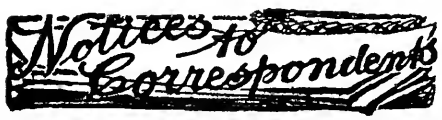
After cutting out the combs I carefully take the frames to pieces; the wire nails can be readily extracted with a pair of small pincers. Then the wax and propolis are quite easily and cleanly scraped off with a broad chisel, or, better still, a scraper knife, such as painters use, then cleaned off with a piece of medium sandpaper till the wood is quite clean.

After doing a quantity thus, I place them in a bath and let them soak in a fairly strong solution of disinfectant weighted down so as to keep them well covered for a whole day, then allow them to drain and dry in the sun.

They make up quite clean, true and straight without warping, and, I may say, that after treating dozens in this way, I have used them again in hives without seeing any signs of infection to the bees.

The old metal ends I scrape off all the propolis, then rub up with a piece of emery cloth which cleans them up like new ones; soak in the disinfectant for an hour or so, and drying quickly in the kitchen oven so as not to rust.

I think, in these trying times, wherever possible, nothing which, with a little trouble, can safely be re-used should be destroyed, and especially wood and metal work, which will be yet more scarce.—L. W. WALTON.




NOVICE (Shrewsbury).—*Testing foundation for adulteration.*—The foundation is genuine. The brittleness was due to age and cold. That for shallow extracting combs is drone base, and is in general use for that purpose. A simple test is to place a small piece of wax in a test tube, add some spirits of turpentine, and gently heat over a spirit lamp. If the solution is imperfect, or very cloudy, or if a precipitate is formed, the wax is adulterated. Spirits of turpentine dissolves pure wax completely. You will find further particulars in "Wax Craft."

F. J. (Ilkeston).—*Commencing bee-keeping.*—Get a copy of "The British Bee-keepers' Guide Book," 1s. 8½d. post free, from this office. It is not too late to commence this season, if you can get the hives and bees. The best type of hive is the W.B.C. Get Italian-Native hybrid bees. A new W.B.C. hive complete, with the frames fitted with foundation and wired, will cost about £3, carriage paid. An early swarm about 50s. If you get bees on combs the cost will be from £2 to £5, according to the number of combs covered by bees.

W. H. M. JONES (Corbridge).—*Identification of insect.*—The insect sent is an *Odynerus*, one of the solitary mud-wasps. We have 15 species of *Odynerus*, and their habits are very similar. Their larvæ feed on small caterpillars, and in order to keep them alive and in a fresh condition they are paralysed, but not killed. The food is thus kept fresh and virtually alive until the grub of the wasp devours it. This condition of the victims is secured by the wasp skilfully stinging one or more of the chief nerve centres, and rendering them inoperative by her poison. When the wasp has placed sufficient food in the cell she abandons it, after closing the opening with mud, and in due time the perfect insect emerges.

R. S. OWEN (Devon).—*Prevention of "Isle of Wight" disease.*—(1 and 2) We cannot say that any remedy is an absolute preventive, or cure, in every case. Prevention is the thing to aim at, and this is difficult at times owing to infected hives and combs in other apiaries being left exposed. Constant watchfulness is necessary, and the use of one of the advertised remedies at frequent intervals. A constant supply of pure water is essential.

(3) The best method of disinfecting hives is to scorch the inside with a painter's blow lamp, afterwards washing the whole hive inside and out with disinfectant and water. If no lamp is available, apply with a paint brush a solution of "Bacterol," or "Izal," one part; water, two parts.

It is better to use new frames, but if you disinfect, cut out the comb, and boil the frames for 15 to 20 minutes, afterwards soaking them for several hours in a 5 per cent. solution of "Bacterol" or "Izal." (4) Bees kept near the sea are not more liable to the disease than others.

"BEE JAY" (Woodford).—*Use of non-swarming chamber.*—This is more trouble than it is worth, and hives are seldom fitted with it now. The idea is to place a rack of sections in it, and as soon as the bees commence work on them to put them over the brood chamber, and another empty rack below, and so on. If you use shallow combs in it, the queen is almost certain to get ahead of you, and deposit eggs in them. If she is very prolific you might put in shallow combs of *worker* cells, and allow them to remain as an addition to the brood chamber. There will not be much honey stored in them. The greater part of it is invariably stored above the brood.

*Suspected Disease.*

B. OGILVIE (Perths.).—The bees marked "Castle" appear to be healthy; those marked "Garden" were affected with "Isle of Wight" disease. Both pieces of comb contained foul brood of old standing. The white matter in that from the "ruskie" is mouldy pollen.

AMATEUR (Stockton).—The bees are suffering from "Isle of Wight" disease.

A. M. (Cobham).—Cannot say. We do not find disease.

A NOVICE (Foxfield).—The bees were too dry for diagnosis. Judging from the symptoms you describe we should say starvation. The hive will be all right, but it is safer to disinfect it. The bit of comb sent is infested with the small wax moth, and if the rest is in the same condition you will not be able to use it. You can pick out the dead bees with a pin, if you have enough patience to do so, or the bees will clear them out. If there are a great number, cut out the comb, and put in a new sheet of foundation.

## Special Prepaid Advertisements.

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*Will advertisers please read these Rules carefully in order to save trouble, as they will in future be strictly adhered to.*

**Trade** *advertisement of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at 1d. per word as* **"Business"** *Announcements,* immediately under the *Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of 3s. per ¼in., or 5s. per inch.*

*PRIVATE ADVERTISEMENTS are only intended for readers having* **Surplus Stock** *to dispose of* **Driven Bees, Nuclei,** *and* **Queens that are reared or imported for sale,** *are Trade Advertisements, and can only be accepted under trade terms. A charge of 6d. extra will be made if a box number is used.*

*Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.*

*Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.*

### PRIVATE ADVERTISEMENTS.

A. H. BARTLETT wishes to thank all inquirers for Skeps and Swarms. Former sold by wire, latter all booked by Thursday afternoon. Applications were too numerous to answer. An advertisement will appear should I have any more swarms to offer.—High Street, Crowthorne. d.58

WILL sell 56 lbs. Granulated Honey at 2s. 5d. unless offered more. Cash or deposit. Sample 2d. Poll early. It's a bit of O.K.—H. HILL, Belmount, Ockbrook, Derby. d.59

WANTED, Geared Extractors; also a Root-Cowan. Genuine offers only.—A. TROWSE, 51, Eade Road, Norwich. d.60

WANTED, guaranteed healthy Stock of Bees. Quote price.—FAULKNER, Marlow. d.61

QUEENLESS BEES.—Wanted 2 lb.—Particulars, FRASER, 13, Manse Road, Markinch, Fife. d.62

WANTED, three Swarms, early June, from disease-free apiary. Good price given.—SECRETARY, S. Mary's School, Wantage. d.63

WANTED, healthy Stock or early Swarm; free from disease. State price.—FISKE, 20, Queen's Road, Bury St. Edmund's. d.64

FOR SALE, seven Queen Excluders, two Super Clearers, 30 Section Envelopes, Queen Cell Protector, Queen Cage, Swarm Catcher, Rapid Float Feeder, Stimulating Feeder, Bellows Smoker, Section Block, 5 dozen extra wide Metal Ends, Straw Skep, Tin Lids and Cork Wads for honey bottles; 35s. lot, carriage paid.—WATTS, Marldon Hill, Paignton. d.65

SECTIONS, two boxes, 500 each, split top, grooved three sides (Champion), 1lb. size, 45s. each (two way); Foundation Squares for same, 3s. 10d. per lb., on rail.—ARNFIELD Brenton, Hereford. d.66

SIMMINS' "Modern Bee Farm," bought 1917; just like new.—Offers to LEAROYD, Mixenden, Halifax. d.67

WANTED, for cash, Single and Double Simmins' "Conqueror" Hives; also two strong healthy Stocks.—Price and full particulars to ARTS AND CRAFTS, Cromer. d.68

WHEN you have tried all the "cures," send a 1d. stamp for a sample of Flavine and our Circular. You will then send 6d. for our three chapter booklet "Intensive Bee-keeping for Honey Production and Disease Control." If you don't like it, return it, and we will send you back your money. After May 1 the fourth chapter, "Honey Production and Swarm Control," will be sent free with all orders for Flavine.—S. H. SMITH, 30, Maid's Causeway, Cambridge. d.69

WANTED, Assistant Bee-keeper.—Write, stating experience, age and salary, "G. H.," c/o J. W. VICKERS & CO., LTD., 5, Nicholas Lane, E.C.4. d.74

120 LBS. BEESWAX for £12 2s. 6d., on rail; sample 3d.; deposit B.B.J.—HAWKES, Barley, Royston, Herts. d.39

WANTED, immediately, one good stock Bees; also early Swarm.—WOOD, Manor House Neston, Cheshire. d.44

WANTED, early Swarm. Price, carriage paid.—K. PAUL, Bradford Abbas, Sherborne, Dorset. d.45

WANTED, immediately, strong ten-frame stock of Bees; Dutch or Italian preferred; guaranteed healthy.—HOUSE OF MERCY, Maplestead, Halstead, Essex. d.46

IN high-class honey-producing district, North Essex, 8-roomed House; suit two families; coal, fowl, wash-houses and stabling; one acre; freehold; £350 only. Four miles main line G.E.R., 40 London. Particulars, stamped envelope.—DARRINGTON, Wenden, by Saffron Walden. d.47

EGYPTIAN QUEEN, 1918, fertile, pure strain, guaranteed healthy, wanted by end of May.—Box 59, B.B.J. Office, 23, Bedford Street, Strand, W.C.2. d.48

WANTED, immediately, Warwickshire district, two strong 10-frame stocks of Italian Bees, 1917 Queens, from apiary guaranteed free from disease. Would pay £5 each delivered.—Box 29, B.B.J. Office, 23, Bedford Street, Strand, W.C.2. d.49

WANTED, 10 to 15 Swarms, delivered not later than June 14. Willing to pay good price for good swarms. Reply to "Swarms," B.B.J. Office, 23, Bedford Street, Strand, W.C.2. d.57

**PRIVATE INSTRUCTION.**

BOARD Residence and Tuition in Practical Bee-keeping. W. ION, Eastfield Apiary, Healing Lincolnshire. d.71

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COMFORTABLE APARTMENTS for Brother Bee-keepers visiting Douglas. Terms: Tea, bed, and breakfast, 3s. 6d.; or full board, 6s. per day.—HORSLEY'S, Merridale House, top of Castle Drive, Douglas, Isle of Man.

**1918** PURE ITALIAN QUEENS, from disease-resisting strain; guaranteed healthy. Ready in May. Now booking orders for above. Stamped envelope for particulars.—CROWE, Merriott, Crewkerne. d.28

SECTIONS, 1½ in., two bee-way, split for foundation; per 100, 4s. Sample by post, 2d.—S. J. BALDWIN, Apiary, Bromley, Kent. d.29

CUNLIFFE'S SEEDS *DO* GROW. The Bees know that. Six varieties, 1s. 9d.; 12 Varieties, 3s.; 24 Varieties, 6s., post free; cash with order.—CHARLES CUNLIFFE, Seeds and Bees, Southport. d.72

"ISLE OF WIGHT" Disease permanently cured. Tested four years. Solution and directions, 2s., post free.—PRESSEY, St. Elmo, Coulsdon. d.73

STRICTLY BUSINESS.—A free sample Flavine and the Circular for 1d.; 8 packages, 6d.; a copy of Intensive Bee-keeping, 6d. All the above and a Sprayer for 5s., post paid.—S. H. SMITH, 30, Maid's Causeway, Cambridge. d.70

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Run Honey in bulk. Sections per gross.
**HONEY FOR SALE.**
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**A. GORDON ROWE, 28a, Moy Road, Cardiff.**

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The latest addition to the series is "Bee-Keeping in War-Time," by W. Herrod-Hempsall, F.E.S., 9d. net; post free, 11d. There are no illustrations, but the ten chapters are written in our late Junior Editor's usual clear and concise style, giving practical information, without useless "padding," that will enable anyone to take up bee-keeping with every chance of success.

## BRITISH BEE-KEEPERS' ASSOCIATION.

NOTICE.

If sufficient applications are received, a course of six lectures will be held in the Association's apiary at Golders Hill Park on May 29, June 5, 12, 19, 26, and July 3 at 7 p.m. each evening. Particulars from W. Herrod-Hempsall, 23, Bedford Street, Strand, London, W.C. 2.

## PRE-PAID ADVERTISEMENT RATES.

Will advertisers please note that, commencing with the issue for May 9, the rates of the above will be raised by ½d. per word. Private advertisements will be 1d. per word, and those under "Business" 1½d. per word.

## A DORSET YARN.

I may appear to have a big cheek in using Mr. Kettle's headline, but I felt that we ought to keep the same old flag flying, and should like to propose, Messrs. Editors, that as most likely you will receive other letters on a par with this, you divide us up and put us all under the same heading, so that a "Dorset Yarn" appears each week till we have the pleasure of reading the original "Dorset Yarns" again. I don't think your correspondent who made the complaint was thinking of the "Dorset Yarn" at all, but more of the articles on pollination. Splendid articles, full of valuable information, but for want of ground and lack of capital many of us are unable to make any use of it. To write an instructive and entertaining yarn every week throughout the winter about bees, and not at the same time bring in the plants and trees and flowers, upon which the bees live, would be a very tall order, especially if the remarks, like Mr. Kettle's, deal with what the bees are doing. I always look forward to the reading of the yarn, and others in my home read it and it only, the rest of the JOURNAL being of little interest to them. There are very few of those yarns (if any) that do not contain information valuable to most of us old beekeepers. Surrounded as he is with all kinds of plants and flowers, he is able to say exactly what the bees like best. I am an old beekeeper and believe in keeping one's eyes open, like Mr. Kettle, and only yesterday, when in my garden, noticed two items, both of which to the "Dorset Yarn" lay the credit. The first was two plum trees that I grafted this year according to instructions in the "Yarn." I put two grafts on each, and all four are shooting nicely. I have tried to graft plums for years, and one year put in 57 grafts, and have never succeeded before. Apples and pears take quite easily.

The other was Brussels sprout flowers as food for bees. I had two stocks of bees arrive by train about 5.30 on Saturday evening, and as their home is to be 1½ miles away from Wimborne I took them into my garden, well packed up the top of box, and opened the tie-hole, and out poured the bees. Within ten minutes those bees had found the Brussels flowers (that I had left on purpose for my bees), and were tumbling back into the box loaded with pollen. Other years I had pulled up my Brussels stumps when I wanted to plant potatoes; this year the potatoes are planted in between the rows of flowering Brussels.

Keep on yarning, Mr. Kettle; it would never do to call a hive of bees vicious because one bee happened to be "ratty."
—S. A. W. TOMLINSON.

## JOTTINGS.

ASSOCIATION.

We have had several rubs at this recently under different guises—individual effort to improve relations, also general complaints as to the conduct and management of what we are pleased to term our "associations." I'm afraid too many of us seem to be of the "get and keep" knowledge kind of members, instead of acting in the social and interchange of idea spirit, without which we cannot expect to attract new and fresh blood to the craft and societies. Yet we are models of "individual fraternising" when the chance comes our way. But we cannot.

somehow, make the slightest advance to create a local interest by organised effort, or to set apart, say, one evening a month for "association work," while to attend an annual meeting savours altogether too much of "business."'

Joining an association is not without its responsibilities. Our pleasures we make, and these can be considerably added to before we are liable to be thought "cranks." There is really an enormous amount of work for the willing worker now—work of a national and, for the next few years, philanthropic nature. How can we set this energy going? I believe there is plenty, but no one seems to know how to start, what to do, and, above all, how to meet. The solution is obviously local committees and centres, each working in their own and particular capacity. What a tremendous encouragement this would be to the "hon. secretary," if only a letter of plans and ideas could be sent to him periodically, and it would be hard if someone would not attend an annual meeting now and then; but this chaos and lack of interest in the management of our associations cannot go on. The association is ourselves and what we make it. We can hardly expect the class whom we say we are out to assist—namely, "the cottager and beginner"—to adhere to the ranks if we have no local hand that they can grasp; and if left alone they are a menace as well, and the tale of failure unfortunately increases in depth as well as length.—A. H. Hamshar.


PLACING AND WITHDRAWING SECTIONS.

Many will now be getting ready for the honey harvest, anticipating the time when supers will be required. It is wise in one's leisure hours to take time by the forelock and fill up racks of sections ahead of necessity. Folding, filling, and placing them in supers is generally a simple performance, but at times it may prove a trying ordeal. Last season I had evidence of how trying it may sometimes prove. A beekeeper home from the front for the usual few days' furlough wrote me that half his sections were snapping in his hands in spite of all care, and that the other half were unsatisfactory. I sent him a hasty note giving him the usual device of damping the V-cut, but entering into no particulars. By return of post came back a wail declaring that the cure had proved worse than the disease. *None* of the sections would fold true, and when pressed down at the dovetailing each immediately snapped up, thus liberating the sheet and foundation. No amount of pressure would keep the ends together, and as to squaring, every single section followed a shape and angle of its own. The damping process, of course, had been too elaborate, and had caused such a swelling of the wood that the joints would not fit. The least tiny trickle from the mouth of a very narrow-spouted jug would have been sufficient, instead of the miniature Niagara used. Very generally, I think, this plan is overdone. The time and labour necessary to carry it out efficiently may prove excessive when the process is undertaken by a novice.

Two other plans, both more simply applied and more efficient—neither, however, new—may be given. Carry your box of sections in the flat down into a cellar—if somewhat damp it suits better—and leave them there for two or three days, and you will find that every single section can be handled with ease, because the damp has cured the brittleness. There has been no time lost, no labour required, no handling of the sections individually or in groups, and no direct soaking or even wetting of the wood. Much of this will tarnish the section and darken the wood, so all this is saved.

The second plan is as simply carried out and as effective. Soak a blanket in hot water and wrap it round the parcel of sections you are to operate on; then place this in a cover of oilskin or oilcloth. Leave the packet intact over night or for double that time if the wood has been very dry and brittle, when you will find that the sections can be handled with impunity, just as if they had come fresh from the hands of the manufacturer. That is the secret of being able to handle sections with comfort and efficiency, and so as to handle 100 per cent. without fault or accident.

The box my friend had been dealing with had been stored for a long period in a shed, made-up walls and roof of galvanised iron, unshaded from the sun. Consequently they had become brittle to a fault. The worst I had ever seen. A good many of the sections sold in small towns and villages generally by ironmongers or seedsmen have been badly preserved when kept any length of time, and prove a nuisance.

Some beekeepers complain that their finished sections don't come out square, but show more or less of a bias. They should not. Even when no block is used they ought to fold perfectly true by hand, but if there is any slight slant it must be cured if racks are made perfectly square.

If they are, then sections, when pressed home in lines of three, should stand up all square. The fault lies here if the section proves faulty when filled. Home-made racks, if not perfectly squared, should have the wrong righted before they are filled. A fault often noticeable in these receptacles is that the sides and ends are bare the 4¼ in. deep, thus letting the weight of upper tiers rest, not on the walls, but on the sections below. This defect should be cured by placing strips of cardboard the thickness required along the top of the walls.

When packing sections which have been under pressure, and those showing a bias, they prove a bit of a nuisance, but with care in handling they can be made to travel without mishap. There is frequently a worse trouble. Sections should not be *forced* out of the racks. Being heavily propolised, they are at times rigidly fixed in, and are then difficult to remove. Place inch-square pieces of wood on the operating table. Lay the rack above these with the "rests" running along almost the length of the seven sections in the row. Push firmly and steadily on the side walls, when you will find the whole twenty-one rise gradually clear of the case ready for withdrawing. Of course any springs and boards used as wedges should first have been taken away before this process of clearing-out the sections has been tried. Two or more sections firmly bound together by heavy propolising may be severed, gently inserting the edge of a sharp knife or chisel. The original fault arose from the rows of sections not being pressed close enough when racks were being filled. When withdrawing sections handle them gently; poke no finger-tips into the honey, catch only the wood, and carry out the operation with clean hands.

Last season—and it may be presumed matters may be worse this year—both sections and super-foundation were difficult to procure when the full rush of the season was on. Let me advise beekeepers to secure supplies in time and to purchase both commodities from reliable dealers who make the line of beekeeping goods a speciality. Many small merchants with whom this is a side line accept whatever is sent them—old goods, inferior goods of poor quality at a high price. The best is the cheapest in the end. Poor foundation should never be used. The bees do not work it so readily, nor so satisfactorily, it may leave an objectionable mid-rib in the honey, and its use is certain to result in the production of more faulty sections. If obtained fresh from the factory it is best, but even if it is over a year old, if carefully kept, it is none the worse. If it has become dry and brittle it is difficult to handle, but the defect can be remedied by keeping the sheets in front of a moderate fire for some time. The pale, sickly look it had at first disappears, and it re-assumes the bright, healthy appearance of newly made foundation, while it can be handled with comfort and assurance.

## FLAVINE.

Bee-keepers be of good cheer! Successful treatment. Last autumn I had four good stocks of bees all with 1917 queens, but in the first week of October I noticed they were affected with "Isle of Wight" disease, so fed all with Bacterol syrup, and afterwards with Bacterol candy, spraying the alighting-boards of two hives with Bacterol; they are both dead, the others with Izal only one alive. February 23, when I commenced treating with Mr. Smith's Flavine, dissolving ¼ grain in 8 ozs. hot water, and just sprayed the top bars; result, decided improvement. March 9 repeated the treatment; result, further improvement. A fortnight later, March 24, the weather being warm enough to take the bars out, I well sprayed the bees, combs and inside of hive, using nearly 4 ozs. solution warm on the eight bars and hive, also placed the hive on new floor-board well Flavined, with clean Flavined quilt, and gave them a cake of pink candy and slow feeder, with 1 oz. Flavine solution to every pint of syrup. Since then, three weeks ago, I have not seen a single crawler, and not more than six dead bees outside the hive. The bees, from external observations, are doing very well, and I much regret not being able to report from an examination of the combs, but I have made a rule never to take one out when the thermometer is under 60 deg. Fahr.

I cannot speak too highly of the results of Flavine treatment, and would also record Mr. Honeyball, of Sneyd, has been equally successful in treating his one surviving stock, out of six.

All the bees in the hive except the queen will most probably have worked themselves to death before the end of May; and, considering my present surroundings shall not be disheartened if later in the year my bees are reinfected, as the disease yields so soon to Flavine treatment. I would strongly recommend all bee-keepers when spring cleaning to spray at least the top of the bars, and after cleaning the floor-board well soak it with Flavine solution, also spray the combs when supering, as a preventive. All bee-keepers are much indebted to Mr. Smith, of 30, Maids' Causeway, Cambridge for bringing Flavine to their notice.—H. F. Jolly, Chairman, Somerset B.K.A


*The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.*

## DIET AND "ISLE OF WIGHT" DISEASE.

[9650] I have been much interested in the various attempts to find a cure for "Isle of Wight" disease, and the conflict of testimony as to the efficacy of each of the drugs advanced as cures. It is quite evident that there is something behind this disease which is not yet clearly manifest, and that, so long as it is present or unremoved, the drugs will only cure temporarily. The puzzle is what that mysterious something is. Surely we should get light if we examine the causes and methods of cure of similar diseases in human beings. It is evident to all that this "Isle of Wight" disease is a bowel trouble, and that it is something of the dysentery category. Is it not a fact that the cause and cure of all forms of dysentery in man depend greatly upon *diet*? Unwholesome diet, allied with unsanitary conditions, is certain to bring on dysentery. Moreover, no matter what established remedy is used if the patient go back to the old conditions the disease is bound to break out again. Therefore, to cure it, there is needed a two-fold method of attack. First, by drug treatment; second, by a complete abandonment of the conditions that allowed the disease to break out.

A sudden scourge of this kind amongst bees must have some reason behind it. From the study of it in other directions one should be inclined to lay one's finger upon diet. Now, if we examine the matter of diet, what do we find? We find that for years, and in increasing measure, the bees of our land have been robbed of their natural winter stores, and fed upon a cheaper concoction of syrup or candy. Now this is supposed to be always made of *cane* sugar, but can we be sure that 50 per cent. of it actually is? Moreover, even if it be all cane sugar, that is not *grape* sugar but a very different article requiring fuller digestion. The bees have to consume this at a time when they have their worst conditions of sanitation. They have to consume an unnatural food at a time when perhaps for weeks they cannot make a cleansing flight. Now I throw out this challenge to bee-keepers—how do we know that by forcing the bees into unnatural conditions of diet at an unsanitary period, we have not gradually produced a weakened bowel condition conducive to the spread of a dysenteric ailment? May it not be that in being overgreedy, in taking all the harvest we possibly could from the bees, we have overreached ourselves and lost far more than we have gained. I should be glad to hear opinions on this matter. The idea came to me some time ago, and I have been carefully watching for proof or disproof. So far all that I have gathered is in the direction of proof. I have carefully studied the letters of those announcing "cures," and have been struck by the number of cases where *honey* was fed as medicated syrup, and also the number of failures when *sugar* was used, or where the disease broke out again *after* it was mentioned that the bees had been syrup fed in autumn. It seems a strange thing to me if we cannot manage to leave the bees enough of Nature's food, even in the worst of seasons. I have done that for years now—always keeping some bars of honey in warmth till the spring, when they can be singly given to any needy stocks. I don't want to boast prematurely, but since I gave up sugar feeding I have never had a trace of disease of any kind. The matter is surely as worthy of study as that of drugs. "Prevention is better than cure." I hope to benefit personally by a frank and free discussion of this whole matter. There are certain objections I can imagine being adduced, but to which, I believe, there are complete answers.—J. L. RENTOUL.

## PREVENTION OF SWARMING.

[9651] Replying to "Anxious to Learn's" inquiry (9643) in your issue of April 18, I am afraid I cannot tender your querist any other and better advice than that given in the B.B.K. Guide Book, *i.e.*, see that your colony of bees is headed by a young and prolific queen, allow her plenty of room for ovipositing in advance of requirements, and when the honey flow is on give more ventilation, but without draught, to keep the hive cool. Of course, these preparations must be begun early in the year, and should be taken in hand not later than March, as soon as the bees commence to extend their brood-nest, and to ensure success, it is essential that one should know the age of all queens, as sub-

sequent arrangements depend upon that. Young queens, *i.e.*, those raised last year, "in full profit" the second season, give the best results—they should be prolific, and will lend themselves easier to working for extracted honey without the risk of swarming than two-year-old ones. The latter are more eager to lay a large number of drone eggs in the spring, thereby creating the impulse for swarming which, once started, is difficult to check.

All colonies, intended to be worked for extracted honey, should, therefore, be headed by a young queen, and breeding encouraged during March/April by slow-feeding. Raise the division board $\frac{3}{8}$ in. from the floor-board, and as soon as the bees, for want of more room, begin to cluster behind same, add a frame of empty comb to the brood-nest—in a week's time this operation may have to be repeated, and so on till the brood-box contains ten frames. Before putting in the tenth frame, go over all the brood-combs and see whether the bees have made any preparations for queen cells, which they should not have done if you kept time with them and the weather has not been adverse. If no attempt at queen cells has been made, raise the whole brood chamber $\frac{5}{8}$ in. on laths put under sides and end to give more ventilation, put queen excluder on top of brood-box, and begin supering with two shallow frames, of worker comb by preference. If honey is coming in freely, and the bees begin to store in the shallows, add more as required, keeping super well wrapped up to economise heat.

Ten frames in brood chamber are, as a rule, sufficient for an ordinary black queen, but if your queen belongs to the yellow race, she will require more room for ovipositing, and the powers of egg-production of a first-class prolific queen are truly marvellous—however, an additional five frames, given in the shape of ten shallows below brood chamber, will in most cases meet requirements.

As soon as the eight frames of comb in the super are about two-thirds filled with honey, and the bees begin to lengthen out the top cells, the super should be raised and another one with empty frames of comb, or foundation, placed beneath it, and so on as long as the honey flow lasts.

Remove sealed combs of honey as soon as ready, and replace by empty combs, for if full combs are left any length of time in the supers, although the honey glut may still be on, the bees are not so eager to gather and store all they can as they would do when there are empty combs still to be filled.

In most cases the plan detailed above has worked satisfactorily with me to prevent swarming, far be it from me, however, to lay claim to entire prevention, as the weather conditions prevailing during May/June are the determining factor more than anything else, and these, of course, are beyond control.

Should, contrary to all precautions taken, a swarm issue, my *modus operandi* is to take out two or three brood frames with queen cells from the parent hive and make a nucleus of same, cut out all other queen cells, be careful not to overlook one, fill up brood body with frames of foundation, replace supers and return the swarm in the evening, and work and storing will go on next day as usual, and continue without further trouble till the end of the season.

"Anxious to Learn" should make a thorough study of the B.B.K. Guide Book and inwardly digest same, and if he closely follows the advice and instructions given therein, and has a practical lesson or two given him by a competent bee-keeper, I feel sure he will soon master the intricacies of bee-craft.—O. Puck, Chingford.

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## A BEGINNER'S EXPERIENCES.

[9652] A friend of mine had a swarm of bees come into his back garden on July 3, 1916. He took them in a box and gave them to me. I had to hunt about for a hive, and at last got one second-hand, with frames, but no foundation, but having a section of old honey we managed to stick a little comb on each frame. Well, we did the best we could, as we did not know where to get anything, and placed the hive on my allotment close by. Now my knowledge of bees was very little (my father used to keep them in skeps when I was a boy), but they did very well, and got a nice lot of stores, that, with 5 lbs. of Pascall's candy kept them through the winter, in fact I only gave them three cakes, and when we opened them in April they still had stores. After I had the bees about a month a man that knew all about bees came along and looked at them from the outside, and asked me if I were feeding them. Of course I said "No." "Well, then, you will lose them," said he. This was in the beginning of August, 1916, beautiful weather, with dozens of rows of runner beans, and scores of marrows on my neighbour's land close by, besides other flowers. A day or so afterwards along came another man who had kept bees, and knew everything. "Have you got sections on?" he asked. I said "No." "Why the bees have filled up their frames, and have no more room, they are lazy because they have no room to work." Now I knew both were wrong, because my friend had looked at them a day or two before. They had a nice lot of

honey and room for more, and a splendid lot of brood.

Well, we got them safely through last winter; I had two swarms from them. Curiously enough the first came out on July 3, the same date that we got the parent swarm; I got a stray swarm as well, making three. Two we united, so now I have two stocks of bees: they seem all right up to the present, although I have been obliged to winter them on candy, as they had very little stores.

I have been taking your JOURNAL now a year. I should very much like a talk with our friend Mr. Kettle, his talk is very interesting. I shall, no doubt, have to manage the bees myself a good deal this year, as my friend will not be able to be with me, and I hope to make a present of them to my son, who is at present on a shooting expedition in France: he was very interested in them when he was home last summer. I am within a half-hour's walk from Kew Gardens, while Richmond Park and Sheen Common are close by, also a lot of fruit orchards, apple, pear, and plum trees: I should think it a good neighbourhood for bees.—H PONTIN.

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## DEAD BEE-CLOGGED COMBS.

[9653] *Re* "A Novice, Foxfield," page 141, April 25th issue.

If a dead bee-clogged comb is aggravated by thick mould growth, or a case of unhatched dead in large numbers, refitting with foundation is the only course.

But frequently spring reveals many combs so clogged which the foregoing does not cover—starvation cases; at other times sulphuring results, if one does not know how to stop the latter. Such combs can be quickly made perfect again. If I have such a comb, or set of combs, at any time, I prefer to clear them myself rather than give the job to the bees. Such a little thing for me to do, but what a struggle and strain on the bees! Here it is:—

"Remove the tin ends, take the frame by one lug, left hand, chest high, top bar towards you, comb flat or preferably tilted up a little at the farthest (bottom bar) side. With the doubled-in index finger, right hand, give the free lug a smart upward blow, such as will make it spring four or five inches up, and repeat as quickly as the frame returns to the position again. Dead bees will rain out of the cells, and in a couple of minutes 70 per cent. of them will be laying at your feet. Those not thrown out will be so far dislodged that every bee can be picked off quickly, your comb again perfect and not a cell injured. Turn and repeat for the other side if required." This will never injure a comb, not even a quite new one, providing it is properly wired. Try it!

There is another way, but it involves a solid blow, and breaks the combs in places.

Who will tell us now how to get dead bees out of both sides at once, quickly and efficiently?—M. ATKINSON, Fakenham.

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## USING COMBS FROM DISEASED STOCKS.

[9654] It is unfortunate that no cure has yet been found for "Isle of Wight" disease, especially in this time of food shortage, when it seems imperative that beekeepers should do their best to produce more, instead of a less quantity.

I should like the experience of others who, like myself, have tried every remedy during the last few years, without as yet finding the cure.

The usual advice is to burn combs and all internal fittings, and to well disinfect hive before using again. Is this absolutely necessary?

Take a case like this. A stock did splendidly last year, working out all its combs from new foundation. During last winter it died out from "Isle of Wight" disease.

We mourn for the dead. Extract all the honey left behind. Gaze at the nice new combs. If only we could use them again with safety. Now what shall we do? A painter's lamp is the thing to make the hive safe for use again. Failing the lamp, we accomplish the same object with carbolic acid, Izal or Bacterol. I do not lose sight of the great difference between hive and combs; but if it is possible to make the hive safe, is it not possible to make the combs safe for use again?

Would this method do? After extracting all the honey get a bath big enough to take the combs. Have ready a solution of Bacterol. Lay combs on bottom of bath, and with a good garden syringe dress each side of combs so thoroughly that each cell is cleansed. Shake out well. Either use the extractor or lay each comb on cage of extractor and shake over bath.

If we could save the combs it would be an immense gain, as every beekeeper knows their value.

Take a stock of shallow frames which we use from year to year. Must these be destroyed? After use last year we carefully packed them away for future use. Perhaps some of the stocks upon which we used them we thought quite healthy, and gave no outward sign of disease when we packed up for winter, but which have since died, and unfortunately we know the cause only too well. Are these combs to be burnt, or can they be made safe for use again?

I feel quite sure the disease is on the wane, but I am afraid we cannot give the credit to any of the advertised remedies, judging by my own experience after trying them all.

Will any fellow-beekeepers give their experience as to using combs from stocks that have died? May I thank Mr. Hall for his very practical report from Hants? —ANXIOUS TO KNOW.

ARE SWARM-CATCHERS A SUCCESS?

[9655] It would be interesting to hear the opinion of some of your correspondents as to the success or otherwise of "swarm-catchers." I should be very glad of the information in the "B. B. J."—A. B. C.

EARLY SWARMS.

[9656] The following is from the Isle of Wight *County Press* of to-day's date. Is it not a record for an early swarm?—H. M. COOPER.

"A Shide correspondent writes that her bees swarmed on Friday week (April 12) and were successfully hived. This is a very early date."

[9657] Have any of your readers had a swarm earlier than this (the 26th)? A friend of mine—Mr. Crisp, of Fordham—tells me he had one to-day from a skep headed with last year's queen. They were a good sized lot, about 4 lbs.—F. M CLARIDGE.

## Notices to Correspondents

***Correspondents desiring an answer in the next issue should send questions to reach this office NOT LATER than the FIRST POST on MONDAY MORNING. Only SPECIALLY URGENT questions will be replied to by post if a STAMPED addressed envelope is enclosed. All questions must be accompanied by the sender's name and address, not necessarily for publication, but as a guarantee of good faith. There is no fee for answering questions.***

"BEE JAY" (Woodford).—*Use of non-swarming chamber.*—Do not put anything in this when you put the bees in the hive. As they need more room put shallow combs or frames of foundation above the standard combs—or, as you put it, the excluder—only. Naturally, the more room you give the bees in the brood chamber the longer they will be before they work in the supers. Later on if the queen appears to need more room for egg laying, and for this reason the bees are inclined to swarm, you can put combs in the non-swarming chamber to be used for brood. As we said last week, bees almost invariably store honey above the brood.

B. W. (Cornwall).—*Making a living from bees.*—It would not, for many reasons, be advisable to go in for bee-keeping alone in this country. With poultry, fruit farming, or dairying it is excellent.

H. C. BUTTRESS (Cambs.).—The honey boards you have are intended for a smaller super. You might nail strips of wood on the edges to make them large enough.

IN high-class honey-producing district, North Essex, 8-roomed House; suit two families; coal, fowl, wash-houses and stabling; one acre; freehold; £550 only. Four miles main line G.E.R., 40 London. Particulars, stamped envelope.—DARRINGTON, Wenden, by Saffron Walden. d.47

EGYPTIAN QUEEN, 1918, fertile, pure strain, guaranteed healthy, wanted by end of May.—Box 30, B.B.J. Office, 23, Bedford Street, Strand, W.C.2. d.48

WANTED, 10 to 15 Swarms, delivered not later than June 14. Willing to pay good price for good swarms.—Reply to "Swarms," B.B.J. Office, 23, Bedford Street, Strand, W.C.2. d.57

**PRIVATE INSTRUCTION.**

BOARD Residence and Tuition in Practical Bee-keeping.—W. ION, Eastfield Apiary, Healing Lincolnshire. d.71

**BUSINESS ADVERTISEMENTS.**

COMFORTABLE APARTMENTS for Brother Bee-keepers visiting Douglas. Terms: Tea, bed, and breakfast, 3s. 6d.; or full board, 6s. per day.—HORSLEY'S, Merridale House, top of Castle Drive, Douglas, Isle of Man.

SECTIONS, 1⅛ in., two bee-way, split for foundation; per 100, 4s. Sample by post, 2d.—S. J. BALDWIN, Apiary, Bromley, Kent. d.29

CUNLIFFE'S SEEDS *DO* GROW. The Bees know that. Six varieties, 1s. 9d.; 12 Varieties, 3s.; 24 Varieties, 6s., post free; cash with order.—CHARLES CUNLIFFE, Seeds and Bees, Southport. d.72

STRICTLY BUSINESS.—A free sample Flavine and the Circular for 1d.; 8 packages, 6d.; a copy of Intensive Bee-keeping, 6d. All the above and a Sprayer for 5s. 6d., post paid.—S. H. SMITH, 30, Maid's Causeway, Cambridge. d.70

FERTILE QUEENS, price from 21s. to 63s.; Virgin Queens, from 5s. to 8s.—PRYOR, Breachwood Green. e.18

"ISLE OF WIGHT" Disease permanently cured. Tested four years. Solution and directions, 2s., post free.—PRESSEY, St. Elmo, Coulsdon. d.73

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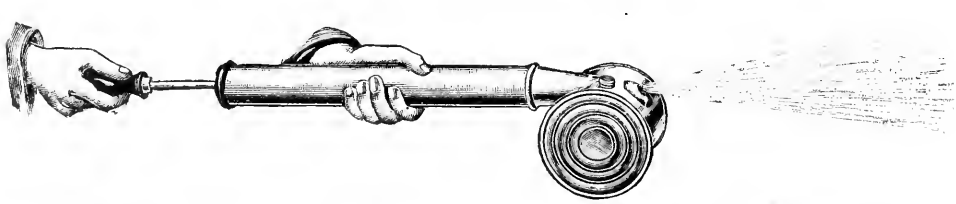

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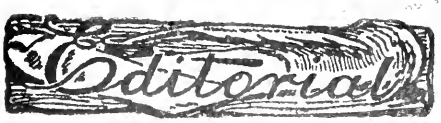


## BRITISH BEE-KEEPERS' ASSOCIATION.

NOTICE.

If sufficient applications are received, a course of six lectures will be held in the Association's apiary at Golders Hill Park on May 29, June 5, 12, 19, 26, and July 3 at 7 p.m. each evening. Particulars from W. Herrod-Hempsall, 23, Bedford Street, Strand, London, W.C. 2.

## PRE-PAID ADVERTISEMENT RATES.

Will advertisers please note that the rates of the above are now raised by ½d. per word. Private advertisements 1d. per word, and those under "Business" 1½d. per word.

## A DORSET YARN.

I think if our Mr. Kettle (I like that "our," possessive case) was writing this yarn to-day (Saturday), he would strike a clear note of praise, in harmony with the bees, birds, butterflies, flowers trees, and all Nature. A week of cold east wind finished on Friday night by a thunderstorm, and to-day beautiful warm sunshine. It seemed, as I cycled to the Manor to see to those boxes of bees I mentioned last week, as though everything was full of joy and gladness. The refreshing rain had brightened the green of the fields and hedges and trees. The birds were trying to outdo each other in song, and the song of the bees was contented and happy. I cycled down the drive, a mile long avenue of lime trees just bursting into leaf. I met an old bee friend and when I told him what I was going to do, and he saw my equipment, a screwdriver and a jam bottle with a cloth in, he asked, "Where's your smoker?" I said, "At home: I don't like them." As I rode away he said, "You'll never shift they bees without a smoker." However, I did, and with the greatest of ease. My cloth was a piece of muslin about 20 in. square, soaked in 4 per cent. solution of Izal and then wrung out. I get the edge of the cloth in between the cover and the bars and pull it in gently over the bars, quite covering them, then lift the lid, and in about a minute pull back one side of the cloth and remove the bars. My experience has been that smoke makes the bees bad-tempered, and I don't like bad-tempered bees. Temper and energy are the two points that guide me in selecting a stock from which to rear queens, and I have been so far successful that one lady wrote me saying that they were the quietest bees she had ever handled. I firmly believe that if our queen-rearers were to only rear from stocks that were quiet and gentle, many more people would keep bees. We read of "standard hives, clothes, boots: why not "standard docility of bees." Thanks to Mr. Rentoul for his letter (9650). I certainly am of opinion that the food and drinking water are responsible for "Isle of Wight" disease, and believe that it is along that line that the cure will come, much to the disgust of many of our experts. Mr. Smith, of Cambridge, wrote me a letter some time ago, I think the most sensible letter I have ever read on "Isle of Wight" disease, practically along the same lines. This spring I have slowly fed my bees with honey, flavine, and water, and I have never been better pleased with the look of my bees than I am this year. Some of my neighbours have lost all theirs, though they had plenty of stores. As the apple blossom is now in full swing, from which they can gather honey, I have given my bees—and they are taking it—the following mixture: 1 qt. water, ½ grain flavine, and 2 tablespoonfuls of honey. It is not very sweet, but they don't mind that: they want the water, and I think it is about the only way in which the complete abandonment of the conditions that cause "Isle of Wight" disease to break out can be successfully administered.

Only one more week's rest, Mr. Kettle, and then the majority of the readers will expect your name back in its place, and they will say it's just like the lovely day after the spell of cold east wind.—S. A. W. Tomlinson.

## PLAYING THE GAME.

By J. Price.

In the good old days, before sugar was used, and when our forefathers kept bees to secure honey as food for the household, I presume there were still persons who would not, or at least did not, keep bees, but depended on others for the production of honey. Thus it came about that those having surplus for sale made very good prices of it, and there are many old people still alive that can remember honey being retailed at 2s. 6d. per lb.

A few years ago no one ever dreamt that this would happen again, but force of circumstances alters many things, and we seem to fall into them quite naturally.

I am doubtful, however, if the recent increase in price since last harvest is justifiable, or "playing the game."

I am afraid that in many cases the spirit of greed, which we suppose only to belong to our enemies, is taking hold of us here.

Another way in which this spirit is making itself manifest are the prices that are now being offered for bees. It appears to me that through the scarcity of sugar everybody is rushing to honey as a substitute. Quite rightly; but many persons, knowing nothing of bees, or bee management, think all that is necessary is to place bees in the garden, and honey in galore will be secured.

Not only so, but many people—selfish, I was going to say—probably possessing plenty of cash, or at any rate in some cases possessing more money than sense, are offering unheard-of prices, so that they can be first to secure stocks of bees for themselves. Here is a very grave danger. Many valuable lots of bees will simply be wasted by incompetent purchasers, and healthy bees will be doomed to die of disease through being taken into infected districts; worse still, many lots of infected bees will take the disease into clean places to infect bees for generations to come.

I grant that appliances have gone up (quite unavoidably), but I cannot think that the scarcity of bees through disease, or war-time necessity, justifies the action of many. The high prices offered are a great temptation to many unscrupulous persons to palm off, and distribute unhealthy lots, and thus avoid losing them on their hands.

Those same persons now offering these fabulous prices will, in my opinion, be the most easily disappointed with results, and throw up in disgust if their expectations are not realised.

Again referring to the good old days, and even in quite recent times, a kindly spirit has existed amongst beemen, and the craft generally was recognised as one great mutual brotherhood. Presents of swarms to friends were quite common. Fitting up a novice was a delight to the older hands, and in many ways all were ever ready to help along the craft. How do things stand to-day? I believe the old hands are just as free to-day, although many times their good nature has been unfairly taken advantage of. Let us examine what has happened since the outbreak of war and see if the right game is being played. At that time, and afterwards as our fighting men joined the colours, they sold out their stocks at reasonable prices, expecting, no doubt, that when they returned they would be able to set up again as easily. Many of them that have been in the thick of battle are now returning, crippled, maimed, and ailing. Many that are still staking their all, hope to return. What will they find on coming home to take up their original hobbies? I am afraid that many will think, and think rightly, that those left behind have made a mess of things. While they have been fighting for us, we here have been tolerating abuse, making the most profit out of things during their absence. Many will not be able to purchase bees, very few bees will be left, and they will find out that we have not been "playing the game."

*(To be continued.)*

## THE INFLUENCE OF TEMPERATURE ON BEES.

*A Reply to Dr. Abushady.*

*By Oliver G. Pike, F.Z.S., F.R.P.S.*

I have read with great interest the articles by Dr. Abushady on the influence of temperature on bees. I always welcome anything of this nature that shows original ideas and suggestions, but I must confess that in this instance I am not convinced. My experience has shown that warmth in winter is injurious to the well-being of bees, but to my mind the most serious objection of all is that Dr. Abushady's suggestions are absolutely opposed to Nature, and a life-long experience of the study of wild Nature has taught me, that when man attempts to interfere with her ways, he makes a grave mistake.

Dr. Abushady quotes the statement made by a prominent bee-keeper that bees *like* cold. I will not attempt to corroborate this, because I think that bees *hate* cold. We also hate nasty physic, but it may be the means of saving our lives, and cold—sustained cold, during our winter months has helped many a stock of bees with low stores to survive, that would have perished if the weather had been warm.

Dr. Abushady's experiments regarding the bringing back to life and vigour, bees which were numbed and helpless through cold, does not prove that artificial heat would be beneficial. If these bees had had strength to reach the hive interior, the warmth there would have had the same effect upon them. If the temperature inside the hive was raised by artificial means, the result would be that a great many more bees would leave the hive for a cleansing flight, and the majority of these would fail to return owing to the greater contrast in temperature outside. Again, if the hives were

placed in a warmed bee-house, where the bees could obtain a flight as desired, I do not see where the benefit would be. They would be in a state of unrest all the winter, and consume a great amount of stores, far more than could be stored in the standard ten frames in present use. (I am referring to a stock which at the end of the honey-flow covers ten combs.) The warmth would cause the bees to stimulate their queen, and breeding on too large a scale would be in progress all the winter.

I should like to make a suggestion exactly opposed to those of Dr. Abushady, and say that if we wish to get the *best* results from our bees we should devise a method to keep the hives in a uniform temperature about freezing point, from November to February inclusive, so that the insects are confined to their homes during the whole of that time. In support of this I should like to quote the experiences of a celebrated bee-keeper who seems to have lived about eighty years before his time. I refer to Thomas Nutt, whose book "Humanity to Honey Bees," is full of sound, common sense. It was published in the year 1832, and it deserves to be reprinted and widely circulated now, for modern bee-keepers can learn a lot from his excellent experiments.

With cleverly devised hives, each containing only one queen with her workers, he was able to entirely prevent swarming by regulating the temperature inside the hives. From one of these he obtained in one season the record of 296¼ lbs. of honey. He also kept his bees in perfect health during the winter with a minimum of honey consumed. At the approach of winter he moved all the hives to their winter quarters, and this was under a north wall, where any heat from the sun would not reach them. The results, as far as consumption of stores is concerned are almost startling, and every bee-keeper should make a note of them. I will quote his words:—

"In 1824 I had six cottage hives, which had prospered well with me during the summer of that year. In the autumn of the same year, I resolved to weigh those six hives, and to place three of them on the north side of my house, and to let the other three remain in their summer situation. The separate weights of my hives in November of the year 1824 were as under, viz.:—

| | lbs. | | lbs. |
|---|---|---|---|
| No. 1 ... | ... 35 | No. 4 ... | ... 42 |
| No. 2 ... | ... 38 | No. 5 ... | ... 32 |
| No. 3 ... | ... 40 | No. 6 ... | ... 37 |
| | 113 | | 111 |

The first three of these, Nos. 1, 2 and 3, weighing together 113 lbs. remained during the winter in their summer situation; Nos. 4, 5 and 6, weighing together 111 lbs., were removed to a cold, dry place on the north side of my house. On the 26th of March, 1825, I again weighed these six hives, and found their respective weights to be as follows, viz.:—

| | lbs. | | lbs. |
|---|---|---|---|
| No. 1 ... | ... 15 | No. 4 | ... 37 |
| No. 2 ... | ... 16 | No. 5 ... | ... 27 |
| No. 3 ... | ... 19 | No. 6 ... | ... 32 |
| | 50 | | 96 |

so that the three hives remaining in their summer quarters during the winter had decreased in weight just 63, being on an average 21 lbs. each; while the three which had wintered on the north side of my house had decreased only 15 lbs., being on an average only 5 lbs. each. This gives an average difference of 16 lbs. a hive, between a proper and an improper winter situation and aspect for bees. The bees which were placed fronting, or open to the north, were the first that swarmed the next spring. They swarmed in the month of May; while those hives which had remained fronting or open to the south, did not swarm until July."

Nutt made many other experiments, but those quoted above show very forcibly the advantage of cold to bees during winter.

Nutt's remarks about varying the temperature inside the hive according to the temperature outside has set me "furiously to think," and I am convinced that this observant bee-keeper, who is now gone and almost forgotten, solved the problem that has puzzled many of our modern bee-masters, the prevention of swarming as an aid to honey gathering, without the tedious method of cutting out queen cells. On many occasions he was able to get the bees to destroy the queen cells simply by lowering the temperature of the hives. When the war is over, and I am able to get back to my bees, I intend to fit a device to my hives so that the temperature can be raised or lowered at will. I have not worked out all my ideas yet, but bee-keepers will have the benefit of my experiments if they are successful, and in the meantime others may like to experiment on the same lines.

I should like to say, again, how interested I was in Dr. Abushady's articles, but I think his statements and his one experiment at artificial heating do not prove anything conclusive, but they do certainly open up a field for research, and this is always welcome.

## BEE-KEEPING AT A PUBLIC SCHOOL.

*By the Assistant Music Master.*

Rather more than two years ago, I received a letter from the principal music master at a famous public school inviting me to take the place of one of his assistants, liable before very long to be called up for military service. Having been rejected for the army on medical grounds, I decided to accept the offer, and early in February, 1916, took over my predecessor's rooms and commenced my work at the college.

I had kept bees in a small way for a number of years, until "Isle of Wight" disease made its unwelcome appearance in my apiary. After two attempts at re-stocking and all efforts to cure had failed dismally, I decided to wait a bit before trying again, as I expected shortly to move into another county. No sooner had I done so and began to form plans for starting a new apiary, than I found myself compelled to go into lodgings some 10½ miles distant from my new home, for my work, though not very heavy at first, being spread over the whole of every day of the week, from playing the hymn at morning chapel at 7.50 to giving music lessons up to 8 o'clock in the evening, made residence on the spot a necessity.

All thoughts of bee-keeping were for the time abandoned, but my chief, the principal music master, an ardent entomologist, learning of my hobby, very kindly offered me a place for one hive of bees in his garden, which was gratefully accepted.

On making inquiries, I found the disease was still about in the neighbourhood, but one bee-keeper of many years standing had re-stocked with Dutch bees, and had some thirty, or more, flourishing colonies. He agreed to supply me with a swarm which arrived on June 10, a hive thoroughly cleaned and disinfected having been got over from home and set up in the appointed place. One or two boys of the school and others came to see the operation of hiving performed.

Previous to this I had been asked to read a paper on Bee-keeping to the School Natural History Society. It took the form of a general outline of modern methods of bee culture, illustrated by the B.B.K.A. lantern slides. My "talk" (for it was not a "paper") was very well received, and I was requested to give another the following season: this was on "Modern Methods of Queen Rearing," also with lantern slides.

The swarm, a large one, increased rapidly in numbers after it became fairly established, but no sooner had I got sections on, than the weather turned cold and rainy, and the fine old lime trees which abound in the immediate vicinity, were already shedding their blossoms before the much hoped for change took place. I had given up hope of securing any surplus that season, when a period of dry, hot weather set in. Though the limes were over, the fields were yellow with charlock, and possibly from this, and it may be from other sources which I am unable to specify, came the most abundant flow of nectar I have ever experienced. It was scarcely possible, with my other engagements, to obtain and prepare the necessary supers quickly enough. The hive threw a large swarm, which spread itself out along a horizontal wooden bar for more than a yard long, and was hived with difficulty after one or two unsuccessful attempts: it was returned in the evening, after the queen-cells had been cut out. Notwithstanding the lateness of the honey-flow, three racks of splendid sections, with hardly an imperfect one, were secured. Most of those I did not want were sold direct to the boys of the school, and were much appreciated. This also did something, I think, to stir up interest in bee-keeping, with results which were seen the following season.

No attempt was made to give systematic instruction in bee-keeping to the school generally. This would not have met with approval from the college authorities, neither has the idea of urging a lot of unsuitable people to keep bees ever commended itself to me. My plan was to invite such boys as I knew to be interested in the subject to come and see my bees, and to make it known, as far as possible, that I was always willing to give any information I could, or allow anyone who desired to witness my manipulations.

*(To be continued.)*

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## SUSSEX BEE-KEEPERS' ASSOCIATION.

ANNUAL MEETING.

The annual meeting of the Sussex Bee-keepers' Association was held on Wednesday at the Town Hall, Lewes, the Mayor (Councillor A. E. Rugg, J.P.), presiding.

In the report the Committee stated that in spite of adverse circumstances the membership had been increased. The number of members on the register was 133. Thanks were due to the Hon. Secretary (Mr. F. Kenward) and those who had helped with special donations. Dur-

ing the past summer lectures and demonstrations were given by the Expert (Mr. C. T. Overton) at suitable centres.

The balance sheet showed that the receipts had amounted to £47 1s., and the expenditure had been £42 0s. 2d., leaving a balance in hand of £5 0s. 10d.

The Chairman remarked that the position of the Society was satisfactory. Keener interest was being taken in bee keeping in the county. Lessons could be learned from Germany in the matter of food production. In the past, Germany had exported a considerable amount of honey, and she provided a subsidy in the interests of bee-keeping.

Mr. W. T. Cowell (Southwick) urged that bee-keeping could be undertaken with advantage in small gardens.

The report and balance sheet were adopted.

In his report on his annual tour, the Expert said he found most of the stocks in a forward condition, and plenty of bees were in good working order for the season. He visited 137 members and examined 637 frame hives and 34 skeps. He discovered that 25 stocks were dead and that 11 were affected with "Isle of Wight" disease. In comparison with previous years, the number of stocks found dead was small, and it appeared that "Isle of Wight" disease was less prevalent. Six stocks were affected with foul brood. A much greater interest was being taken in bee-keeping and it was to be hoped that a much larger amount of honey would be produced than in former years.

On the motion of Mr. W. Herrod-Hempsall, F.E.S., thanks were accorded to the retiring officers.

The Duke of Devonshire was chosen as President.

The Hon. Secretary was re-elected.

The Rev. A. C. Atkins was again appointed as the representative to the British Bee-keepers' Association.

It was suggested that the county was too large an area for the Expert to cover alone, and it was decided that the question of arranging for additional expert advice should be considered by the Committee.

The following were chosen as members of the Committee:—Mrs. Morris (Hove), Miss M. Allison (Isfield), Miss G. M. Hay (Heathfield), Miss Savage (Brighton) the Rev. A. C. Atkins (Haywards Heath) Messrs. B. J. Burtenshaw (Cuckfield), W. T. Cowell (Southwick), T. Godfrey, J.P. (Seaford) and J. M. Jackson (Brighton).

After the meeting, Mr. Herrod-Hempsall gave a lantern lecture on "A year's work in the apiary."

## CORRESPONDENCE.

*The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.*

### "FLAVINE AND "ISLE OF WIGHT" DISEASE — "ISLE OF WIGHT" DISEASE OR STARVATION.

[9658] I read with some surprise in Notes from Derbyshire, by Mr. Sleight, his comments on the value of Flavine as a remedy for "Isle of Wight" disease. According to his statement he had two stocks gradually dying, and when reduced to a mere handful he sprayed with Flavine, which at once arrested the disease. The stocks, in the meantime, were covering two frames, and were expected to winter in the Peak county. Knowing something of the climate of those parts, having lived for a few years in a neighbouring county, I would have been surprised to learn that they had lived to the end of 1917, yet because they died he says that does not speak well for the flavines.

My experience is altogether different. Having lost my stocks three times, and without bees for two years, I started in 1916. All went well until late September last year, when one evening going to feed my bees I found the ground around one hive literally covered with dead bees. I sent at once for Flavine, the bees continued dying by the hundred. As quickly as possible I sprayed them with the stuff, and put it in the syrup. Mr. Smith meantime telling me that he was afraid I was too late in using it in my northern latitude. I sprayed three times: I intended to do it a fourth, but a snowstorm about the end of October prevented me, and I closed up for the winter.

On March 17, in ten minutes, about a dozen bees entered that hive carrying pollen, and not a crawler to be seen.

I sprayed all my stocks with Flavine last autumn, as I was suspicious about them, in fact it was a toss-up whether I would feed them up for the winter or not, and never had I such trouble in getting them fed. I was away from home very often at that time. If I missed two days,

it would take them about a week to empty the feeder, but if I could attend to them they would get another two or three feeds down with a rush, then another spell off. It was past mid-October ere I got finished, but all have wintered well, and I am hoping for a good season—not a crawler to be seen at any of my stocks.

On March 16 I was in Callander, a village in Perthshire, the party I was doing some business with being a bee-keeper, I asked how his bees had wintered. "All dead," he said. I asked if it was "Isle of Wight" disease? Yes, he thought so. "What will I do with the combs, etc." I advised, "burn the lot, but save the honey." He asked, was it good enough. I assured him it was alright. I told him I would go along to his place and have a look at the remains, and if I could get any good honey I would take it out. In due time I got there, and opened hive No. 1. Never in all my experience have I found a cleaner hive. In the ten combs there was not a drop of honey, and most of the bees dead on the floor board. No. 2 queenless, a few lbs. of honey, and as many bees as would go into a matchbox. No. 3 nearly as bad as No. 1, there would be about ½ lb. of honey in the corners of the combs. No. 4, a straw skep, plenty of stores and bees, but drowned out: the covering was a sack and a stone. No. 5 is a puzzle. About 10 lbs. of really good bell heather honey, and all virgin combs at that, not a particle of pollen in it, no dead bees to speak of. I cut it all out of the box, it was a small packing box, and brought half of it home with me. In those days of sour bread, little butter, and less jam, it was a welcome change. I gave the sometime bee-keeper friend a bit of advice. I have learned since he was afraid to go near the bees, and they had to do what they liked, with the result he has lost the lot, but of "Isle of Wight" disease not a trace. How many stocks will have gone the same road this past winter, and "Isle of Wight" disease blamed for it!—Jas. C. Armstrong, Grangemouth.

## EXPERIENCES WITH "ISLE OF WIGHT" DISEASE.

[9659] In looking over the Bee Journal on Saturday night I came across "A Note from New Zealand," and was very interested to find my name mentioned in connection with a few notes I sent along last October, where I asked if any of our beekeeping friends had ever noticed the pitch, or tone, of the hum of the bee, which I always found to be B flat, B natural or B sharp, according to the state they were in. Since the war I have had to try my hand at cows and pigs and poultry keeping.

Much could be written about animals and their notes or calls, but it is the hum of the bee that is of most interest to me. My friends have often told me that I have got the "bee fever." Well, I have had it eight years now. It is not with me a question of how much money I can make out of them as how much pleasure I get out of beekeeping.

After a real hard fight for three and a-half years with the dread "Isle of Wight" disease, in which time I tried nearly everything I knew, I never had so many bees as I had last July. I had six hives crowded, and not a sign of disease; in fact, I said I had won. But the second week in August it broke out again, and it cleared several of us right out in spite of all I did. One lot, a swarm, seemed to keep free for a while, but in the winter it shared the fate of the others, and to-day, after eight years of pleasure, I am, with a many more, a beeless man. But I have burnt all up, got new floor boards and brood boxes, hives painted, and a new stand; and I hope soon to be having another try. Several friends who in the winter promised to set me up are not able to fulfil their promise because their bees have come out weak. I hope our brother beekeepers who have had better luck will help us that have gone under to rise again, and, as a little song I have got says, "share your joys."—G. Ward, Langley Mill.

## A HINT FOR SELECTING DRONES FOR MATING PURPOSES.

[9660] Queen rearing will soon be in full swing, and I wonder if the following suggestion is of any practical value to those who breed a special strain of bees? The great difficulty in doing this is, of course, the selection of the drone—or the hive and queen from which he shall come—for mating the young queens. Possibly this might be accomplished by means of an aeroplane. If a number of drones and virgin queens of the variety and strain desired were taken up in an aeroplane and released at a few hundred feet above the apiary, I assume the object might be satisfactorily accomplished.—A. G.

## DIET AND "ISLE OF WIGHT" DISEASE.

[9661] If Mr. Rentoul (9650) will prosecute his enquiries further, I think he will discover many bee-kepers whose bees have never been given anything but natural stores, and yet have suffered as badly as any from "Isle of Wight" disease. This has often been stated

before, and seems to prove that sugar feeding has nothing whatever to do with disease.

We cannot either overlook the fact that many large bee-keepers of vast experience in the U.S.A. testify that under certain climatic conditions some varieties of dark honey are positively injurious as winter food for bees, and consider it necessary to extract it, and give sugar syrup instead. W. Z. Hutchinson, I believe, describes cane sugar syrup as the best of all winter food for bees!—L. ILLINGWORTH.

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## THE INDUSTRY OF THE BEE.

[9662] I have copied out the following from a magazine, which I thought would interest some of the readers of the B.B.J. I should very much like to know if it is true about the bees visiting so many flowers. And, according to Cowan's book, 18,000 bees would not be an ordinary hive :—

"*The Wonderful Industry of the Bee.*—In an ordinary hive there are about 18,000 bees, and these weigh something like 37 lbs. Yet they will manufacture from 20 to 50 lbs. of honey in a year, their material being collected from myriads of flowers over a wide area.

"The industry of the bee is indeed amazing, for to make a single ounce of honey it visits no fewer than 219,000 flowers.

"It is the most indefatigable of afternoon callers, and when we remember that the wing of the bee makes 190 movements a second the amount of energy expended must be immense.

"The juice is drawn out of the flower by the bee's tongue, and passes into the creature's honey-bag—a round sac situated at the base of the abdomen.

"In the sac the juice undergoes a change which converts it into honey, but by what marvellous processes the change is wrought no man has been able to discover.

"If the bee be supplied with sugar and water it will change it into honey, but there is very little honey flavour, for in some mysterious way the honey made from the juice of flowers preserves something of the flavour belonging to the flower.

"That is why tropical honey is ranker than the English honey, the flowers of tropical places being much ranker than the blossoms of the English countryside.

"The honey from heather is considered as the choicest of all honeys, both in quality and flavour."

Perhaps someone can tell me how much *is* true.—A. DONKIN.

## WEATHER REPORT.

WESTBOURNE, April, 1918.

Rainfall, 1·94 in.
Heaviest fall, ·46 in on 20th.
Rain fell on 17 days.
Above average, ·16.
Sunshine, 110.8 hours.
Brightest day, 12th 11·6 hours.
Sunless days, 6.
Below average, 80·9 hours.
Maximum temperature, 65 on 25th.
Minimum temperature, 30 on 3rd.
Minimum on grass, 25 on 3rd and 19th.
Frosty nights, 2.
Mean maximum, 52·5.
Mean minimum, 38·7.
Mean temperature, 45·6.
Below average, ·5.
Maximum barometer, 30·174 on 27th.
Minimum barometer, 29·418 on 1st.

L. B. BIRKETT.

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## Notices to Correspondents

***Correspondents desiring an answer in the next issue should send questions to reach this office NOT LATER than the FIRST POST on MONDAY MORNING. Only SPECIALLY URGENT questions will be replied to by post if a STAMPED addressed envelope is enclosed. All questions must be accompanied by the sender's name and address, not necessarily for publication, but as a guarantee of good faith. There is no fee for answering questions.***

F. J. DURANCE (Ilkeston).—*Commencing bee-keeping.*—The hive you mention will be suitable. Watch our advertisement columns for stocks or swarms of bees. We do not know of any others for sale. You are more likely to get Italian hybrids than any other kind, owing to the large number of Italian queens that have been imported, and bred, the last few years.

A swarm of bees includes the queen.

The most economical way will be to get a W.B.C. hive, and an early swarm. The hive fitted with frames, filled with foundation, and excluder, etc., will cost about £3, and a swarm about 30s. to 35s., or you might get a nucleus with four or five frames of comb for 40s. to 50s. If you work for extracted honey you will also need a honey extractor, which will cost new at least 38s.

T. TAYLOR (Beverley).—We cannot find the thickness stated; speaking from memory, it will be $\frac{3}{16}$in.

L. B. KIRK (Surrey).—We do not know the swarm catcher you mention. Can you give us details as to its construction?

C. W. M. (Scole).—(1) The honey from hives in which bees have died from "Isle of Wight" disease is quite safe to eat. (2) Not at present.

E. H. MAGOON (Surrey).—Better unite the two weak colonies.

F. E. GRAHAM (Oakham).—The bees were balling the queen. It is quite likely they have superseded her. Examine the hive as soon as there is an opportunity, and if there is a queen cell let the bees carry on. There is every chance for her to mate. Drones will be flying when the weather is warm enough. We have seen some already.

*Honey Sample.*

G. F. ORMEROD (Yorks.).—So far as we can tell the stuff is honey, but we cannot vouch for the country of origin. In normal times it would be worth about 4d. per lb. At present it is being sold at 1s. 6d. to 2s.!

*Suspected Disease.*

"RHUN" (Wales).—It was "Isle of Wight" disease.

D. MORGAN (Wales). Yes, "Isle of Wight" disease is developing.

# Special Prepaid Advertisements.

## One Penny per Word.

*Will advertisers please read these Rules carefully in order to save trouble, as they will in future be strictly adhered to.*

**Trade** *advertisement of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at* **1½d.** *per word as* **"Business"** *Announcements,* immediately under the *Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of* 3s. *per* ½*in., or* 5s. *per inch.*

*PRIVATE ADVERTISEMENTS are only intended for readers having* **Surplus Stock** *to dispose of.* **Driven Bees, Nuclei,** *and* **Queens that are reared or imported for sale,** *are Trade Advertisements, and can only be accepted under trade terms. A charge of* 6d. *extra will be made if a box number is used.*

*Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.*

*Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.*

### PRIVATE ADVERTISEMENTS.

FOR SALE, three strong Natural Swarms of Hybrid Bees on eight standard frames, wired foundations and combs; guaranteed healthy. My stocks have never had any disease. £5 each, including travelling boxes.—MAY, "Lyncroft," near South Nutfield Station, Surrey. e.19

THREE 1917 Hybrid Queens offered at 15s. each. — VINCENT, 132, Croydon Road, Anerley. e.20

WANTED, guaranteed healthy Stock or two early Swarms; free from disease. State price. — Apply, CAPTAIN KNIGHT, West Newton, King's Lynn. e.21

WANTED, immediately, one good stock Bees; also early Swarm. — COBBETT, The Warren, Hayling Island. e.22

W.B.C. DOVETAILED HIVE, new condition, 35s.; complete Section Racks, fitted sections, 7s. each; f.o.r. Wanted, Taylor's "Manor" Wax Extractor.—Write, 45, Romilly Crescent, Canton, Cardiff. e.23

URGENTLY wanted, Swarm of Italian or Hybrid Bees; good price given; guaranteed healthy.—F. G. PEARSE, The Grove, Fawler, Kingston Lisle, Wantage. e.24

THREE Shallow Frame Boxes, empty, never been used, 3s. each; one Section Frame Block, 1s. 3d. Stamp reply.—W. KING, 20, Moy Road, Cardiff. e.25

WANTED, urgent, 10-frame Stock of Bees. Top price paid for good, strong stock Italians ready for supering.—C. TILLEY, 394, Aston Lane, Witton, Birmingham. e.26

WANTED, 10-standard frame Stock Italian Native Hybrid Bees, 1917 Queen, guaranteed healthy, in May; price delivered; deposit, B.B.J. —R. HARVEY, Ockbrook, Derby. e.27

TWO Stocks Italian Bees, 10 frames, Claridge's direct, W.B.C. pattern Hive, home-made, new condition, £5 10s.; one Stock Simmins' Italian, 10 frames, and Hive as above, £5 10s; one Stock Hybrids, Queen direct from Simmins, and Hive as above, £4 10s; all packed free on rail.—JAMES HOLMES, Sunnyside, Priory Lane, Penwortham, near Preston. e.28

SHALL be having a few Swarms of Bees from stocks believed to be absolutely disease-proof at 3 gs. a swarm.—SEAL, Basingstoke. e.29

WELLS' Hive, one storey, with 10-frame healthy Stock, in supering condition, £5, or best offer. COX, 116, Addison Road, King's Heath. e.30

WANTED, Wax Extractor, in good condition. Give full particulars, make and price.—H. A. TAYLOR, Longparish, near Whitchurch, Hants. e.31

WANTED, early Swarm; healthy. — JALLAND, Manor House, Fishponds, Bristol. e.32

WANTED, immediately, one stock healthy Bees; also early Swarm.—WOOD, Manor House, Neston, near Chester. e.33

WANTED, a Swarm, or Colony of Bees.—MISS ELLIS, Ketton Grange, Stamford. e.34

WANTED, Bees, or May Swarm.—Write, stating price, MISS HORSFIELD, Whitton Lodge, Ipswich, Suffolk. e.35

FOR SALE, the Stock of a large Apiary, as follows, viz.:—Brood Chambers, suitable for W.B.C. Hives, 4s. each; ditto, larger size, 4s. 6d. each; Shallow Frame Boxes, 3s. each; Section Crates, 1s. 6d. each; Separator Tins, 1s. 6d. per dozen; Frames, with saw cut, ready for insertion in hives, 12s. per 100; Shallow Frames, with saw cut, ready for insertion in hives, 10s. per 100; Metal Ends, 2s. per gross; Honey or Wax Press, in good condition, 60s.; Honey Ripener, 1cwt. size, in good condition, 30s.; Queen Excluder Squares, 15s. per dozen; 3,000 two-way Sections, in the flat, 8s. per 100; Straw Skeps, 2s. each; etc. The Stock has been examined by Mr. Anderson, College of Agriculture, Aberdeen, who has made considerable purchases, and the whole stock may be relied on as being in fine condition. Terms, cash with order.—Apply, WM. G. ADAM, Hillcrest Apiary, 24, Hay Street, Elgin. e.36

40 LB CLOVER Section Honey, 2s. 4d. lb. packing, carriage free. — CRAWFORD, Castlederg, Co. Tyrone. e.37

WILL those Bee-keepers who benefit by the use of Flavine kindly contribute a little Honey for the use of our Wounded Soldiers and Sailors in the care of the Middlesex Hospital, London, W.1.? All contributions should be addressed to the Secretary, Walter Kewley, Esq., who will duly acknowledge receipts.—S. H. SMITH. e.38

WANTED, immediately, strong Stock of Bees, guaranteed perfectly healthy.—McDONALD, 34, Hulse Avenue, New Barking, Essex. e.41

A MEETING of Bee-keepers in Gloucestershire will be held at the Wessex Hotel, Gloucester, on Saturday, May 11, at 3.30 p.m., to consider the question of Re-stocking.

WILL sell 60lb. beautiful Honey at 2s. per lb., unless offered more. Cash with order.—WILLIAM HENRY POWELL, Kimberley House, Mountain Ash, Wales. e.3

WANTED, Swarms or Stock.—Particulars, MACKINTOSH, Burntwood, Lichfield. e.4

WANTED, Honey Extractor, geared, in good working order. — CARDEN, Minterne, Swanage. e.6

WANTED, strong Stock of Bees, guaranteed healthy.—State size, date, price, etc., to BENKERT, 17, Girton Road, Sydenham, London. e.7

WANTED, cheap, by discharged soldier, healthy Bees in boxes, skeps, or on frames. —WHITE, Penny Hill, Holbeach, Lincs. e.8

WANTED, two or three Swarms end of May or early June; guaranteed healthy.—DAVIES, Haulfryn, Barmouth. e.9

WANTED, four to six Swarms, or Nuclei, free from disease, Italian or Hybrid.—State price, carriage paid, not later middle June, to E. PAUL, Cambridge Road, Westbury Trym, Bristol. e.13

BEES wanted, Stocks or Swarms.—RECTOR, Donhead St. Andrew, Salisbury. e.15


## A ROLL OF HONOUR.

**Although bee-keeping is considered a minor pursuit, we venture to say that it has provided more fighting men than the usual average of any industry. To place on record the part the members of our craft have played in the present war we propose to make a "Roll of Honour," and shall be pleased if our readers will forward us the NAMES and ADDRESSES, together with the REGIMENT and RANK, of any bee-keeper serving his King and Country at home or abroad; also if killed or wounded.**

**We print a further list of names to those sent in, and shall be pleased to have other names as soon as possible.**

Lieut. B. Waye, 72, Napstone Road, Millom, Cumberland.—10th Loyal North Lancashire Regt. Wounded.

2nd Lieut. Bernard F. Hinge, Wyven, Springfield Road, Milton Regis.—233rd M.G.C., B.E.F., France.

Pte. H. D. Robinson, The Gardens, Norman Court, Salisbury.—2/9th Hants Regt.

Pte. Wm. Hardy, The Gardens, Ufford Hall, Stamford.—Queen's Royal West Surrey Regt. Pte. Hardy was gassed on April 24, and died in hospital the next day.

## PRICE OF SECTIONS.

The Food Controller has issued an Order fixing the maximum prices of Bee-Hive Sections. A large quantity of these sections has been imported from the United States by the Ministry of Food with a view to assisting the production of honey. The sections can now be obtained through the usual channels, and the maximum prices at which they may be sold to the public are as follows:—

| | At per 25 | At per 50 | At per 100 | At per 500 | At per 1,000 or over. |
|---|---|---|---|---|---|
| **First Quality.** | | | | | |
| Split Top ... ... | 1/7 | 3 - | 5/6 | 25/6 | 50/- |
| Grooved 3 sides & split 4th side ... | 1/9 | 3/3 | 6 - | 26/6 | 52/- |
| **Second Quality.** | | | | | |
| Split Top... ... | 1/6 | 2/11 | 5/4 | 24/6 | 48 - |
| Grooved 3 sides & split 4th side ... | 1/8 | 3/2 | 5/10 | 25/6 | 50 - |

Ministry of Food,
May 10, 1918.

## HIVE FOR A WOUNDED SOLDIER.

In our issue for March 21 we published a letter from one of our readers, offering a hive, free, to a wounded soldier.

We forwarded the applications on to him, and the hive has been sent to Mr. F. W. Francis, Dalston, late of the Royal Scots, who asks us to acknowledge the gift through our columns, and thank the donor for his kindness.

## A DORSET YARN.

I have quite enjoyed watching my bees this week gathering pollen from the Brussels sprout flowers. It is a patch of eight rows and 9 yds. long, just a mass of yellow flowers from 4 to 5 ft. high, and on sunny days there are so many bees in it, that it sounds as though they were swarming. I have heard of several swarms near here this week, and also cases of "Isle of Wight" disease. One man came last Wednesday and asked me to go and see his bees, as they were crawling all over his garden. I took my sprayer and went, and sure enough the bees were in a bad state. There was every reason to believe that it was "Isle of Wight" disease in its worst form. If they had been my own I should have sulphured them, and felt I had done the best thing. I had felt glad of the opportunity of personally watching the effect of Flavine, but this case seemed altogether too utter. The front of hive was a mass of bees half-way up, about 5 to 6 lbs. I should think; inside the hive about a teacupful with the queen, all apparently more dead than alive. I removed all the combs to a spare box, quickly scraped sides and floorboard, then sprayed with Flavine and warm water. Then replaced the combs, thoroughly spraying each one, they were nearly all empty, just a little brood, but no stores, not a drop of honey could I find, so gave them a comb with some honey in, and also added a little to the Flavine and water, closed up the hive and then sprayed the bees; I then got a strong feather and gently swept them off the front of the hive on to the lid of a large box resting on the alighting board, and then sprayed them again, nearly drowning them, and they hardly moved. But the sun soon dried it up, or they drank it, as most of them got right way up, so I gave them some more. When I went round to them again after tea they had all gone inside, and the next day I saw them driving off the robbers smart and lively, and others carrying in pollen through a much smaller entrance. I have not had opportunity to open them since, but they appear to be working well, and no crawlers. Robbed out in the first place, disheartened in the

second, starvation and "Isle of Wight" disease symptoms and actions in the third. The wind had been too cold for them for three days, and with no store to fall back on they had crawled out to die. Of course on Wednesday night all the nasty stains all over the hive and all round the hive were washed away with Izal and water or buried. Some may say this was not "Isle of Wight" disease. I have no microscope and should not know what to look for if I had, but I do know that it is the same thing that has killed many stocks, and is usually called "Isle of Wight" disease.

There, thats it, Mr. Kettle! The "Dorset Yarn" is still alive and kicking, and we have not pulled the flag down yet. —S. A. W. TOMLINSON.

## THE BEE GARDEN.

THE OFFICIAL LISTS.—(*Continued.*)

Autumn-sown annuals differ from biennials only in being sown a little later and transplanted, if at all, in the spring.

Biennials are, as a rule, sown in June or early July, so as to allow of their being well established before winter. Usually they are transplanted to nursery beds or their flowering positions in September. A few require slight protection, such as that afforded by a cold frame, cloche, or handlight, during the winter.

In deference to the complaint of a reader who seems to fear that flowers will oust bees from the JOURNAL, I will deal very summarily with the subjects tabulated at the head of this article.

*Althæa rosea* (the Hollyhock) was introduced into this country three and a half centuries ago from Palestine. To be at its best, the hollyhock must be planted in deeply trenched, well manured soil, with plenty of room, and, if in an exposed position, some support.

Hollyhocks are sometimes propagated by root division and by side-shoots, but it is best to grow from seed, as seedlings are not only more symmetrical, but also more robust and resistant to a fungus or rust disease (*Puccinia malvacearum*) which sometimes attacks them. A remedy for this is a mixture of tobacco powder and sulphate of copper, 1 lb. to ¼ oz., dusted over the foliage.

By the way, the writer has a daughter named Althæa, and, as a compliment to this young person, was presented by a very famous raiser of hollyhocks with some seed of his finest strains. Some bee-keeping friends—and others who keep well away from them—have commented on the show of these flowers at the apiary garden, and I have saved seed from those I liked best for size, shape and shade. The hollyhock is a free-seeding subject, so I've plenty to spare, and if any reader cares to send a stamped addressed envelope to me at 14, Windermere-road, Ealing, W.5, I will gladly forward some by return.

The seeds germinate easily and quickly. Sow in June, 3 in. apart, 1 in. deep, 1 ft. between rows; transplant in September if ground be ready. Prepare flowering site by bastard trenching 2 ft. deep, heavily manuring the bottom spit.

Hollyhocks sown in slight heat in January, and hardened off in a cold frame, can be planted out in April, and will bloom the same year.

*Alyssum maritimum* (Sweet Alyssum) is usually treated as an annual carpet or edging plant, but in the Southern counties may occasionally be seen in company with wallflower, arabis, aubretia, antirrhinum, sedums, house-leek, Kendal ivy, etc., growing on old walls. In these conditions it is a perennial.

It grows from 3 or 4 to 9 ins. in height, according to soil, etc., and is very free-blooming. The little bunches of white flowers have a distinct honey scent and are very attractive to bees.

Sow seed ⅛ in. deep in open ground in April, thinning to 6 ins. apart.

*Anchusa italica* (Alkanet), one of the borage family.—This is a very distinct and pretty subject. Really a perennial, it is best treated as a biennial. Three feet in height, it bears tall spikes of intense, true blue flowers, which bees are very fond of. A variety called *A. italica amœna* is said to be an improvement on the type, being even freer flowering.

The best-known form is the Dropmore variety, which under good cultivation will reach 5 ft. high and has larger flowers than any other save the newer Opal, which is sky blue in colour.

A large bed of Dropmore, a little to the left of the main entrance to Kew Gardens, was splendid when I saw it, and was crowded with bees. Large groups or wide borders of this would be an ornament to any garden.

Sow in May or early June ½ in. deep, to flower the following year.

*Impatiens* (Balsam, or Touch-me-not) is so named because the valves of the seed-pods contract when ripe or at a touch and scatter the seeds. *T glandulifera* (the common balsam) is a showy annual, but owing to the peculiarity above mentioned seed very freely and rapidly monopolise the border or bed if not rooted up. It grows 4 or 5 ft. high, the flowers varying from white to rosy pink. Sow in April, where they are to grow.

*Iberis* (Candytuft, Sweet Rocket) is a hardy annual, 9 ins in height, of the easiest possible culture. A most profuse

bloomer, it makes a very pretty bed when massed, and is effective as an edging. Sow in August or September in open ground, ⅛ in. deep, to flower from May to July of the following year, or in March-May to flower later in the summer and autumn. Treat generously, and thin out to 6 ins. apart.

*Campanula medium*, Canterbury Bells, a well-known and easily grown biennial. Introduced late in the 16th century, it has established itself a firm favourite, and many varieties have been raised, notably the calycanthemate, or cup-and-saucer form. The colours range from pure white to purple, produced on a 2 ft. central stem. If this be broken or pinched out side shoots are developed, making the plant quite bushy. If the first crop of flowers are taken off as soon as they wither, a second flowering results; the blooms are, however, rather inferior in size to the first comers. Bees work well in Canterbury Bells, both for honey and pollen.

*Centaureas cyanus* and *C. moschata*. Both of thes are annuals, the former known as the Blue Corn Flower, or Blue Bottle, is a well-known native. Besides the typical blue there are pink and also white ones. Height, 3 ft. Easily grown from seed, indeed frequently self-sowing. Give a sunny position, and do not crowd. They flower in June and July. *C. C. minor* is a 2 ft. variety of the first-named, and has the same range of colour. *C. moschata*, the purple Sweet Sultan is also 2 ft. high, a delightful old-fashioned, sweet-scented flower. There is a mauve variety of this and a white relative, *C. odorata*. *Margarita* has *been hybridised* with the type, producing C. *imperialis*, 2½ ft. high, with larger, longer-stalked flowers in many colours, from purple through pink to white. Sow where they are to grow ¼ in. deep, either in September or April. They stand the winter well, but do not transplant easily unless lifted with a ball of earth. Lovers of chalk, mortar rubble is an invaluable addition to the soil for them.

*Chenanthus cheiri*, Wallflower. Single-flowered varieties of this old favourite are an important acquisition to any bee-garden. No flower, surely, is more typically English, or more redolent of simple worth and charm. I would deliberately import prejudice against the double-flowered varieties, useless to bees, by stating that they were originated in Germany.

Of the singles, there are red, yellow, salmon, purple and brown varieties, named Veitch's Cloth of Gold, and Belvoir Castle, Eastern Queen, Old Purple, Paris, Vulcan and Blood Red, besides the striped varieties, which, to my thinking, are the best of all for scent. Treated as biennials, they are best sown in May to get good, stocky plants, which should be transplanted into a nursery bed at a month old, 9 ins. apart. In October they can be given the final shift to their flowering position. Sow ¼ in. deep in 6 in. drills or broadcast. Some growers cut the tap root when first transplanting, and when well-established in the nursery bed pinch out the leading shoot to make them bushy.

With the exception of Paris, which is an annual, all the varieties are true perennials, and if planted in crevices and crannies of walls and banks will flourish for years. This treatment secures perfectly hardy, robust specimens. Either sow seed, covering thinly with light but dampened soil, or insert seedlings in the chinks and holes. Wall gardening is one of the most fascinating branches of horticulture, and many of the plants adapted to it are good bee plants. There is an element of sporting risk in working along a 15 ft. wall, with baskets and pails containing seeds, seedlings, and soil for the establishment of wall-flowers, arabis, aubrietia, antirrhinums and many others, including sedums, saxifrages, Kendal ivy, house leek, etc., as I did at Heathrow. But what a difference between the resulting blaze of colour, prolonged through more than half the year, and a bare brick wall.—A. F. HARWOOD.

*(To be continued.)*


A SYMPOSIUM ON "BAITS."

There is a critical period, generally of brief duration, in the life history of every colony of bees, during which the success or failure of the season hangs suspended in the balance, and almost a hair may kick the beam in favour of either success or failure. Are the bees to go on right through the season as one strong, united body? or are they to break up into two or three medium lots? So small a thing as the presence of a "bait" section may settle the matter, as, if this small piece of comb is placed in the centre of the first rack of sections placed on each hive, the minds of the busy bees may be kept on the line of rails leading to pronounced storing, and not switched on to the side track of swarming.

The reason for placing baits in the supers is to start work above before the brood nest is so crowded that swarming almost inevitably results. The idea is to coax the bees to start comb building and honey storing in the sections before the lower brood combs become so overcrowded with eggs, brood, and nectar storing that the bees will find their special domain congested. Therefore, to succeed, supers should be given early, rather in anticipation of any actual need. Have them on early in preference to too late. In fine weather workers discover their presence, and soon recognise their utility. Room below is becoming a negligible quantity—here, in a better position, it abounds, is their wise reasoning.

Almost all comb-honey men strongly advocate the use of these baits, and count them as aids to start work early in the racks, and also recognise that they are beneficial in aiding swarm control. While all use them and appreciate their value, all are not at one as to where in the super is the best place to consign them. Dr. Miller is a great authority on comb-honey production. Here are his opinions:—I would not use excluder zinc above the brood nest. I would not use a bait partly filled with comb, and I would not have a drop of honey in it. I would not use a bait in any super after the first. Generally, I have only baits enough to put *one* in the first super, and I put that in the centre. With my way I never knew a queen to lay an egg in a bait. A section that has any granulated honey should never be used, as the new honey stored in that comb will very soon granulate also.

I would favour the "bait" being placed in the centre of the rack, because, in my experience, bees more quickly detect its presence there, the centre is more quickly occupied by a good force of bees than would be the case if placed anywhere else. Once started there they will soon spread out to other surrounding sections, until they occupy every one of the sections in the rack. Almost invariably the outside ones are the last occupied, the last filled, and the last sealed, therefore they are less likely to attract up the bees if placed in the outside rows. Yet, as we shall see, some have opposite ideas, and practice what they preach.

Townsend's ideas are somewhat as follows:—Some may try one comb in the centre, but in this way much of the value of the system will be lost, as the bees will start in the centre and finish the outside last. While the comb in the centre starts the bees in the supers, it is much better to start them first in that place, which is usually the very last to be finished, the outside. It might seem to one who always placed the baits in the centre that the bees would hesitate about entering the supers in which the baits are clear to the sides, but the fact is that they enter just about the same whether the bait be in the centre or at the sides.

It is only right to note that while almost every comb-honey man is in favour of baits, some have doubts if they are an unmixed blessing, as the following shows:—Baits, when finished, are invariably off grade and of second quality, they seem somewhat expensive, and we prefer to render all such combs into wax and use only full sheets of foundation. This writer (Hand) uses sectional hives, and therefore does not require them as aids to check swarming.

Wesley Forster works for comb-honey on an extensive scale, and he is inclined to consider that the check to swarming is the chief benefit following their use, and the position in which they are placed is a matter of indifference. Baits placed in the corners will not be worked much faster than section filled with comb in the centre. They will not fill a number of baits in the centre until there is rather a plentiful amount of stores below. The control of swarming hangs round the few days after the lower hive is well filled before we get the bees fully convinced that supers are the next item on the programme, and not swarming. The whole question of placing baits depends on what the aim is. With one bees' baits are employed to get super work started, not to insure uniform super work. That can be had by spreading the nearly finished combs to the outside when the bees are fully possessed with the idea of filling up the supers.

While I have said above, and Dr. Miller is even more emphatic, that bait sections should be placed in any supers but the first, still we can employ a species of bait in later ones, if any coaxing is considered necessary. During the season we have a number of sections not quite finished, especially in a poor season, in many racks taken off. These may legitimately be placed in an outside to be finished off, and at the same time to act as an attraction for bees in the lower rack to ascend higher.

In summing up the above symposium I would say put your bait in the centre every time—unless you are thoroughly convinced from your own experience that you will get better results by following a different arrangement. In fact I am prepared to endorse every word in the direct quotation I have given from Dr. Miller's writings. A man who produces such splendid records of comb-honey surplus as he does is worth trusting to—and imitating.

## THE CHESHIRE BEE-KEEPERS' ASSOCIATION.

ANNUAL MEETING.

The annual meeting of the Cheshire Bee-keepers' Association was held at the Holborn Café, Chester, on Saturday, May 4. The chair was taken by Canon T. J. Evans, M.A.

The Secretary reported that owing to the war, and consequent reduced travelling facilities, it had been decided not to hold a meeting last year, but to carry on for another twelve months, therefore this was the first meeting that had been held for two years.

Both 1916 and 1917 were very disastrous for bee-keepers in Cheshire owing to the enormous depletion of stocks by "Isle of Wight" disease.

The finance is in a very healthy condition, the balance sheet showing a balance of £66 19s. 11d. in hand.

The Duke of Westminster was re-elected president. The Marquis of Crewe, Lord Sheffield, Col. Dixon, Col. Thorneycroft Vernon, A. B. Earle, Esq., J. A. Reiss, Esq., Major Barnston, M.P., and Major G. H. Garrett were re-elected vice-presidents, and Miss L. Brooks' name was added to the list.

The committee were re-elected with the addition of Rev. S. F. Royds.

Mr. Franklin expressed his wish to be relieved of the secretaryship after acting for seven years, but at the unanimous request of the meeting consented to continue to serve for a short period.

Mr. E. Percy Hinde was re-elected hon. treasurer. Major G. H. Garratt and Mr. S. N. Grant Bailey were re-elected to serve as delegates to the B.B.K.A.

After a discussion on "Isle of Wight" disease, it was decided to inaugurate a re-stocking scheme, and Mr. H. H. Brook and Mr. A. B. Blakeman, of Bowdon, were requested to undertake the first experiment.—*Communicated.*

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## GLOUCESTERSHIRE BEE-KEEPERS' ASSOCIATION.

RE-STOCKING SCHEME.

The committee of the Gloucestershire B.K.A. invited apiarists from all parts of the country to meet in Gloucester on May 11 and discuss this burning question, more important than ever at this crisis. A large number of bee-men and bee-ladies were present, and a resolution was unanimously adopted to establish a central apiary for queen-raising, distribution of stocks, etc. It was hoped that the Board of Agriculture and the County Council Agricultural Sub-committee would render financial aid in making the venture a success.

A committee was appointed, with power to add, consisting of Rev. E. J. Bartleet (Rector of Furdgeley, Glos.), Mr. E. J. Burtt and Mr. W. T. Goodrich (Gloucester), Mr. Gauntlett Thomas (Cheltenham) and Rev. F. H. Fowler (hon. secretary, G.B.K.A.).—*Communicated.*

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## PREVENTION OF SWARMING.

At the present time, owing to the importation of Dutch, Italian, and other foreign bees, swarming is likely to cause a good deal of trouble to the small bee-keeper who does not want to increase his stocks, either because of limited space, or that he does not wish to incur the expense of buying more hives and appliances.

Bees that have been kept in skeps for generations certainly have an innate propensity for swarming, and there are others, too, that increase rapidly in the early part of the season, before there is much honey to be gathered. If the supers are put on the hive to give extra room for work, too often the bees do not take to them readily, because they have not surplus enough to build new comb, or the weather may be erratic. The bees continue to increase, and, as soon as the temperature is favourable, swarming begins.

Artificial swarming and increase by making nucleus stocks is useful to prevent loss of swarms where bee-keepers have to be away during the day, but many want to produce honey without increase of stocks.

At the beginning of April the hives can be examined, and, if there are two or three stocks only, and one has a good deal more stores than the others, combs of food can be exchanged for empty combs, providing all stocks are healthy. One or two empty combs placed on either side of those containing brood will give room for the queen to lay, or frames of foundation can be given. A little later on, if all the combs are well covered with bees, some of the stores can have the cappings lightly bruised, and a rack of sections can be put on with, if possible, two or three of last season's drawn-out sections, with a little warm honey or syrup poured into them, and these should be placed in the centre of the rack. A queen excluder need not be put under until the combs are drawn out and honey is coming in. Cover the rack all round, as well as on the top, with warm material until the nights are quite warm. In very warm weather little covering is required, and plentiful ventilation should be given at the hive entrance.

If the bees do not work in the sections when honey is coming in from fruit blossom, examine the brood combs carefully,

and cut out all queen cells found. Stocks having young queens usually do not swarm much.

Where shallow frames are used for extracting honey, having worker cells, these can be used for supering instead of sections, putting them on without queen-excluder to allow the queen to lay in these. When filled with eggs, or mostly so, the queen can be put back to the brood-chamber and queen-excluder put under the shallow frames, or the bees and queen can be brushed off the combs on to a board in front of the hive and allowed to run in. When the brood has hatched out the shallow combs will be filled with honey, and the stock will have been considerably strengthened.

I saw some combs recently with a lot of drone cells occupying the centre of the hive, which if left in that position would certainly produce more drones than required, and tend to swarming.

During the present season bees were very forward in March, and promised early swarms; but the cold, wet weather following has been a great check, and some of the same bees, at the moment of writing, have scarcely any stores left, and but for some artificial feeding would have very little chance of pulling through. These hints were in preparation before our old contributor, Mr. Puck, was appealed to; but I hope he will be sending others, too.—A. W. SALMON, Cashfield, Chingford.

## CORRESPONDENCE.

***The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.***

### WITH THE "BEE JOURNAL" IN FRANCE.

[9663] How eagerly the BRITISH BEE JOURNAL is looked forward to in France! What delightful reading it contains! It seems to link us up with our little friends at home, and keeps us quite up to date with matters relating to bee-keeping.

I noticed a correspondent complaining that it was becoming more of a horticultural paper. We like it none the worse for that, for do not horticulture and bee-keeping go hand in hand? Fruit-growing comes under horticulture, and yet in some districts one of the main sources of honey supply is the fruit blossom. All the horticultural notes that have appeared in the BEE JOURNAL have been useful to bee-keepers, and I think the articles on "The Pollination of Fruit Blossoms by Bees" were really in themselves worth the price paid for the paper. Our friend Mr. Kettle's yarns are well worth publishing in book form, and am pleased to see D. M. McDonald has returned. His articles are very instructive, especially to us younger members of the craft.

I was home on leave in February for fourteen days, and the weather seemed to favour me, so I was able to ascertain the condition of my bees, which the good wife is keeping going for me while I am away. They were in A1 condition so far as health and strength were concerned, but rather short of stores. That was soon remedied. Before closing, I wish all bee-keepers a successful season, and the BRITISH BEE JOURNAL every success, which it richly deserves.—E. JEFFERY, 87,158, R.A.M.C., B.E.F., France.

### BEE-KEEPING AND HORTICULTURE.

[9664] Re "Dorset Yarn." It appears to me the bone of contention is the frequent reference to horticulture, and other gardening instructions, backed up by the other long articles of a gardening nature, which have appeared from time to time, and possibly crowded out instructive bee matter in our little B.B.J.

Personally, I cannot see much wrong with the opinion. Certainly not sufficient to call forth the concluding line in your correspondent's letter in your issue of the 2nd inst.

I would hazard the statement that the matter emanates from enthusiasm in bee craft, pure and simple, as against the quantity of instruction and advice as to how to prepare the land to grow crops, etc., and this, I believe, in the only weekly paper in the world solely confined to bee-keeping.

With regard to "The Bee Garden," page 136, in the previous week's issue, I do not think I am exaggerating when I say that all the flowers mentioned grown in this country would equal the bee value of three-quarters of an acre of good clover. Besides, is it from purely garden flowers we get our "crop"? I think not. I expect the quantity of honey obtained from garden flowers would be practically infinitesimal. I take it the bee-keeper who is in an area where, say, 25 acres of sainfoin, trifolium, or beans, and later heather is to be found, is in quite a different street to the man who lives in a locality where the neighbours grow a few rows of godetias and white alyssum with a bed or two of lobelia. My short experi-

ence tells me that a mere trifle comes in until the fruit trees blossom, and later the clover, beans, and heather, etc.

*Metal Ends.* This is a new subject for discussion, and comes as a knock to most. But, is there nothing in it? It wouldn't be the first "wheeze" that has gone overboard in the bee-world. Personally, I, like others, never dreamt that they might be done without. Is there nothing to support their discontinuance? Anyway, I intend to give it a trial in one of my hives. I notice your correspondent has given it a seven or eight years' test, and that speaks for something. If it had been a fortnight I should have said "No."—F. HEATH.

## BEE BOLSHEVIKS.

[9665] The recent article "Playing the Game," by Mr. J. Price, draws attention to the exorbitant prices that some people are endeavouring to extort these days from the pockets of the innocent.

Let us glance down your advertisement columns in the current issue of the BRITISH BEE JOURNAL and see what is offering. We have :—

Three 1917 hybrid queens at 15s. each.

Swarms of hybrids on frames at £5 per time.

Fertile queens (age not stated) from 21s. to 63s. each. (It does not seem enough!)

Now I have before me the 1918 price-list of one of the most famous Italian breeders, with a world-wide reputation. The cost of this year's queens, post paid, is as follows :—One queen (May), 8s.; one queen (June), 7s. 6d.; four queens (May), 7s.; four queens (June), 6s. 6d.; and so on.

There are also bee Bolsheviks abroad selling dirty second-hand rubbish at exorbitant figures. Some of these gentry are old enough to know better!

From experience, I have come to the conclusion, especially in the matter of purchasing stocks and nuclei, that it is most unwise to deal direct with unknown people, and the deposit system of the JOURNAL is the only safe method. "Ten-frame stocks" sometimes arrive in the shape of three-frame nuclei. "Three-frame nuclei" are subject to intensive "spring dwindling" en route, and so forth and so on.

And what of second-hand hives, so glowingly advertised, which have sometimes proved to be only suitable for lighting fires? Hush!

In the matter of prices, I have nothing to say against the established dealers. The increase in prices is, compared to other goods, perfectly reasonable. Most, if not all, of them are working with greatly reduced staffs under conditions of extreme difficulty.—G. M. GORDON.

## THE DORSET YARNS.

[9666] In reading my BEE JOURNAL this week I am very sorry to see that Mr. Kettle is going to stop writing his weekly yarns. Well, I can assure you that the BEE JOURNAL will to me be very dry reading without these yarns, as this was always the first thing I looked for, to see if there was a "Dorset Yarn." I really felt that I knew Mr. Kettle through reading these yarns, he had such a homely, chatty way of spinning them, and I am sure many of the JOURNAL readers looked forward to them appearing in the JOURNAL weekly. How he explained all about the workings of his farm; it was so interesting to read about. Now, Messrs. Editors, do please try your best to get Mr. Kettle to continue his yarns. I see by his writings that he is a very busy man, and it says a lot for him in giving his time to the writing of these yarns. I live in hope that they will give us all joy and happiness in reading them again.—THOMAS MCGEOCH.

[9667] We are regular readers of the B.B.J., and have looked forward to Mr. Kettle's articles, and read them with great pleasure and some profit.

Horticulture and apiculture are so inseparable that we hope you will take no notice of those carping critics (who perhaps are anxious to see themselves in print) and persuade Mr. Kettle to continue his instructive "Yarns" to the benefit, I am sure, of a large number of your subscribers.

Best wishes for continued success of the B.B.J.—S. M. T.

## EXPERTS AND "ISLE OF WIGHT" DISEASE.

[9668] To other possible causes for the spread of "Isle of Wight" disease there must be added one which it is obviously difficult to discuss quite frankly.

Within my own personal experience (and, as I know very few bee-keepers, others may easily multiply instances) the annual autumnal visit of the "expert" has been quickly followed by a disastrous outbreak of disease in hives that previously were perfectly immune.

From the nature of the case, absolute proof that he carried infection from some other stock cannot be produced; but in the minds of the unfortunate owners you may be sure that suspicion has ripened into conviction.

Now, may I suggest that county associations should insist that their experts always wash their hands in some proved disinfectant after handling every stock they visit? Unless some such precaution is taken, and publicly announced, I feel

sure an increasing number of bee-keepers will forgo the advantages of joining an association if it entails the risk of introducing disease.—"ONCE BITTEN, TWICE SHY."

## A HINT AND A QUERY.

[9669] *A Hint.*—I have found a handy little contrivance for turning the fine wire nails into hooks for wiring frames is the steel-wire tin-opener, with a slit in it, which is usually sold with a tin of sardines. I insert the nail up to the point and give a turn with the finger and thumb; afterwards, if necessary, it may be squeezed a little closer with an ordinary pair of pliers.

*A Query.*—Will any bee-keeper kindly give the most practical way of inducing bees to build worker-comb from strips of foundation? Last summer I inserted in a strong stock five frames, at intervals from the beginning of June to end of July, each fitted with a half-inch strip of worker base-foundation, the whole width of the frame, and close-spaced between the end frame and dummy. In each case it was worked out entirely drone-comb.

In another hive I found a fine large piece of worker-comb suspended from the quilt, in a space of about an inch and a half behind the dummy. This, of course, without a starter. I know it is stated that young bees are more likely to build worker-comb, but in the height of a season a stock is composed of bees of all ages, and unless they are given a certain amount of comb building to do a large amount of wax is wasted and falls to the floorboard in numberless flakes.—T. H. WITNEY.

## A NOTE FROM THE ISLE OF WIGHT.

[9670] I have had experience in bee-keeping since a lad, and I find it quite the most interesting work one can do. I have been serving in His Majesty's Forces for the past two years in the Royal Berks, also in the Duke of Cornwall's Light Infantry, and now in the Hants.

I have been stationed in the Isle of Wight since July last. I have visited a few of my brother beekeepers, and I find that the disease is very bad in some parts of the island. One beekeeper had as fine a lot of Carniolans as one could wish to see. On visiting his next-door neighbour I found that his bees had the disease very bad. He had been trying to cure it all the summer; sorry to say he did not succeed. And a brother beekeeper next door trying his utmost to prevent his bees from taking it. Hives were also left open where the bees are dead. I think it is very annoying.

I think the Beekeeping Association ought to take this subject in hand. It is not right for one beekeeper to work hard to keep his bees in good health, and another to let his go and take no trouble with them.

Trusting this may be of some use to our brother beekeepers to know how the disease is in the island.—PTE. HERBERT D. ROBINSON, M.G.S., 2-9th Hants, Sandown, Isle of Wight.

## MATING QUEENS BY AEROPLANE.

[9671] Perhaps the mating might take place, but as the queen would be unable to find her way home, her recapture would be a somewhat expensive affair.

I think it is better to put up with a queen of doubtful morals in the hive,, than to have a bushel of "Cæsar's wives" outside.—J. E. CLIFFE.

## WHY THE QUEENS OF WEAK HIVES OFTEN BECOME DRONE-BREEDERS.

[9672] It is one of the greatest mistakes a beekeeper can make to convict a queen as worthless because the colony is weak and shows no signs of progress.

An examination of the combs shows that the queen has deposited as many as three eggs in a cell, yet before the end of spring she may have become a drone-breeder. It is not unusual for queen bees, or wasps, to deposit two or more eggs in a cell when the workers are a negligible quantity, or when empty cells are not available. In this way the queen, by her abnormal effort, tries to encourage the workers to greater exertion as a means of increasing the numbers of the community; yet her efforts are often in vain. Bees will not allow an alarming increase of brood in a weak colony, because such brood is liable to become chilled, thereby causing disease. A stoppage, or shortage, of food might also prove disastrous. It is a well-known fact that a queen bee, during a period of excessive ovipositing, needs special food to sustain her, otherwise she will practically cease to lay, or she will become physically exhausted and worthless, sooner or later, if she does not ultimately become a drone-breeder. Critics may deny that exhaustion affects the ovaries. May I take a hen as an example. If a hen is broken off sitting in less than a week from the time she commences to cluck she will probably be laying again at the end of the fortnight following. If she is allowed to sit for a fortnight, double that period must elapse before she will lay again. If she sits for three weeks, six weeks will pass before she will lay again, that is from the time she leaves the nest. A sitting hen will not consume the same quantity of food as an active hen; in fact, the former will often refuse to eat

at all. Immature or undeveloped eggs are usually found in the ovaries of a hen when she commences to sit. These do not develop because they are absorbed by the hen, which alone prevents exhaustion.—W. S. MORLEY.

## DIET AND "ISLE OF WIGHT" DISEASE.

[9673] As usual I studied this week's JOURNAL and derived much pleasure, and this has been increased as I feel my experiences, when read with letters 9650 and 9654, may help to "push the front forward" against the "Isle of Wight" disease. Last year, in July, a swarm which had issued in June and had been put into a brand-new hive with frames, fitted foundation, and was from a perfectly healthy parent stock, gave unmistakable signs of "Isle of Wight" disease.

On examination they had drawn out all frames of excellent colour and appearance, and breeding was going merrily. I therefore sprayed with Bacterol and hoped for the best. The weather, however, changed, and feeding became imperative. I therefore fed on syrup medicated with Bacterol, and continued the process until finally feeding up for the winter. During the whole time there were always more or less crawlers. The stock wintered, but as soon as a warm burst of weather came, out the crawlers poured, and I anticipated extinction.

Cold though the weather was by comparison, I decided I would try a win-or-lose effort. I opened the hive, took off the quilt, and replaced by a clean quilt soaked in a warm (almost hot) solution of Flavine and sugar. The crawling perceptibly diminished, but unfortunately a cold snap ensued. Another much warmer spell arrived, and although they were crawling it was nothing like as bad as previously. I therefore took out the frames, sprayed with Flavine, put into a clean hive, and again *slightly* moistened the quilt and packed down very warm.

I saw crawlers for a day or two, but have not seen one since, and the stock is now on ten frames. The bees barely covered three frames at time of last treatment. To continue, I wanted some drawn-out brood-frames to fill up a hive I was working up to strength, and all I had were three frames taken out of the diseased hive. I felt so sanguine that I decided to try the experiment. The frames were carefully sprayed with a strong Flavine solution and put in wet. There have been no signs of the disease and the stock is almost ready to super. During the whole of this period the stocks were being slow-fed on syrup treated with Flavine. It now remains to make deductions from these facts (which can be corroborated by an old enthusiast), and to my mind the following can be accepted with safety:—

1. As the bees were feeding naturally at a time when presumably no one would be feeding artificially, they must have contracted the disease irrespective of the class of food.

2. As the swarm must have used all the honey and/or syrup (if any) which they took away from the parent hive in making their cells, it should with safety be assumed that the parent hives stores were not the source of infection. In any case, the parent stock is healthy to this day.

3. That sugar-fed bees, even though infected, will go through the winter, and therefore sugar does not aggravate the disease.

4. If sugar does not aggravate, it cannot cause the same.

5. That combs, if emptied and disinfected properly, can be used without detriment.

6. That "Isle of Wight" disease can be kept in hand even if not cured.

Trusting this letter may be of interest. —E. MACKIE.

[9674] Bees help to keep me; therefore I am keen to know all about them, and I desire to understand them in health and in sickness. I therefore beg to thank Mr. J. L. Rentoul for his article on "Diet and 'Isle of Wight' disease," in B.B.J., 2nd instant. I agree with him that sugar should never be given to bees. It pays to reserve for them a portion of the honey they produce for their wants in winter. The cardinal sin of sugar to a bee is that it is not grape sugar. The only safe way a bee can obtain grape sugar is from the vegetable kingdom, particularly from white sugar-beet.

Let me also congratulate Mr. Tomlinson on his "Dorset Yarn" of May 2. The prominence he gives to Brussels sprout flowers is quite justified. No flower pleases the bee after a journey like the Brussels sprouts. In fact, the bees seek this flower at all times. May I say, in passing, that no "Dorset Yarn" is complete without a reference to flowers: let Mr. Kettle, therefore, take heart.

Now for an original contribution of my own. Have any of your readers ever noticed that those districts are freest from "Isle of Wight" disease where tomato plants are grown out of doors? The humid atmosphere in which tomatoes are grown under glass keeps the bees away from the rich medicinal flowers. Where the tomato is grown out of doors the plants are visited by the bees every day, to the great advantage of both tomatoes and bees. Let me urge upon your readers also to grow *Brassica napus* in their gar-

dens. It will cleanse the ground, and at the same time do a great deal towards keeping the dread "Isle of Wight" disease away. The raspberry cane also gives the bees vigour to throw off disease. These are some of Nature's remedies. They heal and feed the bees as truly as they feed man. Every one of the articles I have mentioned can be grown anywhere, by anyone, provided they give a sunny position. The lime tree, which is excellent for bees, requires a moist situation. Nor should we forget, in providing for our bees, those beautiful and easily grown asters and stocks. How the bees love them in the late summer and early autumn! Antirrhinums also are prolific in honey and full of healing to the bees. So are calceolarias and gladiolus. But I think one of the most neglected flowers, and one of the most sought after by the bees in its season, is the wallflower, and my opinion is that the bees know by instinct what is the best for them. If we would only watch them, study them, and then supply them with what they want, "Isle of Wight" disease would go, honey would increase, and our bees would be a joy and huge profit to us.

I hope I have not tired you, or given you or your readers too much garden and too little bee. Where does the bee live and get its store if not from the flowers? Therefore, we must know more about flowers if we want healthy, paying bees. The season is advanced, but not too far advanced for us to plant many seeds and many plants, to flower this year. We want every ounce of honey, therefore we must give the bee every possible assistance. We all know that the bee is willing to do its part; it is up to us to do ours.

If any of your readers are interested, I will be only too pleased to send them a full list of seeds and plants which can be sown now to produce bloom this year for the bees, and incidentally these self-same flowers and plants will give additional pleasure and food.—C. CUNLIFFE.

## FLAVINE AND "ISLE OF WIGHT" DISEASE.

[9675] In the B.B.J. for February 21 Mr. S. H. Smith referred to an inspection of my apiary by him after a season's trial of Flavine for "Isle of Wight" disease, and invited your readers to write me for information.

Many have availed themselves of this invitation and, judging from their plight and distressing experiences, it has occurred to me that perhaps others might be interested in my experience, and in case you should care to gratify their interest I send you a short account thereof, viz.:

In the spring of last year on examining my stocks, numbering five, I found that two were dead from "Isle of Wight" disease, and another, a nucleus formed in the autumn preceding, had dwindled to merely a handful of bees.

On May 20 Mr. Smith gave me a powder, which he has since informed me was Flavine. We added a pint of warm water to the powder and sprayed the bees and combs.

We then went to another stock, which was a strong one, and sprayed it, put on a shallow box containing empty combs, and on that set the weak nucleus. We examined them again on May 28, and sprayed them, removed the strong or bottom stock to another stand, and lowered the nucleus and added, after spraying them, some further combs removed from dead stocks, also used the remainder of the combs, soiled with excreta (both those with and without stores), from the dead stocks in my other hives after first spraying them with Flavine.

The nucleus referred to soon became very strong, and eventually produced a large surplus. To-day, so far as I have been able to observe, it is healthy, as is also the other stock.

During the summer on suitable occasions, that is, when the weather was warm, I sprayed the bees with Flavine and from the strong stocks produced a surplus of 100 lbs. each.

I have not lost a stock since last spring, notwithstanding having given to them the combs from diseased stocks.

I have made a cursory examination of the stocks this year, and the bees have, on several occasions, taken their flight, and from appearances I judge them all to be healthy.

I have now put on several of them a cake of Pascall's candy.

It is between now (March) and May that the disease will show itself if it is latent; but I feel that it is quite satisfactory to have brought them through so far safely. The weather is too uncertain at present to spray them, but I shall, when the bees are carrying in pollen during apple blossom (I would issue a warning against doing it earlier) on a warm day, free from wind, spray them over the tops of the combs and cover them up warmly, first placing the combs a little apart.

I do not wish to dogmatise as to results yet; further time is needed for absolute proof.

I believe it to be very important to have young queens, say, not older than their second year.

Wishing your JOURNAL success, and expressing the hope that a remedy has been discovered for this terrible scourge—"Isle of Wight" disease.—H. C. BUTTRESS.


## SEASONABLE HINTS.

The weather having turned warmer, swarming will be more or less prevalent. To a large number of bee-keepers swarms are a nuisance, and one of the most frequent queries is, "How can I prevent my bees swarming?" It may help to solve the question if we consider a little the causes of swarming, and of these the principal one is overcrowding, so that there is not room in the hive to accommodate all the bees. When this occurs a bunch of bees, from one to perhaps three or four pounds' weight, will cluster on the hive front in the evening, when all the foragers have returned, and may continue for several days, perhaps a week. In the meantime, young queens are reared, and at the first favourable opportunity the bees swarm.

Then, again, the combs may be so full of brood and honey that the queen has for egg laying only the limited space afforded by the cells as they are vacated by the young bees, and though the hive may not be so crowded that bees have to hang out, a swarm will issue. Under these conditions the solution of the swarming problem is fairly obvious, and is contained in the advice so often given, "Give the bees more room." The advice is good, but the great mistake is that it is often followed too late. Once the bees have begun to feel cramped, and realising the necessity for emigration on a large scale in the near future, have commenced queen cells, it is very difficult, often impossible, to check swarming by the simple expedient of giving more room in the shape of supers. These must be given in advance of the requirements of the bees. Do not wait until the bees are utilising every scrap of space available, and elongating the cells for honey storage until there is barely a bee space between the surfaces of the combs, but put on the supers as soon as bees are observed to be working on the two outside combs.

Examine the brood combs before putting on the supers. If they are choked up with honey remove some, and either extract the honey and put them back, or if the honey is sealed put them by for use later on and give empty comb, or a frame of foundation in their place. This will give the queen room to do her work and keep up the strength of the colony. Before closing up renew the supply of naphthaline. If, on the other hand, the combs are full of brood, other methods must be adopted. Should a moderate increase of stocks be desired, an artificial swarm may be made by one of the methods described in the "Guide Book," or a nucleus may be made with three of the combs, and either allowed to work up into a stock, or used for the rearing of a queen, and again united to the parent stock after the honey flow, when it is re-queened.

There are other methods of preventing swarming, and the following are several given by D. M. M. in the RECORD for May:—

1. Clipping the queen's wing. This is supposed to be a modern device, much practised in America, but in reality it was known before the advent of the Christian Era, for Virgil sings of bee-keepers if his day clipping the wings of the high-flying kings. He gives us the reason, too, pithily and practically: "Nor is there any great difficulty in preventing them swarming; just disable the wings of their chiefs—not one will then dare, while they stay behind, to fly aloft or to depart from the camp." The practice is not common with us, but for the busy man of business and the farmer with heavy responsibilities on his shoulders at that time it should prove a boon, as he would have no watching to do in the bee garden and there would be no runaway swarms.

2. Cutting out queen-cells periodically is frequently advocated, and many believe in it and find it effective. It is a messy job, however, and the process causes an undue disturbance of the brood-nest and an upsetting of the bees' equanimity. It pays and it does not. Caught at the psychological moment, one operation may suffice for the season. The fever once generated, the labour may go for next to nothing, because after a few days more queen-cells may be found in the hive than were cut out. It is certainly a means of retarding, checking, or even obliterating the swarming craze, rightly gone about.

3. Caging the queen temporarily is a favourite procedure with many, and, other things aiding, it may prove not only a check, but a cure for the time. It hinders the issue of a swarm, because, there being no queen to head them, they will not issue, or if they do they will quickly return, and after a time resume work. Frequently, however, it breeds a species of unrest among the workers, unsettling them in their honey gathering, and it may cause an injury to the queen which may ultimately impair her laying powers.

4. Somewhat kindred to this device, and kinder to the queen, is the plan of, by means of excluder zinc, confining the queen on two or three frames during the critical period, and then liberating her.

This may be done at either side of the brood-nest, or behind in hives of the Long Idea type. If everything—the bees, the weather, the honey flow—behaved according to the bee-keeper's calculations, it would be a model way of tiding over a difficulty, but too often, like the schemes of mice and men, the expectation and the realisation widely differ.

5. The temporary withdrawal of the queen from the hive for a week or two when the swarming fever shows signs of developing, and then returning her to the hive, or substituting for her either a virgin queen or one newly mated, has many strong advocates. It is preferable to either caging or confining the queen, but it entails some upsetting of the bees and also some work for the bee-keeper. A little risk has to be taken in all the schemes depending on interference with queens, but generally the advantages very much counterbalance the disadvantages—and then queens are plentiful at that season.

## BRITISH BEEKEEPERS' ASSOCIATION.

The monthly meeting of the Council was held at 23, Bedford Street, Strand, London, W.C.2, on Thursday, May 16, 1918.

Mr. W. F. Reid presided, and there were also present Sir Ernest Spencer, Messrs. G. Bryden, G. S. Faunch, T. Bevan, F. W. Watts, J. Smallwood, W. H. Simms, G. R. Alder, Association representatives, J. Rae (Essex), Captain C. C. Lord (Kent), Mr. E. Hamlin (Surrey), and the Secretary, W. Herrod-Hampsall.

Letters of regret at inability to attend were read from Miss M. D. Sillar, Messrs. T. W. Cowan, F. W. Harper, A Richards, C. L. M. Eales, and Major Sitwell.

The Minutes of Council Meeting held on April 18 were read and confirmed.

The following new members were elected: Mrs. E. H. L. Lydall, Miss H. S. Smith, Messrs. G. W. Coldicott, A. Smith, A. C. Furmston, J. Newell, A. Huggett, and T. Fullylove.

The Doncaster Association applied for affiliation and were accepted.

The following Associations nominated representatives on the Council, and the same were accepted:—New Forest: H. Bright; Leicestershire, Mr. W. Falkner.

The report of the Finance Committee was presented by Mr. Smallwood, who stated that payments into the bank for April amounted to £27 5s. 5d. The bank balance on May 1 was £142 19s. 8d. Payments amounting to 5s. 3d. were recommended.

The Bucks and Leicester Associations applied for preliminary examinations, and the same were granted conditionally.

Next meeting of Council, June 20, 1918, at 23, Bedford Street, Strand, London. W.C.

## A DORSET YARN.

May gives us the wealth of flowers. Bees have now a great choice of nectar-producing units. They have found the raspberry flowers; these give a great deal of food for bees, so many of them always to be seen on them proves that nectar is abundant. Though the hedgerows are heavy with hawthorn blossoms, there are more to be seen on the patches of charlock; they come home with abundance of pollen from charlock and broom, their little bodies are covered with yellow pollen. The white broom is most attractive to them just now; every year I have noticed that these are eagerly looked over. The flowers are small, but there are so many of them out at one time. The fields of scarlet clover are opening their deep-coloured blossoms — plenty, plenty, everywhere. Bees are swarming and founding new colonies as the weather is perfect, and food in abundance. My first two swarms went clean away after they were in the skep; am inclined to think it is self-preservation, they go away from a diseased area, and I lost a lot in March with disease.

Have been honoured with two visitors from Kent this month from two of the divisions of the county, to see our farm, and both agree it is an ideal county for bees. Some of ours have already filled their first rack of sections. We were glad to have them do so before swarming; it is Nature's way of carrying on the race, and as my lot has been so much reduced, shall give each swarm a new home, even though I shall not get so much honey as other years. I gave them drawn-out sections that were not filled last season, and had been given to a late swarm to clean up, as they were not sealed over. One stock had them on the whole winter in an old hive that had plenty of air blowing in all the time, and these survived: am thinking that they want more air in winter than they get. I had another lot in a box with two openings for them to get into sections; it had only a piece of glass to cover these two narrow apertures, and yet these went all through safely and are very strong; they have an Australian apple-box for a brood chamber. I have not yet seen a drone in this lot. This is somewhat surprising, as when left to themselves they often build

a lot of drone comb; indeed, this is where the bees show a lack of intelligence. I have seen them, even on new worker brood foundation in bar frames, build a lot of drone cells, and if they can get up into sections, I have found the lower half of them with drone cells, and that with whole pieces of thin foundation in the sections. As the price has gone up for queen excluder sheets, a lot will have to go on without them, as I consider prices are prohibitive. I regret also that we have not been able to make our own sections, that we have to depend on other countries for what we want, but so many men have been taken from our own country in this terrible war it is unavoidable; but those of us who hope to see our country more self-supporting must feel disappointed that it is so. It is humiliating for us on the land to know that in the yield of corn to the acre the Germans have beaten us, as was shown by Sir Walter Essex in the pamphlet quoted by him in the JOURNAL; no new year books that I have, or can get, give the old tables of some years since, where our country led the way.

When lecturing at Highcliffe last week, I met other bee-keepers; some of them had lost bees, and some had wintered them well. Mr. Weaver lost his in bar frames that I gave him last year, but one in a hollow brick pillar round the garden walls had lived for years, and had never shown any sign of disease. When I was there the beautiful grounds were full of cherry blossom and Siberian crab specimen trees were full of blossom, the bees were everywhere luxuriating in the beautiful flowers; the double-flowering cherries of white and flesh-colour were very lovely, and red and rose-tinted Siberian crabs added to the beauty of a very charming place.

It is very pleasant to the simple writer of Dorset yarns to know that by far the greater number of readers of the B.B.J. are interested in them, and wish me to carry on. The letters to me were very encouraging, as Squire Tomlinson wrote "to carry on through autumn and winter," when the bees were at rest from the labours of summer, when the interest in the JOURNAL and bees had to be kept up to concert pitch, "was a good work." As I have said before, I love the bees: I love all nature: to me all is beautiful, but the wonderful crops that the earth will give for the labour bestowed by the tiller of the soil is the greatest pleasure of all. So productive is the soil that one visitor from Kent will buy the next farm, and follow on the same lines as we have done at the Violet Farm.

J. J. KETTLE.

## SOUTH STAFFORDSHIRE & DISTRICT BEE-KEEPERS' ASSOCIATION.

A meeting of the members of the above Association was held on Saturday, May 11, at the apiary of Mr. Hipkins, Castle Hill Farm, Dudley.

Over 50 of the members, both ladies and gentlemen, responded to the invitation, including a goodly number of new members.

Mr. Hipkins, Mr. Cheshire, and Mr. Price undertook the examination of the bees, which proved, with one exception, to be rather weak.

The transference of the strong stock to a larger hive excited the interest of the members, especially the new ones.

After the examination of the bees, came a presentation of a fountain pen and a purse of three guineas to Mr. Joseph Price, the late secretary of the Association,

Mr. Hipkins spoke in eulogistic terms of the work of Mr. Price, and congratulated him on his appointment as expert to the Stafford County Council.

Mrs. Thompson, the wife of the hon. treasurer, in a few well chosen words then made the presentation.

Mr. Price, in thanking the members of the Association for their kindness, said he understood he was to be presented with a fountain pen, but the addition of the purse came as a surprise.

This being the first meeting since his appointment, the Hon. Secretary said he trusted the members would be lenient with him and give him their assistance. He would try to do the best he could for the Association. He was pleased to welcome the new members, and hoped they would benefit by joining.

Mr. Price said he had a rather painful duty to perform, that was, to move that the hon. secretary be instructed to send a letter of condolence on behalf of the Association to the widow of Mr. Force, the late secretary of the Stafford Bee-keepers Association, who was killed in action in France. After mentioning the valuable work done for the S.B.A. by Mr. Force, Mr. Price said he felt sure they would not like to leave without sending to Mrs. Force their heartfelt sympathy in her sad bereavement.

Mr. Hipkins and Mr. Thompson paid a tribute to the work of Mr. Force, after which the motion was carried in silence.

The members then partook of tea.

A vote of thanks to Mr. Hipkins for his kind invitation was moved by Mr. Middleton, and passed unanimously.

This brought a very enjoyable afternoon to a close.—ARTHUR E. TAYLOR, Hon. Sec.

## THE CARMARTHENSHIRE BEE-KEEPERS' ASSOCIATION.

This Association has only recently been formed, and is labouring under great difficulties, as, so far, it has received no assistance from the County Agriculture Committee, notwithstanding the serious loss to beekeepers during the winter 1917-18, when the "Isle of Wight" disease wave passed over us. I shall be pleased, therefore, if beehive appliance makers would be good enough to forward to me their catalogues, and anyone desirous of selling stocks of bees, swarms or hives, as I am being continually overwhelmed with inquiries for same, and will any bee-keeper not at present a member of the Association send me his address? The subscription to the Association is 2s. 6d. per annum, and I shall be pleased to enroll members and assist them when possible. A. PRESTON, Hon. Sec.

Golendy, Park Road, Ammanford.

LECTURE AT AMMANFORD.

On Thursday evening, May 16, Ammanford and District members had the pleasure of listening to a very interesting lecture on "The Honey Bee," given by Mr. H. Samway, F.R.H.S., of Maesybont, Llandebie, who is also a certified expert and member of the B.B.A. As this was the first lecture of its kind held in the district, great enthusiasm prevailed among beekeepers. The lecture was illustrated by two large colour prints; the hive and its occupants were thoroughly dealt with, various appliances were exhibited and their uses explained; after which a series of lantern slides were shown, including that of one of the lecturer's apiaries before the ravages of the "Isle of Wight" disease, consisting of as many as forty hives, which has now dwindled down to one, which, he considers, immune, and hopes to expand this season.

Various questions were asked, which the lecturer promptly answered, and later a business meeting was held, at which it was decided to hold in the near future a practical demonstration on the hive, at Llandilo, to be undertaken by the lecturer; also urge the County Council to take a keener interest in the wasted honey harvest in the county. The Association, though a young one, bids fair, and with the valuable assistance of Mr. Samways it is hoped to put the Association well on its feet during this season.

A vote of thanks was proposed by the Chairman (Mr. J. T. Lloyd), and supported by Mr. S. M. Evans, M.A., who could not understand why at the present shortage of food the Government did not take in hand more in the encouragement of bee-keeping. The mountains round here were covered with rich heather, which undoubtedly meant ungathered honey, as there were so few who kept bees in this district.

## BEE-KEEPING AT A PUBLIC SCHOOL.

*By the Assistant Music Master.*

*(Continued from page 54.)*

When the question of food production became urgent, one of the housemasters made it known that he was willing to allow one boy in his house to keep a hive of bees in his garden. One of my piano pupils informed me that he thought of taking up the challenge. About the same time a junior belonging to another house sought my advice, saying he wished to keep bees, and hoped his housemaster would grant him a place in the garden for the purpose. I, too, desired, if possible, to extend my bee-keeping operations, and, owing to the kindness of yet another housemaster, was allowed the use of part of a wide garden path, which easily accommodated five hives, and further obtained permission to make use of a small space at the back of music school, where I managed to squeeze in six or seven more.

The second year found me with two stocks, my own and a swarm of the preceding year, which another master, who had just taken up bee-keeping, handed over to my care on being appointed a chaplain to the Forces.

During the winter months I occupied my spare time in the excellent workshop belonging to the college, making extra supers for use in the coming season. I also obtained several new hives from an old bee-keeping friend; one was made over to one of the new aspirants, the other boy choosing to make his own, using mine as a pattern. He proved a much better bee-keeper than joiner, the hive being of a rather rough-and-ready description, and he had to submit to some good-natured chaff over it.

Of course, I recommended all who consulted me about commencing bee-keeping to get "The British Bee-Keepers' Guide Book."

The next thing was to provide bees for all the empty hives. It was soon discovered that a number of wild stocks inhabited the old college buildings, but they were in such inaccessible places, that on this account, and because the authorities were loth to permit any tampering with the ancient stone work, it was decided to leave them alone, though we hoped to secure swarms from them.

Fearing my two stocks, both Dutch bees, would swarm unobserved, I made an artificial swarm of one early in May, placing the comb with the queen on in an

empty hive, filling up with frames of foundation, and shaking all the bees off in front of the hive now containing the queen. Not having a spare queen or wishing to have one reared by an inferior plan, I carried the combs of brood, now free from bees, into my other apiary close by (if one hive can constitute an apiary), and set them under the brood-chamber of my other stock (in a W.B.C. hive), hoping a set of 20 standard frames for the queen to lay in, with shallow super fitted with foundation above over a queen-excluder, would effectually prevent swarming. In this I was mistaken.

Just as I had sat down to tea on the first Sunday in June, a messenger arrived to say the bees were swarming. I was soon on the spot, and found the swarm (naturally a large one), clustered near the top of the upright post of a rose-covered pergola. Having borrowed a pair of steps, the skep was held above, and the bees gently driven towards it with smoke. They had just begun to march slowly upwards, when the bell began to ring for chapel. One or two boys who had been having tea with the chief music master, and were watching the proceedings, now took their leave, and as it was my duty to play for the service, I fixed the skep securely in position, leaving the bees to enter it or not as they pleased, hurried home to snatch a mouthful of tea, and reached the chapel in time to perform my part of the service. Directly this was over I returned to see what had become of the bees, and was delighted to find them all quietly clustered inside the skep. I should have liked to hive the swarm on the old stand, but as I wished to keep only one hive in this garden, and all the boys had returned to their houses for the night, no help was available to assist me in carrying the old stock to a new location some distance off, so I decided to remove the swarm instead and hive it while there was still light enough for them to run in. As there proved to be queen-cells in both body-boxes of the old stock, I removed one to a new stand some few days later, so now, with the artificial swarm, my two original colonies had increased to four.

Bees everywhere now gave themselves up to excessive swarming, and a number of runaway swarms were heard of, one or two of which I was fortunate enough to secure. In this way and by purchase, before the season closed, I had my ten hives all stocked with bees.

About this time the County Association arranged a demonstration with live bees in the apiary of one of its members: all interested were invited. As the place chosen for the meeting was not far from the school, I decided to attend it, and invited such boys as I knew would be interested to accompany me, including, of course, the two about to start bee-keeping. The weather that afternoon was all that could be desired when I and eight boys set out. We found a numerous company assembled, and a most successful and enjoyable afternoon was spent. The bees were all Italians (some eight or more colonies). The expert selected one well-stocked hive, the assembled company forming a circle round him a short distance off; no tent was used. The frames were taken out and their use explained to the onlookers; the queen was also found, picked off the comb, and passed round for inspection. At one stage of the proceedings the demonstrator invited anyone present, who had never done so before, to come forward, lift out, and replace a frame in the hive. A member of my party immediately volunteered and successfully performed the feat! The same boy also caused some amusement by trying to pick up individual bees by the wings after seeing the owner of the apiary pick one up in this manner, to exhibit its markings to someone. This boy, though so keen to handle bees and learn all sorts of things about them, could not say when I asked him if he would ever keep bees.

After the demonstration the owner of the apiary most generously invited me and my party to have tea before we left; I only made his acquaintance that afternoon. This gentleman is an expert bacteriologist and a qualified medical man, and has given much time to the study of bee diseases. The School Natural History Society is greatly indebted to him for a most interesting and instructive Paper on this subject, which he read to us later on.

The day before my own big one issued. I heard of a swarm for sale; it proved to be a fine early cast. I bought it for my pupil, but did not get it home till after dark, so it was hived after chapel on Sunday morning; a convenient time for its new owner and other interested persons to witness the operation. Being requested to do so, I shook it out on the hiving board myself. We were generally fortunate in spotting the queen when hiving bees, so that all those sufficiently brave to approach close enough had an opportunity of seeing her. In one large after-swarm we thought we saw three different queens. That same eventful Sunday another message reached me of a swarm for sale. It came from a roadside cottage some four miles off, where, in the course of a cycle ride, I had noticed a couple of stocks in frame hives, and had left my address some weeks before, in case there should be a swarm to dispose of. My own bees kept me so

occupied that I was unable to go and see about it that day, but having most of the next morning free, I decided to go in search of the bees. Arrived at the place and inquiring for them, the lady of the house said, "There they are," and turning about I saw a rather small swarm still clustered on a climbing rose, where it had settled the day before! The lady explained that it was a stray swarm that had come there of its own accord, and that her husband got more and more afraid of bees, and no longer troubled even to hive those that came from their own hives! Having agreed upon a price, I asked for a box, and being provided with a suitable one, hived them directly, the lady remarking that she wished her husband could see me handle bees. Fortunately, I put a large piece of cheese cloth in my pocket before setting out, and as soon as the bees were all in the box, tied them up and carried them off. They were forthwith offered to, and accepted by, the other boy, who, at his own desire, hived them himself in the hive he had made, while I looked on, ready to help if required. The first attempt, however, proved completely successful. This young bee-keeper never possessed a veil during the whole of his first season's experience, but handled his bees fearlessly without any protection, except the very first time, and once or twice when he sent to borrow a veil from me when the bees happened to be in a not very agreeable mood. He is now the proud possessor of three stocks, and a member of the British Bee-Keepers' Association! The other young bee-keeper also managed his bees well, and the cast belonging to him built up into an enormously strong stock by the end of the season. His younger brother and a friend in the same house also became interested, and all three used to manipualte the hive together. Later on, these two went into partnership and made a hive between them, and asked me if I could obtain a swarm for it; the season being rather advanced I feared this might not prove very easy to do, but a cast from one of the wild colonies in the college buildings, issuing not long after, solved the difficulty, being secured by me and presented to them. The latter of these two partners, on his return after the summer holidays, informed me that he had bought an Italian stock which he and his sister were going to look after at home. One day I was asked to put another super on the elder brother's hive, the boys afterwards remarking that the bees always seemed much more gentle when I handled them. Perhaps the music master's "touch" had something to do with it!

*(To be continued.)*

## CORRESPONDENCE.

*The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.*

### MR. KETTLE AT HOME.

[9676] Being in Bournemouth for a few days with my wife the first week in May, I decided to pay a visit to Mr. Kettle at the Violet Farm, and knowing what a busy man Mr. Kettle is I wrote him as to the most convenient time.

But weather would not permit on the day fixed, so we had, perforce, to wait until the next day, which broke dull and overcast.

However, we decided to start, but owing to my faulty arrangements, when we arrived at Wimborne we found no trace of the dog-cart in which our host had so kindly arranged to meet us, so I set off alone to do the two miles to Corfe Mullen, leaving my wife at the station.

What a two miles it was, up and up amidst gorgeous scenery, and when at last the goal was reached no Mr. Kettle! He had gone to Broadstone station instead, to meet us!

After hunting around for some time, I eventually found him on one of his pieces of land, ever hard at work, amidst line upon line of gooseberries, apples currants and pears, which with pride he rapidly showed me.

Then, after the trap had been kindly sent to fetch my wife, we proceeded to number two estate. No wonder Mr. Kettle puts in horticultural notes, for here the bees and fruit must be inter-mingled. Gooseberries six weeks in advance of those in London, currants, with a wealth of asparagus growing under them, lettuces and violets growing in between the rows of fruit, a magnificent field of hay, with cows, fowls, pigs, horses and a donkey in a huge barn, with stables attached, and not far away a beautiful little cottage home.

The we saw the bees, two plots of them, but here, alas! the only blot upon that gorgeous scene, the "Isle of Wight" disease has taken full toll this year, and even as I loked the bees from one strong hive were streaming out, many never to return. Mr. Kettle tells me nearly 75 per cent have been struck down this March, but the remainder were a sight to behold.

Sections full of bees, overflowing, many on the point of swarming, for with this wealth of fruit and flowers how could it be otherwise?

After this Mrs. Kettle kindly took charge and treated us to a much needed and excellent tea. Then, as time was drawing to a close, Mr. Kettle drove us to another estate; here, glass houses full of freshly planted tomatoes were to be seen, on ground that had recently been heather common. Mr. Kettle tells me he has gradually taken over about 50 acres, all of which are now in a high state of cultivation.

Then, as "Time and tide wait for no man," we had, perforce, to say good-bye.

The boy came to drive us back to Broadstone station, and as the cart drove over the brow of the hill we saw the last of the tall figure of our more than hospitable host silhouetted against the sky.—STANLEY A. BLENKARN.

## DIET AND "ISLE OF WIGHT" DISEASE.

[9677] Your correspondent Mr. J. S. Rentoul raises an old theory again. I suppose there are very few bee-keepers who would not prefer honey to sugar as a winter food, but it is quite useless to talk as he does of *feeding* with honey. It will never be done. It is not a sound business proposition.

May I ask your correspondent how he accounts for the fact that whole apiaries of skeps, etc., have been wiped out by "Isle of Wight" disease where no sugar has ever been used, or practically none.

My own experience is as follows:—In 1912 my bees first showed signs of "Isle of Wight" disease, and all but five lots went "west." I did not destroy combs or hives, but simply replaced the bees, using good Italians and always keeping naphthaline and Mr. Herrod-Hempsall's "Apicure" in the hives. I have fed every winter since with sugar syrup, medicated with Izal. I have once or twice since had a few crawlers in spring, but in a day or two they have disappeared, and for four years I have had no disease whatever.

Now I am perfectly satisfied that all drug treatments are useless. They may, and apparently do, revive the bees, but what we want is to remove the causes of the disease.

One other point. Your correspondent "Anxious to Know" (9654) brings it up. It is this. I feel sure that it is no use to destroy good combs, etc. Just imagine the conditions! You have a stock with incipient "Isle of Wight" disease. It does well. You extract honey from it. In so doing you contaminate not only the extractor, but every comb that is put into it after. There at one blow you have infected the whole apiary. But what is the result? Do all the stocks have "Isle of Wight" disease? I think not. Now, I go on the theory that unless the bees can resist "Isle of Wight" disease they are useless, and only a source of expense and disappointment; therefore I have intermixed my bees to the greatest possible extent and reared queens from my best stocks, and I cannot help thinking that my bees have become so immune, through being in perpetual contact with the disease, that they are now able, in a great measure, to resist it. I am not sure, of course. Disaster *may* come. But I *am* sure of this—that if I were to set up an apiary of the usual kinds of bees to be found hereabouts it would soon be wiped out. Witness.—The year before last I bought a stock of bees from a well-known dealer, at, I am bound to say, the moderate price of £2 2s. They were strong when they came, but in about a month they were fast dying out. I should have lost them altogether but that I gave them a new queen, which at once changed their whole tendency, and they became strong and did pretty well.

One other point I wish to make is with regard to slow feeding in spring. My advice to all bee-keepers is, Do not do it at all. It is quite unnecessary, and only worries the bees. Bees should be let alone till April, if at all possible. If they are starving and you cannot give them a comb of sealed food, give them a rapid feeder of warm syrup on a warm day and wrap up well. They will store this and do well. But a comb of sealed stores is best of all, and you can generally get one from the outside combs of one of the other hives. In April a cake of candy will keep the bees going ahead, but if they have plenty of stores the golden rule is *keep them warm and let them alone*. A good queen needs no stimulating, and will keep going at just the right pace without any.

No brood should be spread until almost May, but should always be well spread when supers are put on.—R. B. MANLY.

## CAPABILITY.

Near a small Wyoming town there is a capable lady of great executive ability, who, besides being an ardent suffragist, an active member in church circles, a dominant figure in all local women's clubs, manages a ranch in connection with her multifarious household duties.

A visitor stopping at the front gate to ask for her, heard a loud commotion in the rear.

"Yes, she's home," replied friend husband, who, in the life partnership, is nil, "but she's busy." He added in a voice which had an acid edge: "She's out in the back yard, teaching a queen bee how to swarm."

## Notices to Correspondents

"DUCK" (Yorks.).—*Damaged shallow combs.*—The bees will repair the damage, and the comb will be rebuilt as good as new. When the mouldy pollen is thoroughly dry it will shrink, and most of it may be shaken out of the cells. The bees will remove what is left, or you may take it out with the crochet hook. The bees will repair any cell walls you may damage.

F. G. F. (Bucks.).—*Price of swarms.*—It is rather difficult to say what this will be, but we should say about 8s. per lb. this month, and from 7s. to 6s. per lb. during June. Italian, Dutch and hybrid bees are not quite so liable to "Isle of Wight" disease as natives. The strain you mention are no better and no worse than any other of the same kind.

MISS HARLAND (Hants).—*Using combs containing unsealed honey.*—It will do no harm to give these to the bees if the honey is not fermented. If it is, extract it and syringe the combs out with water. See reply to "Duck" *re* pollen. Do not cut the pieces of comb out, or the bees will most likely fill the spaces with drone comb. Allow the bees to clear it out.

MISS BARBOUR (Chester).—*Placing bees on the old stand.*—This will be all right, if the ground has had quicklime, or disinfectant and water, sprinkled thoroughly all over it, and then been dug over.

E. HILL (Rotherham).—*Making glucose.*—You cannot make this from honey, and it would not be worth spoiling the honey for the purpose if you could. Glucose is produced from starch by the action of heat and acids, and is only about half as sweet as cane sugar.

*Honey Toffee.*—The following from the "A.B.C. and X.Y.Z. of Bee Culture" may suit you:—*Toffee.*—Boil some honey until it hardens when dropped into cold water. When cool pull until it becomes white. A pound requires 20 minutes' boiling and stirring. Great care must be exercised not to burn the honey.

"GWYLYM" (Chester).—*Neighbours and bees.*—If your bees stung, or otherwise became a nuisance to your neighbours, they could bring an action to compel you to move them, but they would have to prove that the bees were a nuisance.

"FORWARD" (Lincs.).—*Removing bees from roof.*—It is not possible to tell you how to do this without a personal inspection of the place. Can you get them by removing some of the tiles, or get at them from the underside. Have both a smoker and carbolic cloth handy. A bottle of carbolic acid and water and a feather are also often useful.

J. H. NELSON (Suffolk).—*Dealing with swarm.*—(1) If the bees swarm make a nucleus with three or four frames of comb, with one good queen cell, destroy all other queen cells, both in the nucleus and the parent stock. Place the nucleus on a new stand, put the swarm back in the hive from which it issued, leaving it on the old stand. (2) Two teaspoonfuls to a pint of water.

H. J. (Ayrshire).—We are sorry we do not know the district. We shall be pleased if any of our readers can tell our correspondent the possibilities of bee-keeping near Gailes Camp, Ayrshire.

T. BROAD (S. Devon).—Sorry we cannot tell you where to get a swarm of bees. Look round your own district, or watch our advertisement columns.

*Suspected Disease.*

F. CARLSON (Stockport), "BEES" (York), "ROMILLY" (Manchester).—The bees were affected with "Isle of Wight" disease.

G. LANE (Kent).—The bees had "Isle of Wight" disease. We do not think spraying the fruit trees had anything to do with their death. We have not tried that remedy. Use it, and if it does no good try another.

K. BEALLY (Croydon).—Death was due to "Isle of Wight" disease. It is safer to destroy the comb. If you want to use the frames again, boil them for 20 minutes, or soak for 12 hours in a 5 per cent. solution of disinfectant and water. The same treatment may be applied to the rug covering. Scorch the inside of the hive, or treat it with one part of disinfectant to two of water, then expose to the air till dry and the smell has disappeared.

J. C. B. (Atherstone).—The envelope arrived torn and empty, except for your card.

J. W. (Hamilton).—There were slight symptoms of "Isle of Wight" disease, but they may have been due to the confinement.

F. W. MOORE (Bournemouth).—There was foul brood of old standing in the comb.

M. A. B. (Gillow Heath).—The bees were too dry for diagnosis. The appearance of the bit of comb pointed to starvation.

W. B. F. (Trelyon).—So far as we could see there was no disease.

"BRECON" (Wales).—We do not find any disease. Possibly the bees became isolated from the main body during cold weather, and perished from want of food, and cold.


## POSTAL RATES.

Will our readers please note that the new rate for letters, postcards, etc., comes into operation from midnight on Sunday, June 2, and letters, postcards, parcels, and other packets posted after that time must be stamped in accordance with the new rates. Correspondents should take care that stamps to cover postage are affixed, as we refuse any matter on which there is a surcharge owing to insufficient postage.

The letter rate will be 1½d. instead of 1d., but this will carry any letter not above 4 oz., every 2 oz. over the 4 oz. will be ½d. more. Postcards will be 1d. instead of ½d. Printed matter rate will take the place of the book rate, and will be for not above 1 oz. ½d., not above 2 oz. 1d. Parcel rates are 3 lbs. 6d., 7 lbs. 9d., over 7 lbs., but not over 11 lbs. 1s.

## BEE-KEEPING FOR WOMEN.

It is highly gratifying to see how bee-keeping is appealing to women as "war-work," and I would like to give my happy experience as a beginner for the encouragement of other housewives wishful of obtaining honey for their families, but who doubt their ability to make a success of an apiary.

I started with a swarm of hybrids in a W.B.C. hive on May 28 of last year. It gave me over 50lbs. of delicious clover honey and a fine nucleus as well, which is now strong on eight frames. In June and July I added two other swarms to our little apiary.

These four stocks were fed up in October on pink candy syrup, and were tucked into bed for the winter in promising condition.

They are now the pride of my life, and as healthy and hard-working as anyone could wish. They are so interesting they almost make one forget there is a war going on, and I confidently expect to take a splendid surplus of honey before the end of the summer.

I may state that I knew absolutely nothing about bees at the beginning of last season. The booklet, "Bee-Keeping Simplified," by Mr. Herrod-Hempsall, then became my constant guide, with two expert and sympathetic bee-masters of the neighbourhod to advise and assist in tight places. I found this booklet much more easy to comprehend at first than the larger "Guide Book." A beginner is apt to become bewildered, and even frightened, with too much detail, until experience clears things up a bit.

Every woman novice should wear a wire veil. It costs but little more than one of common netting, and the greater confidence gained by being *certain* the little beasties can't get through it, adds much to the interest of manipulation. Two pairs of gloves should be worn, the outer ones thick woolly gauntlets, and two pairs of thickish stockings. An old beekeeper will laugh at this suit of armour, but a novice will not mind a bit of ridicule (which doesn't really sting), and when confidence is gained some of this paraphernalia may be discarded. I have found the carbolic cloth much simpler to handle in subduing my bees than the clumsy smoker that always goes out at the most critical moment, and then wastes no end of precious matches in re-lighting.

The cost of beginning is soon paid back in honey. Indeed, any woman who can pound a nail or saw to line will soon be making her own lifts and other spare parts, or even whole hives. I shall soon hive a swarm in a useful and practical (and sightly) hive I have made, at little cost, from a Tate sugar box. It is not equal to a W.B.C., perhaps, but it has its good points, nevertheless, besides creating pride in my own handiwork.

Some women say they would like to keep bees if they were not afraid of their children being stung. My experience in this has been quite the opposite. The children play all about the hives, being much interested in the busy workers, and only once have they been stung. That was when the little girl tried to push a chilled bee into the entrance of the wrong hive. One bee, only, seemed to object, and risked her life to protect the hive. My little girl held herself still, however, and let the bee pull out its own sting, which we hope saved its life!

No woman who has once known the joy of seeing her own bees working her own cherished flowers, fruit, marrow, and bean-blossoms will ever enjoy gardening again without them. Even dull darning may be turned into sufficient excuse for taking an easy chair out by the hives and watching the bees carry honey for the household. And, say—it's a proud moment when your admiring family sits down to tea before your first wonderful dish of clover honey!—G. C. B.

## THE INFLUENCE OF TEMPERATURE ON BEES.

I have no intention at present of contributing additional notes to this subject, without making further observations and experiments, beyond replying to the much appreciated criticisms of Mr. Pike.

Mr. Pike's first objection is that my suggestions are absolutely opposed to Nature. My contention is that they are helpful to Nature. Bees in tropical and sub-tropical countries are in full prosperity all the year round. The factor of temperature there is nearly always favourable, the period of honey-gathering in many localities prolonged, and the state of hibernation or pseudo-hibernation among these insects during winter in such lands is unknown. On the other hand, bees in cold countries, such as England, are forced by the weight of circumstances, and not by natural inclination, to remain within the walls of their hive when the weather is severe. They are forced to cluster together for warmth and to help one another to the food, however little they may take from it. Should the air temperature be excessively low, and the bees be incapable of counteracting it by their self-generated heat, nothing else but extinction of the colony from the direct harmful effects of the cold, or from their resulting lethargy (which prevents them from feeding themselves, and thus starving) would seem to be their final fate. Not very few stocks are known to die every year of starvation, in spite of the sufficiency of stores, although this unfortunate accident is not likely to occur with a very strong colony. In some such cases, in spite of the obvious signs of starvation, the wrong diagnosis of disease is occasionally made. Nature is not always beautiful; it is sometimes ugly and clumsy, and very clumsy, too. Science has been aiding Nature in many spheres of life, with wonderful effects; it has also been opposing her in certain spheres with equally beneficial effects. It might be argued in connection with bee-keeping that it is against Nature that man should have domesticated the honey bee at all, and provided her with a modern hive with its ingenious frames, etc.; that it is against Nature to feed the bee with "medicated" candy; that it is against Nature to supply her with artificial food in April and early May this year, when we know that the winter stores have been exhausted and the weather is not favourable for honey-gathering. I admit that the bees can withstand some cold, although they do not by any means like it. Yet, I can safely assert, from certain experiments which I have carried out, that no bee could possibly overcome starvation of more than four days. Many chilled and starved bees, when revived by heat after even 52 hours of captivity and starvation were so exhausted that they proved quite useless foragers, even after feeding them. They could not regain their activity and power of flight. I feel, therefore, at a loss to understand how could a colony of medium strength which happens to become chilled during the winter, evade the certainty of starvation and death if the severe weather affecting it would continue uninterruptedly for a week or a fortnight; also, how could one be blamed for endeavouring to help these insects in their miserable circumstances on the ground that he is opposing Nature!

Regarding the sufficiency of stores, this, of course, is a different matter. No modern bee-keeper is going to neglect his colonies or is going to save the price of extra cakes of candy at the risk of losing his bees or of exposing them to disease. Their value is far greater, and the loss of even one colony is not a small loss. Moreover, there is no necessity for considering the question of stores with this apprehension. Bees are known to consume much food only under two circumstances; first, when doing much work, such as during the honey flow; and, second, when they are energetically occupied in raising the temperature of the hive and in comb-building and brood-rearing. A weak stock of bees in winter provided the cold is not too severe, would consume more stores in attempting to maintain the necessary temperature than would a strong stock under the same conditions. I do not anticipate therefore, an appreciable increase in the consumption of stores by simply *maintaining* the temperature of the hive artificially and by *controllable* means somewhere between 50 deg. Fahr. and 60 deg. C. The exact curve of the required temperature, as I have repeatedly mentioned before, could only be ascertained by experiments. It is moreover, a matter of detail, and not of principle. Let me say here once more that my object in applying artificial heat in the apiary, as explained before in my various contributions to the JOURNAL, are: (1) to maintain a minimum mild temperature for the hive (whether directly or indirectly) so that the bees are neither exposed to the severity of the weather nor stimulated into unnecessary activity, but kept at the minimum of vitality *which is possible with safety;* (2) to maintain or increase the resistance of the colony to disease. No bee-keeper needs reminding that the "Isle of Wight" disease declares itself chiefly in the cold weather; (3) to encourage the bees to cleanse themselves regularly, thus helping again to keep their constitution in the best of health. Colitis and intestinal disorders appear to be at the root of predisposition to the dreaded microsporidiosis of bees. Mr. Joseph Tinsley's "Preliminary Report on "Isle of Wight Bee Disease" lends much support to this view, and especially his successful experiments in obtaining relief by the employment of cultures of the *Bacillus Bulgaricus*

(derived from Joghurt). I am quite aware of the uselessness of warming a hive by any method without the necessary safeguards. If the hive be kept in a warm conservatory, access to the outside air in bad weather should be prevented, and the bees allowed to cleanse themselves inside the conservatory. If kept outside, but warmed directly, the hive must be fitted with a *capacious* detention chamber, similarly warmed. In that case, of course, no water supply should be placed in the D.C. (4) Another object of applying artificial heat is to stimulate brood-rearing *when desired* for whatever purpose, e.g., late in winter and early in the autumn. (5) A still further object is to help in the treatment of an isolated diseased stock.

My experiments are not confined to the game of reviving apparently dead bees by warming them. I have repeatedly experimented with artificial heat (though crudely done by means of a hot-water bottle), and satisfied myself that—(1) artificial heat greatly encourages brood-rearing; (2) applied in favourable spring weather it increases the number of outside workers by helping to maintain a favourable temperature for the brood; (3) it creates the possibility of wintering a weak stock by itself and giving it the chance to reach the required strength by the spring. I managed thus to keep a nucleus (on less than three frames and in a single-walled hive) alive during the most bitter weather of last winter, only to succumb when I ceased warming it up for a short time. Nevertheless, my greatest motive is to stimulate research, especially by those who are better-equipped than myself, and who are expected professionally to do so. Nothing could be called absolutely conclusive unless it is based on an overwhelming mass of evidence. It is, therefore, in the power of the craft to help in furthering research, and in showing whether artificial heat, *judiciously and scientifically* applied, is useful or useless. I shall be the last person to deny failures. I have no pride in that. My pleasure is in the work itself, irrespective of results.

Before I ventured to make any suggestion on this subject, I did not hesitate to make certain experiments, some of which were costly; but Mr. Pike, without any declared investigation, suggests keeping the hive "in a uniform temperature about freezng point from November to February inclusive, so that the insects are confined to their homes during the whole of that time." It is no difficulty, of course, to accomplish that by means of a *Cool Incubator hive*, but one should like to hear some practical evidence on this matter before making a judgment. Mr. Pike quotes from Nutt's "Humanity to Honey Bees" as to the value of a low temperature, both in summer and winter. As to the influence of low temperature in the prevention of swarming, this has been well recognised by bee-keepers for a long time, although some hold that swarming is not dependent on temperature; but that it happens because "the sexual spirit is again roused in the queen, just as it seems to be roused for the first time in the worker bee; and that, with all, the journey is undertaken as a mating flight, a faint re-echo of a racial custom long extinct, bearing the closest analogy to the marriage swarm from the ant-hill." Regarding a *uniform* low temperature, I have expressed previously my view in the JOURNAL that it is preferable to the effects of irregular treacherous weather: but I cannot admit that a low temperature at freezing-point is a thing to be desired in winter. Even some of the bee-keepers of the last century recognised the value of artificial heat, and only recognised as a disadvantage to it the matter of expense.

Mr. Pike, in concluding his article, says that after the war he intends "to fit a device to his hives so that the temperature can be raised or lowered at will." But why should he be interested at all in raising the temperature of the hive when he is so much opposed to artificial heat? I should be much interested to know whether his device is dependent on anything other than the incubator regulator which I have frequently suggested, as I was surprised to find, on examining the bee literature, that it has not been made use of before. As a matter of fact the *direct* heating of the hive (whether by *controllable* means or otherwise) appears to have received in the past no consideration whatever, and the *indirect* heating (e.g., by making use of a mildly warm greenhouse) is quite neglected in this country, although extensive use is made of it by American apiarists by wintering their colonies in artificially-warmed cellars.
—A. Z. ABUSHADY.

## BEE NOTES FROM SOUTH AFRICA.

I have never given you my experiences in this part of the country. Conditions and seasons vary so much in such a large country, that on settling in a new district it takes some time to learn the changed state of things. I am now on the edge of the Kalahari desert in Bechuanaland, and one hundred miles from the nearest railway. I have kept bees for sixteen years, but on coming here, expected it to be a hopeless job. However, I found wild bees, and thought that with management there must be some way to succeed. I obtained five swarms, but for the first two years got no surplus. Bee pirates simply swarmed round the hives during

the summer months, November to April, and stock gradually dwindled away to mere cupfuls. Bees would not come out to work after 8 a.m. until sunset, when they had a busy half hour at the water. They were evidently starving, so I commenced feeding them with thin syrup in March; this induced them to breed, and they obtained sufficient pollen in the early morning to keep things going. About the middle of April we had a sharp frost, and the pirates disappeared. During the first week in May I examined the strongest hive to see if it required more stores; to my surprise, the super was full of honey and the feeding tin embedded in same—I had left it on without frames or sections. I placed on two racks of sections and got forty-two completed. I had found the correct management. Feed the bees during the summer months for the chief surplus is obtained in mid-winter.

Misfortune then came to me through a native, who kindly cut out all the young bee from each hive which caused the bees to decamp. The natives are very fond of young bees. which they mix with sugar or honey, and a certain root, to make an intoxicating liquor. Fortunately this thieving has not been repeated, as I allowed myself to be seen occasionally working at the combs with a bottle and glass syringe, informing the onlookers, after bidding them to secrecy, that I was poisoning a few combs in each hive. Last December I obtained four driven colonies, two strong and two very weak. I fed them on syrup until the pirates were over, and then supered. Unfortunately, comb foundation was unobtainable, and I had to allow them to build on the lid. The winter has been very cold during the nights, though the days are sunny and warm. The bees simply revel between 12 and 3 p.m. On July 4 the maximum temperature was 65 degrees, and the minimum 5 degrees. This necessitates warm covering at night. which has to be removed during the day or the bees cluster outside and might swarm. I have made, this season, an average of 35s. per hive profit. The honey is almost colourless, of very little flavour, and after straining granulates in about ten days to the consistency of stiff butter, and is then perfectly white. It is obtained from a small, blue flower, sheltered in the bush and long, dry grass. I sell it readily at 1s. per lb., cut up into pound cakes and wrapped in paper—a great saving in bottles and tins. After the war, with more hives, comb foundation and an extractor, I shall greatly increase the output.

The spring honey starts in September at swarming time, and just before the pirates appear, so I find very little hope of much surplus; I therefore allow the bees to swarm and cast to their heart's content; this ensures having a young queen, which, by the following autumn, is in full lay, and being very prolific here, immense swarms are built up in a few weeks. Our average rainfall is about 12 in. per annum, usually coming with thunderstorms with a downpour of half to two inches. It is a very rare occurrence for the sun not to be shining for at least half of each day.

We have no disease, but sometimes I think I would like to exchange our pirates for the "Isle of Wight" disease. I keep the single wall dove-tailed hives at present, but shall shortly try those with double walls. I have the entrance full width and one inch deep, covered with excluder zinc, leaving a slightly larger space at each end for the drones or queens when necessary.

This is necessary, as the death's-head moth and a large black beetle are always gaining an entrance into the hives, and the beetle eats out large patches of young bee. Very little pollen is lost, and drones can be very easily secured by stopping their entrance whilst they are out. In summer, hives must be kept under the shade of a tree, and not too close together. I have had the whole lot out, including the queen, during a hot day, but they returned in the evening.

Bees and poultry cannot here be kept together. Towards spring, when the harvest is nearly over. the bees become very fierce, and twice this year they came out and tackled everything within 400 yards. Curiously, on each occasion, they killed all the black fowls I had, but left the white. They tackled washing hanging out to dry, a wet jersey having thousands of stings in it. It had its humorous side, however, the antics of natives when they came within the danger zone was worthy of a picture film. I looked on it as a reprisal for the theft of young bee. It is impossible to work without veil and gloves, and one gets many stings through the clothes. Artificial swarming is impossible when the hives are so strong. The brood nest is always so crammed with young bee that. when alarmed, they cannot fill themselves with honey. A little syrup poured over the brood nest might help this. I have never known them working by moonlight, but have had them tackle and sting me when working fifty yards away by lamplight.

How far more instructive to the general reader are letters written in a simple language. Scientific names, etc., are only understood by those who know as much as the writer of them. Beginners' experiences should always be interesting and instructive. The remedies for many diseases among stock and poultry have been found by beginners who, though quite uneducated, have been very observant people. —W. H. Edmunds.

## AN EASTERN TRIP.

*Some Flora.*—When encountering so many beautiful specimens, many closely related to our own cultivated kinds, one regrets one's botanical knowledge does not reach the high standard of some of our correspondents. A good many *Bombus* are seen, but not a single *Apis Mellifica* have I seen on the many miles of these now, plains.

Our old friend charlock, I think, is here supreme; field peas all colours; very fine plants of borage; an extremely pretty and fine variety of clover abounds, of which I shall try to get some seed. It grows to a conical shape with a dark purple base and creamy white top, and seems to bloom in a very likely bee-manner; and then there is a midget kind with heads red, and about the size of black currants. This seeds in a fluffy ball, and is very pretty. Lupins almost like ours, but seem to bloom at the base, and the pod resembles a large green plum; and even the common nettle, alike in other respects, shows a profusion of little green balls, like small gooseberries. A pretty variety of thistle is also seen; the bristles are very large, and the flower is quite yellow. In some places small sunflowers and milkmaids make a veritable chequered carpet. In fact the place abounds with nature study, and it seems sad to think the old promise of "milk and honey," has been so many centuries ignored and spoilt by the avarice, laziness, and jealousy of man.—A. H. HAMSHAR.

## SOUTH STAFFORDSHIRE AND DISTRICT BEE-KEEPERS' ASSOCIATION.

Five hundredweight of candy has been purchased for the members of the above Association. This will be sold at 8d. per lb.

Full particulars on application to the secretary, Arthur E. Taylor, 202, Willow Avenue, Edgbaston.

## KENT BEEKEEPERS' ASSOCIATION.

SYLLABUS OF MEETINGS.

June 1 (Saturday), 7 p.m.—Orpington, at "Bark Heart," Orpington, by kind permission of Miss Howard. (Meeting of members at 6.30 p.m.). Lecture and demonstration by Mr. W. Herrod-Hempsall. Subject: Bee-keeping for Profit.

June 1 (Saturday), 3.30 p.m.—Forest Hill, Mr. Prior's second lecture at the Horniman Museum, on behalf of the L.C.C. Admission free.

June 8 (Saturday), 5.30 p.m.—Bickley, at Wixoe, Southlands Grove, by the courtesy of Mr. Gilby. Lecture by Captain C. C. Lord, R.A.M.C. Subject: Preparing for the Honey Flow.

June 15 (Saturday), 5 p.m.—New Eltham, at Culham, Main Road, Mr. Prior will give a demonstration on Manipulating, Frame Building and Section Folding.

June 15 (Saturday), 3.30 p.m.—Bearsted, Mr. Watts' Apiary, Holmleigh. Lecture and demonstration by Mr. H. Watts. Subject: Forming Nuclei, or Artificial Swarming.

June 22 (Saturday), 5 p.m.—Gillingham, Bleak House Apiary. Lecture and demonstration by Mr. G. Bryden. Subject: Forming Nuclei.

June 29 (Saturday), 5 p.m.—Dartford Heath, Association's Apiary at Maypole House. Lecture by Mrs. Bayne, of the Board of Agriculture, on the Value of Bees as Food Producers.

Current work at the Restocking Apiary will be in progress.

ROCHESTER BRANCH.

An interesting demonstration on spring cleaning and supering was given at Mr. Rowe's Apiary, Maidstone Road, Rochester, on Saturday afternoon last by Mr. Gee. The weather was everything that could be desired, and the bees were flying freely. There was a large attendance of members, and the demonstration was much appreciated. The bees in this neighbourhood appear very healthy, and there is every prospect of a successful season.—G. BRYDEN, Secretary.


***The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.***

## BEES AND THE GARDEN.

[9678] It has been suggested to me by friends that it was some reference of mine to the gardening articles in a recent letter that has put Mr. Kettle off writing.

I am sorry if this is so, as I really had not thought of referring to his letters "A Dorset Yarn." It would be very difficult for anyone to write an interesting letter almost every week through the

winter without getting away from direct bee-keeping.

May I assure your correspondent (9667) that I have no wish to "carp," and if your readers like Mr. Harwood's long, and to me utterly uninteresting, writings, I am quite satisfied. Your correspondent, Mr. McGeoch (who, unlike the others, writes over his name), is quite mistaken in his supposition that I want to see myself in print. I am far too busy a man to write to the BRITISH BEE JOURNAL for the sake of that, and find it very difficult to find time to write at all. All this is, of course, Mr. Editor, on the supposition that it was some article of mine that has created this indignation, which I can hardly credit.

I should like to say that I do not and never have been able to see any really practical connection between the flower gardens and honey production.

I was interested in Mr. Macdonald's letter to-day, and should be very glad if he would explain his meaning when he says "I would not use a bait partly filled with comb." I have never been good at producing sections, and should be very glad to know.

My bees are bringing in honey very fast now. Two of my neighbours have fields of turnips being left for seed. These are in full blossom, and as there are at least 10 acres the bees have a good chance.

I have 25 acres of beans just coming out in blossom to follow, so we should do well.

The bees are strong for Italians. These do not get so forward as natives I have found. I have six lots on 12—16 by 10 frames, and just well on to a ten-standard frame super each. The rest will soon want to be supered. Have had no swarm yet, but should rather like three or four this month.—ROBERT B. MANLEY.

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[9679] For some months now I have had the BRITISH BEE JOURNAL sent out to me weekly. I have *always* made a point of reading the "Dorset Yarn" by Mr. Kettle, which I consider jolly interesting and instructive.

I entirely fail to understand the point of view of people who grumble because they consider horticulture is given too much prominence in the BRITISH BEE JOURNAL.

The two subjects are so closely allied and interdependent that anyone really interested in one subject must take a certain amount of interest in the other.

I hope that by the time this letter reaches you Mr. Kettle will have again commenced his contributions to the BRITISH BEE JOURNAL in exactly the same style as hitherto.—A. F. CLARKE, B.E.F., France.

## "ISLE OF WIGHT" DISEASE.

[9680] I notice in the Journal of the Board of Agriculture for February that a short report appears as to investigations into "Isle of Wight" disease made by Dr. Annie Porter.

Mention is made that there are at least five grades of the disease; and, what is more interesting to bee-keepers, is a statemen that two drugs, used alternately will *cure* the two milder grades and occasionally cure the third one.

Unfortunately for bee-keepers generally, the only information about these drugs is that in carrying out the experiments one was termed "white" and one "brown."

Surely, if the Board's investigations have reached a point where the word "cure" can be used at all, it is time for them to let us know what the curative agent is.

I am writing this letter to ask if you have any further information as to the experiments of the Board of Agriculture.

I am sure that all readers of THE BEE JOURNAL will welcome with keen interest any information about the Board's experiments which is likely to be of help in practical work against the disease.

A bald statement such as that in the Journal of the Board of Agriculture, that two unnamed drugs will cure the disease is not very comforting to any unfortunate bee-keeper whose stocks are attacked.—JAS. PARKIN.

[So far as we know the Board of Agriculture have not issued any report on the results of the experiments with, or the names of, the "brown" and "white" drugs.—EDS.]

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## FLAVINE VERSUS BACTEROL.

[9681] I have been very interested in the reports concerning the results with the use of Bacterol. In some cases it seems to have cured the "Isle of Wight" disease and in others to have utterly failed also as a preventive. Flavine, on the other hand, has cured.

Last summer I had one stock, an early June cast. I secured 30lb. surplus; but in September they only had 7lbs. in the brood nest. So I rapidly fed up with 20lbs. of Pascall's Bacterol candy made into syrup. I also left a cake or two of candy over the frames.

I bought two other stocks (one of which had "Bacterolised" stores), and placed them beside the others. This was in December.

In mid-February my original stock had the "Isle of Wight" disease badly; the other two also slightly. I at once ordered some Flavine, and sprayed all crawlers, and on very warm days sprayed the frames of comb.

The bees in the original hive dwindled down until they only covered two combs. The bees one day disappeared. I was told by a famous beekeeper that diseased bees sometimes did do that.

The other two rapidly recovered. I have not seen a crawler since the end of March. One hive has all ten frames of comb covered, and the bees have begun work in sections. The other has eight combs covered. I may add that I have not seen any drones yet (May 26), and when I put on the sections and examined the combs (May 8) there was no drone brood.

I attribute the healthy condition of my hives to "Flavine."—E. L. JAMES.

## SYRUP FEEDING V. HONEY FLOW.

[9682] In reference to your correspondent's letter (9677) with regard to spring feeding I will relate my experience. After six weeks' slow and continuous feeding, I examined two of my stocks just before the honey flow from the fruit bloom, and was somewhat disappointed to find only three combs partly filled with brood. On examining them again about a fortnight later I was agreeably surprised to find eight combs almost solid with brood. I write this thinking some one else may have had a similar experience, which, if so, I hope they will relate. I may also add that the fourteen days were ideal for honey-gathering.—"A. B. C.," Lancashire.

## PRESS CUTTINGS.

BEES ON THE FARM.

Honey is one of the products of the Canadian farm that are playing an important part just now. It is taking the place of syrup in baking and confectionery establishments. Its economic value is becoming more generally recognised every year, and the increasing demand is attracting the attention of residents of Canadian rural districts, who are so situated that beekeeping offers them a sure and reasonably easy means of revenue. Bees owned by a farmer and operated on his own land will yield him, in addition to the honey crop, the benefit of increased fertilisation of some of his most important crops. No fruit-grower who is in any considerable way of business should be without a few colonies of bees for the sake of the benefit to his orchards at blossom-time. Another good reason is that no one is better situated to effect a satisfactory distribution of the products of the bee than the man who has had experience in disposing of a crop of fruit.—From the *Bazaar, Exchange and Mart.*

## Notices to Correspondents

C. WILSON (Plumstead).—*Limiting the number of drones.*—You may leave the frames close spaced until the combs are drawn out. The bees will be able to rear worker brood in them, but not drone brood. It is neither possible, or desirable, to entirely prevent the rearing of drones. They are as necessary for perpetuating the race as queens, and the bees must, and will, rear some. If they have no other opportunity they will build drone cells on worker base foundation.

J. W. HANNING (London, N.).—*Swarm returning to hive.*—Your experience is not uncommon. For some reason the queen did not leave the hive with the swarm, or if she did she was lost. In either case the bees would return to the hive, as a swarm will not stay without a queen. We have known a swarm to issue during manipulation of the combs.

"ITALIAN" (Redmire).—(1 and 2) Not if the colony is a strong one. (3) A better plan would be to drive the bees and unite in the usual way. Cage the queen, or she may be injured. (5 and 6) Make the artificial swarm in the usual way, by taking out a comb with the queen, and place in the new hive, with frames of foundation. Remove the parent hive to a new stand, and introduce the new queen to them. The safest plan is to use a travelling and introduction cage, see Figs. 102 and 103, page 138, of the British Bee-keepers' Guide Book.

*Suspected Disease.*

J. W. B. (Kent).—We do not find any disease. The carbolic cloth would not cause death, but it might cause the bees to stay outside the hive and become chilled during the night.

PURE Fertile Italian Queens, direct from Italy, due to arrive June 4 and 30, 10s. each.—BRITISH FOOD CULTURE ASSOCIATION, LTD., 63, High Holborn, London, W.C.1. e.74

FOR SALE, small Observation Hive, Super, Cover, and Sections, 30s.—Write, P., 6, Heathfield Gardens, Chiswick. e.76

WANTED, Observatory Hive for three or six standard frames, with sections on top. Cheap.—V. C., Vale Croft, Ash Vale, Surrey. e.77

UNUSED W.B.C. Hive, four lifts, fabric covered roof, four coats paint, oak legs, no body box, 12 ordinary section racks, seven used once, glass sides, five unused; folding block; packed on rail, £4.—MRS. W. TAYLOR, Pevensey Bay. e.78

1918 QUEENS, Dutch and Hybrid.—Fertile, 6s.; virgin, 4s.—STAYGLE, 26, Ashburnham Road, Tonbridge. e.79

ORDERS booked for surplus Swarms, 7s. per lb. June.—OSBORN, Glenfield, Bideford, Devon. e.80

FOR SALE, 56-lb. tin new Honey, £5.—WILLIS, New Leake, Boston. e.81

SHALL have a few surplus Nuclei of healthy Hybrids, with swarm-reared 1918 Queens, 12s. per frame Parent stock in 1917 gave over 200 lbs. surplus and increased to four.—LILWALL, Cropthorne, Kingsley Avenue, Kettering. e.82

SWARMS of Bees wanted.—Send particulars and price, delivered free, to MAJOR R. FULLER, Great Chalfield, Melksham, Wilts. e.83

ASSISTANT Bee-keeper wanted at once. Must be experienced and strong.—Write full particulars to "C. B.," c/o J. W. VICKERS & CO., LTD., 5, Nicholas Lane, E.C.4. e.84

SEVERAL young Rabbits for sale, 3s. 9d. upwards. Stamp reply. Two three-frame Nuclei, 1918 Queen.—W. WOODS, Normandy, Guildford e.85

WE chose Flavine as a safe remedy to give to the bee-keeping fraternity, and its staining property was one of the reasons for which it was selected. We don't want honey contaminated by chemicals, and any remedy the presence of which is not visible is likely to be used too freely. Having given the name of the drug and details to the authorities we thought our work was done.—*(To be continued.)*—S. H. SMITH. e.86

SWARMS wanted off clean Stocks.—BELL, Hillside, Langholm, Scotland. e.63

FOR SALE, four Standard Hives by good maker, used one season, complete with 10 new frames, dummy and metal ends, 15s. each, or exchange for goslings.—AVERY, Deverill, Warminster. e.59

WANTED, immediately, two strong ten-frame Stocks of Italian Bees, 1917 Queens, from apiary guaranteed free from disease. Would pay £5 each delivered.—WORTHINGTON, World's End, Solihull, Warwickshire. e.58

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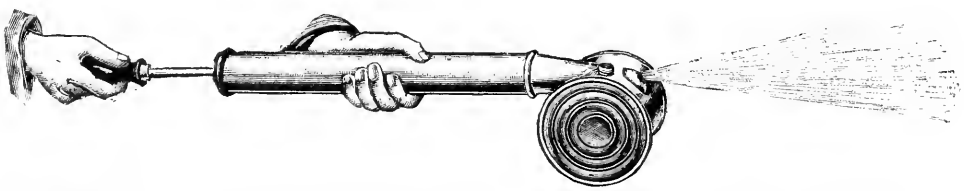

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## OBITUARY NOTICE.
### Mr. C. R. Forse.

The many friends in Staffordshire of Corporal C. R. Forse, headmaster of Trentham Schools, and especially those among the members of the Staffordshire Beekeepers' Association, of which he was secretary, will hear with extreme sorrow of his death at the front from wounds received in action in France on April 30. He served in the Royal Garrison Artillery, and it appears from a letter received from a Major connected with the battery that his death was due to a chance shell fired by the enemy. The Major, in conveying the deepest sympathy of the officers and men in the battery to Mrs. Forse, says :— "We who knew your husband well can realise to a small extent what the loss of your husband will mean to you. He was one of the best-loved men in the battery, owing to his unselfish disposition. His whole time was spent in working for the men of the battery or thinking out plans to increase their comfort. . . . When we were attacked by the Germans the captain of the battery (who was wounded at the same time as your husband) informed me that although the battery was very heavily shelled, your husband personally saw that all the men who were firing the guns were served with hot coffee. Later, he assisted to save one of the guns, being one of the men who dragged it three miles to take up a new position, part of the journey being covered under heavy shell fire. For his work on that day his name was submitted for the award of the Military Medal."

The late Corporal Forse was born at Eylefield Green, Surrey, and was thirty-nine years of age. He took up his duties at Trentham Schools in 1905. Mr. Forse joined the Colours in June, 1916, and went to the Front in December of that year. He was on leave in December last, returning to the firing line on Christmas Day. For many years he was an active member of the National Union of Teachers, and was president of the North Staffordshire Association in 1912. As secretary to the Staffordshire Beekeepers' Association, he was held in the highest esteem by the members, and he was one of the pioneers of instruction in apiculture in the schools. He had the welfare of the association thoroughly at heart, and was always ready to give advice and assistance to the members. He wrote a characteristic letter, which was read at the annual meeting last year by Mrs. Saint, of Stone, who very kindly took on the duties of secretary during Mr. Forse's absence. In this letter Mr. Forse urged the importance of the food and sweetening value of honey, and beseeched members not to hold back stores for exorbitant prices. Mr. Forse took a keen interest in parochial affairs at Trentham, and was a member of the Parish Council. He leaves a widow and three children, with whom the deepest sympathy will be felt.

## A DORSET YARN.

Bees at our farm have now increased the population. Some have already swarmed, and are safely in their permanent home, at least for this year. They have given me this week the first three dozen sections. Most of them were sealed with the purest white capping, that commands the best prices. Two migrant swarms came and took possession of hives during the week, so it is helping up the numbers again.

Our bees are mostly working the charlock and raspberries. There are only the two colours of pollen brought home, though some of the white may not be all raspberry, because the hollies are in full bloom just now. Pressure of work has not allowed me to observe if they are on them so much this year; but the rasps. I am with every day, and can see bees in crowds over the long lines of flowers, and, as one is hoeing potatoes in the fields, one can hear them flying overhead to the next farm, where the charlock is in force. Indeed, much as I like bees, I should not like to see so much among my crops. There are a few large plants among the scarlet clover we cut for the cows and horses, and these, as the soil is in good heart, are 4 feet high, and have been in bloom a month. These seeded and grew when the clover was sown in September, those among the corn flower when only a few inches high, and the flowering stems rise up with the corn until they are eventually crowded out; but the seed pods ripen and drop out the seeds for another year's seeding.

As one mows the clover for stock in the early morning, the bees are there, even though the sun is only just rising, and the moon is still full and high up in the sky. One of our great writers tells us : "Sweet is the breath of morn." I agree with him, for the birds sing sweetest then (with the exception of the nightingale), the dew of night has made the dry soil seem fresh, and all vegetation is looking its best. Work is now at its hardest. We cleared a mile of lettuce, and cabbage by the van load. All has to be harvested in

the early morn, when the dew is on them, to keep them fresh till sold by the trader. That is the best I have ever done in lettuce, a mile in a week. We have another mile for this week. The Seville broad beans are almost ready for gathering, though there are still plenty of flowers for the bees on the spring-sown ones.

I have had a most interesting letter from Mr. Trinder, of Edwinstowe, Newark, *re* ventilation of hives and prevention of disease. There is a great deal of logic in it. I hope some of our experts will give us their wisdom on the subject. I have lifted up the brood chamber and outer case with a couple of sticks in some of mine, to see if this adds to the stamina of the young bees to stand the long damp winter, and shall keep them up until robbery begins. Mr. Trinder suggests sheet perforated zinc by the sides of brood chambers, and I must try the same on some of my lot for next winter.

Bees are still booming. An enthusiastic neighbour is selling swarms at £2 10s. and £3. She has a fine stock of hybrids (Taylor's strain), and has never had disease. She has them on sandy heath land, all hives on legs. The sand keeps drier in winter than do my lot that are on grass.—J. J. KETTLE.

[This yarn should have appeared last week, but was delayed in the post, and did not reach our office until Wednesday. —EDS.]

## THE BEE GARDEN.

THE OFFICIAL LISTS.—(*Continued.*)

*Clarkia pulchella*, a popular hardy annual of Californian origin; the flowers are distinct in shape, elegant in habit, and lasting. Most effective in clumps. Height 1½ft. Colours: magenta, purple and other shades. Flowering in June, this should be sown in March, in the open ground, ⅛in. deep, and thinned to 6in. apart. Successive sowings up to June will give flower to August. Often self-seeding, they come up freely in autumn, and these seedlings transplant well in spring.

*Coreopsis tinctoria* is a charming bi-coloured plant which should find a place in every mixed border, being a most profuse bloomer, quite hardy even in towns, and not difficult as to soil so long as it is moist. Height 2ft. to 3ft. Colour rich brown in centre with yellow tips. Sow in September, for spring flowering, ½in. deep, or, occasionally, from March to June to flower July-October.

*Eschscholtzia crocea*, Californian poppy. Try this at a spelling bee as well as in the bee garden. The plant is a very brilliant, free flowering subject with orange flowers. Profuse self-sower, and very effective in groups. There are white, crimson, and rose varieties.

*Eutoca viscida* and *whitlavia grandiflora* are merely synonyms of *phacelia* v. and g. and will be dealt with as such.

*Hedysarum coronarium*, French honeysuckle. Why and by whom so named I know not. It is not in the least like honeysuckle, resembling rather a sainfoin nourished on some of Mr. H. G. Wells's "Food of the Gods." Hedysarum is not even a climber at all, but a leguminous biennial growing up to 4ft. high and bearing spikes of red or white flowers from June to August. Sown in May ½in. deep, it transplants well in autumn to bloom the following year. The writer once had a border, which, after enrichment with many barrow-loads of pond sediment, was filled with hedysarum. The effect was very fine, marred only by the somewhat coarse habit of this subject. Bees worked it well.

*Gilia tricolor.* All the gilias save one, *g. coronopifolia*, are annuals, and very pretty, hardy subjects, that by successional sowings can be had in bloom from spring to autumn. They make fine, bold groups in a mixed border. The flowers, individually small but very numerous, are great favourites with bees. G. tricolor is 1ft. high, the flower multicoloured, being purple edged on white with an inner ring of violet and yellow centre. Sow 1-16in. deep, in September, out of doors for flowering early in following season. Thin to 3in. apart. Choose a sunny position. For later flowering sow in March or April.

*Helianthus annuus*, sunflower. This is the common yellow sunflower, that can be grown 8ft., 10ft., or even 12ft. high. Seen in a cottage garden as single specimens or against some dark background, such as a hedge or shrubbery, the sunflower is very bold and effective. It can, however, very easily be overdone as a garden subject, when it is a striking reminder that one can easily have too much of a good thing.

Grown as an economic plant, it is, however, of the highest value. Quite hardy, a rapid grower, no trouble to grow, not being particular as to soil, though in common with most other plants, it amply repays generous treatment. In the land of the Bolsheviki sunflower seeds are a favourite article of perambulatory diet or refreshment. I have grown it for the seeds as a poultry food. Rich in oil, they make an admirable winter food for laying stock; the best way to give them being to suspend the heads with about a foot of stalk, so

that the fowls have to jump at them, thus providing exercise as well as food. This year I am interplanting giant sunflowers with five rods of potatoes, the seeds being set, as broad beans sometimes are, in the rows between every other tuber. This gives a distance from plant to plant either way of about 2ft. 6in., and, as the ground is heavily manured with farmyard manure below the top spit and a mixture of super and sulphate of potash in the trenches, I look for 10ft. stems with 12in. diameter of head. The leaves are good fodder for goats, and the charred stems, dug in, return the potash to the soil. Any plot-holder having no poultry will find a ready market for the seed with blenders of parrot foods, or his poultry-keeping neighbours. Fifty bushels of seeds per acre is said to be an average return when grown on a larger scale for game feeding and for crushing into oilcake.

*(To be continued.)*

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## THE MAKING OF A BEE-MAN.

Years ago he had read Maeterlinck, not for love of the bee, but for the author. In April, 1915, the family came to the new house, and little Peter reported bees in the roof. Peter loves animals and flowers: he spends his days with the gardener; he is forgetful of everything except the minutest details of whatever relates to animal or plant life; he lives in the world of Nature, and has no ears or eyes for human activities. The family took the announcement very calmly until Peter rushed in breathless one fine June day to call the mother and the brothers to look at a curious brown bag hanging from a bough, covered with "millions" of beautful golden bees. The landlord was sent for post-haste. He came with a brand new "cottager's" hive, hived the swarm and set it up in the most remote, sheltered, sunny corner of the kitchen garden, its back to a fence, the front facing a path. After that the family avoided that bit of path, and the bees were glad of the avoidance. Another lot of golden bees was hived in July, and the landlord's ignorance of matters apiarian being almost equal to that of the family, no warning was given as to the need of coddling a cast through the winter.

Spring, 1916, revealed the hunger tragedy; hive No. 2 did not awake to life, and the combs were found full of dead, starved bees. But Nature, ever bounteous, did not punish the neglect, and 1916 brought three new colonies. The landlord hived the first goldens in the empty hive No. 2, and fitted hive No. 1 with a box of sections, but for the second—also Goldens—he could buy no hive, the best carpenter being at the Front. This swarm was housed in a sugar box on five out of the ten frames in No. 2. The box had no roof; an old doormat was thrown over it, and an old board, which let in the rain plentifully, was drawn over the mat. In July another colony was discovered. It was Peter, of course, who noticed it, in the roof of the house, just over the spare-room window. Summer waned and the family got no honey. None of them dared tackle the bees and the landlord had always some excuse or other for not coming to gather the honey harvest, and the family eventually found that the landlord had views of his own as to bees:—The old colony in the roof had been there fourteen years, outliving the epidemic which had completely cleared that countryside of bees. He, for one, did not believe in hives or bee-keeping; he believed in leaving the honey to the bees and the bees to themselves in places only to be reached with a 40-rung ladder. His tenants might have the swarms and be welcome to them, but if the honey were taken the disease would come, and the colony in the roof, which was his property, would be endangered. Thus spoke the landlord.

Summer and autumn gave way to the most rigorous winter, and, through ignorance, none of the hives were in any way prepared for wintering; it was eventually found that No. 1 only had an old duster over the sections, No. 2 had nothing at all over the frames, No. 3 was well rained on and snowed on, and the two colonies in the roof, the old Goldens and the new Blacks, had only themselves to depend on for warmth.

It is worth while considering in detail the nature of the habitation of the last two colonies.

The slope of the roof of this particular house extends downwards and outwards quite 2 feet beyond the wall of the house, and the space under this projection is closed in to a depth of 30 inches by a lath and plaster surface, outwardly ornamented with gravel. The result is an enclosed, but draughty and cold prism-shaped space, having at the back the wall of the house, above, the roof beams and rafters, the third and outward face being thin laths thinly covered with plaster. The length of the prism is the whole length of the house and as the two roof colonies were at opposite sides of the roof, each of them had several cubic yards of space. The combs built by both colonies were alike. Built downwards from the rafters to a length of quite 2 feet, the edges adhering to the house wall on one hand, to the lath and plaster on the other, the lower end narrowing down into the lower angle of the prism, the combs were set at an angle of about 60 deg. to the wall

of the house. The entrance to the old colony is overhead—a gap between two broken tiles; that to the newer colony was a ¾ inch by 2 inch crack where the lath and plaster joins the wall.

*(To be continued.)*

## BEE-KEEPING AT A PUBLIC SCHOOL.

*By the Assistant Music Master.*

*(Continued from page* 174.)

Though the district is quite a good one for bee-keeping, unfortunately the season proved most disappointing. During the early part of it there was far too much swarming; after the bees settled down, we never had any really fine warm weather for more than two or three days running; and, finally, from the middle of July to the end of August it rained almost unceasingly.

Both the boys succeeded in getting a few sections from their hives, and showed great ingenuity in placing hot-water bottles, etc., on top of their supers towards the end of the season, in order to get the sections sealed over; a device which, they informed me, was quite successful. My own colonies, now increased to ten, yielded no more than a single one had done the previous year. My big swarm gave nearly two racks of sections, another good-size swarm of about a week later, given me by a lady bee-keeper I had assisted, produced one rack, and the swarmed part of my old stock, left on the old stand after dividing, finished about half the combs in a shallow super. Other swarms which I had bought, or stocks which I had formed in various ways, though they appeared promising enough, either kept on trying to swarm, or never got to work in the supers. Almost all wanted feeding heavily at the end of the season, after the month and a-half of heavy rain that we had.

My apiary in the house-master's garden was divided only by an iron railing from one of the playing fields, and the hives behind Music School were also visible over a low wall from a road along which many of the boys passed several times every day. When doing anything to the hives in these positions, if any boys showed signs of interest in the proceedings, I invited them to come and make a closer inspection. I now began to dispense with the use of a veil for many operations, though I had never done so before. This, I found, encouraged the bolder spirits to venture right up to the hives, whereas it is often difficult to get young people to come anywhere near, if the bee-keeper, by protecting himself, gives the impression that bees are "dangerous animals." I generally had two or three veils in my pocket ready to offer to anyone who showed signs of nervousness and would feel more comfortable with one on. I found it particularly good policy to hive swarms without using a veil as then there was no difficulty in getting one or more of the young onlookers to assist me by holding the ladder or handing to, or relieving me of, any article I might require in the course of the operation.

One or two swarming incidents may be worth recounting.

A lady bee-keeper, whom I often assisted, sent for me one day. Her garden was surrounded by large trees, and a swarm had settled near the top of one of them, overhanging the road. The gardener, though not a bee-keeper, had offered to climb the tree and cut the bough off, but the lady feared to give permission without first consulting me, lest passers by should get stung by infuriated bees, in case anything went wrong. Tree climbing is not in my line, but if the gardener was willing to make the attempt, and fixed a rope to the branch before cutting it off, I said I saw no reason to fear any bad behaviour on the part of the bees. A start was made at once and before long the swarm was being carefully lowered, while I stood beneath, waiting to deal with it as soon as the bough came within my reach. In the middle of the operation, numbers of boys began to troop by, on their way from their houses to the school, and the process of lowering the branch naturally attracted their attention. We warned them to stand clear lest the bees should come down with a rush. However, the lowering took some time, and they had to proceed to their lessons before it was accomplished. My piano pupil arrived in the meantime and stopped to see the finish. At length the bough was carried into the garden, and the bees shaken off successfully in front of the prepared hive. Other swarms came from this apiary during the summer, all of which pitched on high branches, so that we got quite familiar with the tree climbing business. I suggested the use of water as a preventive, but the bees always managed to forestall their owner and be well on the wing before she was aware they were out.

One day when cutting out queen-cells for this lady to prevent after-swarming, I noticed a fine young queen crawling among a number of cells I had laid upon a lift by my side, and presumably just emerged from one of them. Miss B—— picked her up to show to a friend in the house, but let her escape. She took wing, and circling round and round at a great height up, at length appeared to get tired,

and began to come lower; my companion extended her arm, intending to catch her, when the queen calmly came to rest on the outstretched hand, and was secured!

(*To be continued.*)

## AS TO THE CAUSE AND CURE OF "ISLE OF WIGHT DISEASE."

It seems to me very unlikely that this is a new disease or even an imported disease. It is more likely that it is an old disease that has temporarily got greater prevalence, and perhaps vigour, through favourable conditions of reproduction in our bees, which have somehow acquired reduced constitutional resistance. If this is so it is the last condition, the reduced constitutional resistance, which is really the primary cause of the disease; and the question that we have to consider is how the bees have acquired reduced constitutional resistance and how resistance can be established again.

I think reduced constitutional resistance may be caused by our bees having been largely intercrossed with foreign varieties during recent years. Most of the bees of this country must be more or less hybridised. It is well known that the hybridisation of plant and animal life generally results in a varied and unfixed offspring, some of which may have qualities superior to their parents, but most of which are altogether inferior, considered from the point of view of the conditions under which they have to exist. While the parents were adapted to all the conditions of their environment through ages of elimination, the hybrids are more or less unadapted, and one of the conditions of this unadaption is that they cannot resist disease; and there must be re-elimination on a large scale, such as is going on now, before the balance of nature can be restored.

If this is so, in what direction must we look for a cure? Should it be in drugs and disinfectants, or should it be in still further hybridisation combined with more intelligent elimination and selection, or should it be in the prevention of hybridisation and the re-establishment of a dominant British bee by elimination and selection?

While admitting that drugs and disinfectants may have some effect in preventing and curing the disease, and that we should make a limited use of them in maintaining a reasonable standard of cleanliness, my opinion is that we cannot look to these as a permanent cure of the disease. Besides, we cannot entertain the idea of always having to fuss with drugs and disinfectants in order to maintain our bees. No, the only rational cure is immunity. It may be thought that immunity is an ideal that is unattainable; but it should be observed that it is not necessary for complete immunity to be attained in order to be practically free from the disease. It is probable that bees in past ages have never been absolutely immune to this disease. Partial immunity would be quite sufficient. If, for instance, bees were 50 per cent. more resistant than they are there would be fewer diseased stocks and thus less infection, and perhaps a less noxious micro-organism; and this decreased infection along with the greater resistance of the bee, might just be sufficient to abolish nearly all infection in a very short time and cause the disease to die down.

In what direction should we aim to attain this sufficient degree of immunity? There are apparently two general methods. We may hybridise bees still further in isolated breeding stations; and by radical elimination of defectives, aided by a limited amount of selection, not only eradicate disease, but improve the bee in other respects. This appears to be the general method of bee culture in America, where queen rearing, mainly of the Italian variety, is a specialised and widespread industry. On the other hand, we may prohibit the importation of foreign bees and aim to re-establish a dominant British bee from the present hybrids by a radical process of elimination and limited selection, carried on by all bee-keepers and by queen breeders.

It may be said in regard to the first proposal—why should we not admit foreign blood and try to improve the bee (and eradicate disease) just the same as we have improved domestic plants and animals generally. This, I admit, might, under certain circumstances, be a rational proposal: and I can imagine bees being very greatly improved thereby. But there are at present objections to this course. Firstly, we have not the same control of the mating of bees as we have over plants and animals; and, secondly, I don't think it could be carried out in the present state of the industry in this country. Numerous isolated breeding centres, established by private or associated enterprise under powers given by legislation, would have to be supported by the industry. I am sure that at present such could neither be established nor supported.

Therefore, I think the last proposal is the best at present, and perhaps even under any circumstances. Prevent the import of foreign bees by legislation and improve the British bee, or, rather, the mongrels that exist, by elimination and selection, until we revert back to a dominant variety which we can call British.

which is reasonably immune to disease and improved generally in other qualities. There would still be scope for selective line breeders, but they would have to work on the bees of the country without importations.

Does this mean that I would look to immunity alone to check the disease? No, but it is our main hope. As I have said, I would make a moderate use of disinfectants along with a reasonable standard of cleanliness, while not being too keen on the immediate destruction of all sources of infection, for a certain amount of infection is desirable to eliminate the non-immune bees. I would also look to the aid of legislation in preventing excessive and unnecessary sources of infection; and when that legislation is sought I think power ought also to be sought by which responsible queen breeders could attain licences for isolated breeding centres where they could either prohibit or control bee-keeping within a radius of four or five miles.

In my opinion it is quite possible for this disease and its resultant yearly loss and crippling effect on the industry to go on indefinitely if we continue to supply pabulum for it in the form of non-resistant bees. Therefore, I would suggest immediate action and the adoption of the following measures so far as possible by every bee-keeper with a view to producing a dominant British bee of improved and disease-resisting strain.

(1) Have nothing to do with foreign bees.

(2) Destroy all badly-infected stocks that cannot recover, and disinfect hives and combs.

(3) But don't destroy slightly infected stocks or infected combs, for a slight amount of infection is desirable to eliminate non-immune bees.

(4) Re-queen slightly infected or suspected stocks at opportune times with what appear to be immune varieties.

(5) Destroy drones of infected and suspected stocks by means of drone traps.

(6) Don't give up sugar feeding, for bees have stood it in the past, and it is a necessary condition of bee-keeping.

(7) Re-queen every year until the disease is eradicated, for the more rapid the succession of generations the more quickly can we attain a more fixed and immune strain.

(8) Don't give up bee-keeping because disease has cleared out all your bees, for by persistence we shall the more rapidly produce the immune bee.

(9) Breed from immune stocks.

(10) Demand legislation prohibiting the import of foreign bees, and requiring the destruction of unnecessary sources of infection and making possible the establishment of isolated breeding centres.

(11) Keep in mind that if Nature were left to herself she would soon eradicate "Isle of Wight" disease and keep it under. Considering this, we should subordinate our methods to Nature's methods and so assist her instead of frustrating her as we have done.—T. T. Taylor.

## WARWICKSHIRE BEEKEEPERS' ASSOCIATION.

ANNUAL MEETING.

The annual meeting of this Association was held at 13, Bennetts Hill, Birmingham, on Thursday, May 30, 1918, when A. H. Foster, Esq., presided.

The statement of accounts for the past year, which showed a credit balance, was approved and adopted, and the officers for the ensuing year were duly elected.

After the business of the meeting a general discussion took place, in which great interest was manifested.

Having regard to the continuance of the war, the committee have pursued a policy of strict economy; but it is hoped that on the cessation of hostilities members will be enabled to receive the full advantages of the Society as in the past.

The "Isle of Wight" disease, which is still prevalent in the country, was very destructive to many apiaries last season; but those members who were fortunate in retaining their stocks were well repaid by a good honey harvest.—*(Communicated.)*


***The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.***

## FLAVINE AND "ISLE OF WIGHT" DISEASE.

[9683] I think it would be greatly to the benefit of the beekeepers of this country if those who have benefited (or otherwise) by Flavine treatment would give their experiences, observations, etc., an airing through the medium of your valuable journal. We have been put on a "good thing," and we should give it a good trial.

I have recently been treating a stock which was badly affected—hundreds of crawlers, discharging, and so forth—and, although I had tried most of the advertised remedies, I got no relief, so I decided to try Mr. Smith's Flavine—or rather the Flavine recommended by that gentleman. It is pleasing to say after spraying twice there was a very noticeable improvement—the third spraying I gave them a good bath (kill or cure style), and after a short period there was not a crawler to be seen—no discharge, in fact everything quite normal again. All this in spite of the stock being brooded with a queen in her fourth season.

I may add the stock has since been re-queened and is now making great progress.

As a result of my experience with Flavine I should like to hear of others who have had such good results; also, has anybody failed with Flavine yet?—CHAS. RAWSON.

## BEES IN THE WAR AREA.

[9684] I don't know how beekeeping is faring in England lately. I only have the BEE JOURNALS into 1916, and then there is a stop, because my wife was unable to obtain them to send them out; but now I wish to become more acquainted with the industry, and hope the war will soon finish, so that I can resume my favourite hobby. All my bees and other things have "gone west," as the saying is, since I left in 1914, although my mother tried her best to look after them; but "Isle of Wight" disease killed them all.

Perhaps it may be interesting to you to know that I captured a swarm last May and kept them for a month. After the great German retreat last year we went to that part where they retired farthest. Behind us was ruined country for over 15 miles, with not a roof or anything that bees could live in. About two miles in front of us was the famous line. Now, the Germans took all the bees with them, I presume, the same as everything else of value; what they did not take they destroyed. I searched over a dozen destroyed villages in the hope of finding a skep of bees or a nest somewhere, but found none. I watched the clover and flowers. Never a honey-bee did I see, but bumble-bees plenty, and the clover stretched for miles and miles—nice white clover. Well, after we had been there about a week or ten days, lo and behold! a swarm of bees came and settled on a bush about 50 yards away. A comrade came and told me, so I went to look, and there they were—vicious, too. I got an empty port-wine box, made an entrance, put a gas mask on, and shook them in, left them until night-time, and then shifted them to the place I wanted them. I covered them with sandbags to keep them warm. Many a soldier went to take up that box, but soon left it alone when he saw the contents.

The next day those bees worked like mad, but the day afterwards they did nothing, and I could not make it out until I had them for a week. Then I saw the queen fly out; so she was a virgin. I only saw one drone in that swarm, and I had watched them every day, so what chance had the queen of mating. There were no other bees for miles and miles, and I could swear to that. I saw the queen fly on the eighth day also, and after that they seemed to work better; but I never thought that she could be mated. A fortnight later, as we were leaving, I drove them out to get the honey, and some fine honey we got too—about 20 lbs. The general and other officers had a good feed, and so did my chums and I. Well, in the combs were grubs about two days old, and eggs. Now, if one reckons that up, I had those bees for about 24 days, and I should say, by their viciousness when I got them, that they were about three days, at least, on the wing to get to that outlandish place, and the queen must have been three days old when she left the old hive; so 24+3+3 is 30, and 6 from 30, the age of the eggs and grubs. That queen must have been 24 days old when she mated, and mated she was, because all the eggs and grubs were in uniform order. Now, did the queen mate with that solitary drone, or did she fly for miles upon miles to meet one? I can't say more, dear Editors. But just a minute! I put these bees back in their box and left them on their old site, and I hope that no too-inquisitive "Tommy" has been stung too much, for soldiers like honey. We have it dished out to us sometimes—sometimes—but foreign. Good luck to all, and thanking you for sending the papers I best like reading.—T. S. PURT, 5th R.I. Lancers.

## WEATHER REPORT.

WESTBOURNE, May, 1918.

Rainfall, 1·50 in.
Heaviest fall, ·32 in on 7th.
Rain fell on 10 days.
Below average, ·55 in.
Sunshine, 274·1 hours.
Brightest day, 31st 14·5 hours.
Sunless days, 2.
Above average, 40·2 hours.
Maximum temperature, 78 on 18th and 22nd.
Minimum temperature, 36 on 14th.
Minimum on grass, 33 on 14th.
Frosty nights, 0.
Mean maximum, 65·5.
Mean minimum, 46·9.
Mean temperature, 56·2.
Above average, 4·1.
Maximum barometer, 30·460 on 29th.
Minimum barometer, 29·566 on 13th.

L. B. BIRKETT.

## Special Prepaid Advertisements.

**One Penny per Word.**

### PRIVATE ADVERTISEMENTS.

EGYPTIAN BEES.—Would be glad to hear of the *direct* supply from Egypt of one or two colonies of Egyptian Bees, whether pure or hybrid (in the latter case, preferably Egyptian drone and Italian queen), on British standard frames, and with 1918 queens. Must be guaranteed healthy. Reasonable price. Deposit B.B.J.—Box 34, B.B.J. Office, 23, Bedford Street, Strand, W.C.2. f.1

1 DOZ. 1 lb. bottles of Show Honey, beautiful colour, flavour delicious; won many silver and bronze medals. A chance. What offers?—HARRIS, Lower Bullingham Road, Hereford. f.2

FOR SALE, Cottage Hive, consisting of floor-board with legs, brood box, telescopic lift, extra 9in. lift and roof; unused; just received from makers; £2 10s.—WOOD, "Everton," Westway, Upper Caterham. f.3

STRONG Stocks of Bees wanted. Must be guaranteed healthy.—TRINDER, Edwinstowe, Newark. f.4

OFFER wanted, 1 cwt. new Honey, light—Tithe House, Wilburton, Ely. f.5

SWARMS.—A few strong healthy Swarms of Bees to spare. What offers?—GILES, Cowsfield Apiary, Salisbury. f.6

WANTED, healthy Swarm of Bees.—MISS SMITH, The Elms, Keynsham, Bristol. f.7

EXCELLENT 1917 Queen for sale; price 10s.—MR. LAMB, 7, Redbourne Avenue, Church End, Finchley, N.3. f.8

SWARMS.—I can supply a limited number of Swarms in June from bees of Dutch descent. Apiary absolutely healthy. Orders taken in rotation. £1 5s. each, and 7s. 6d. deposit for carriage and travelling box. Balance returnable when box sent back. Payable at time of booking. Stamped envelope for reply.—MAJOR HENDRIKS, Littlewick Meadow, Knaphill, near Woking, Surrey. f.9

THREE Standard Hives, been little used, fittings, £2 5s.—CURTIS, East End, Holbeach. f.10

OVERSTOCKED.—One strong stock Black Bees, 1918 Queen, 10 frames, £5; strong swarm, ditto, May 15, on five Simmins' Commercial frames, July, 1917, Queen, £3 10s.; 3-frame Nucleus 1918 pure mated British Goldens, good working strain, £2 10s. Disease unknown. Real good value. Carriage paid. Immediate delivery.—T. CRANE, 235, St. Helens Road, Bolton. f.11

WE were not surprised to find indifference, even hostility, displayed towards our conceptions regarding the cause of "I.O.W." disease and its remedy. Because we laughed at orthodox methods and trod on the toes of little old *Nosema apis*, the high priests of the craft would have nothing to do with us. These gentlemen take themselves too seriously. If we had followed their methods we should have got no further than they have—after 10 years of fumbling.—(*To be continued.*)—S. H. SMITH. f.12

TWO new Standard Frame Hives, painted, 27s. 6d. each; six W.B.C. hanging frame section racks with dividers, 5s. 6d. each. Orders booked for Nuclei, 1918 Queens. Stamp reply.—W. WOODS, Normandy, Guildford. f.14

QUEENS.—Virgins, 4s.; Fertile, 12s. 6d.—PRYOR, Breachwood Green. f.16

WANTED, immediately, Geared Honey Extractor, in good working order.—ROBERTS, 74, Alban Road, Llanelly. f.17

FOR SALE, 15 Stocks Hybrid Italian Bees on ten frames, guaranteed free from disease, carriage paid; price £5 each.—J. S. FARLEY, Weavilles Fruit Farm, Fair Oak, Eastleigh, Hants. e.73

SWARMS wanted off clean Stocks.—BELL, Hillside, Langholm, Scotland. e.63

WANTED, immediately, two strong ten-frame Stocks of Italian Bees, 1917 Queens, from apiary guaranteed free from disease. Would pay £5 each delivered.—WORTHINGTON, World's End, Solihull, Warwickshire. e.68

### BUSINESS ADVERTISEMENTS.

**1½d. per word.**

COMFORTABLE APARTMENTS for Brother Bee-keepers visiting Douglas. Terms: Tea, bed, and breakfast, 3s. 6d.; or full board, 6s. per day.—HORSLEY'S, Merridale House, top of Castle Drive, Douglas, Isle of Man.

PURE Fertile Italian Queens, direct from Italy, due to arrive June 4 and 30, 10s. each.—BRITISH FOOD CULTURE ASSOCIATION, LTD., 63, High Holborn, London, W.C.1. e.74

"ISLE OF WIGHT" Disease permanently cured. Tested four years. Solution and directions, 2s., post free.—PRESSEY, St. Elmo, Coulsdon. d.73

DUTCH BEES, 6-frame stocks with 1918 Queens, ready June 12; price £5.—W. SEALE, Hardumont, Oatlands Drive, Weybridge, Surrey. f.15

STRICTLY BUSINESS.—Chemists, printers, and sprayer manufacturers all started "crawling" last week. We have no remedy for this—it seems a national disease. We can take no more orders for sprayers until we catch up with back orders. We cannot supply any goods on credit, nor samples in answer to postcards. A free sample for a stamped, addressed envelope; six packages Flavine for 6d., post paid.—S. H. SMITH, 30, Maid's Causeway, Cambridge. f.13

**HONEY AND BEESWAX PURCHASED.**
Run Honey in bulk. Sections per gross.
**HONEY FOR SALE.**
Cuban, Californian, English, Irish.
Free tins and cases, carriage paid. **Cash with** order. Samples, 3d. Prices on application.
**A. GORDON ROWE, 28a, Moy Road, Cardiff.**

**MUSHROOM SPAWN, FRESH.**
6d. per brick.
Carriage paid on all orders over six bricks.
**JOHN E. KNIGHT & SON,**
**Seed Growers & Merchants, WOLVERHAMPTON**

**"ISLE OF WIGHT" DISEASE.**
To prevent and cure Bees of "Isle of Wight" Disease,
**J. C. ALLSOPP'S B'KURE**
(REGISTERED).
The Powder is simple to apply. Quick in action. Full directions on tins. Price 2/6 per tin. Postage 5d.
**J. C. ALLSOPP, 87, Gertrude Road, West Bridgford, Nottingham.**

**BURTT, Gloucester, FOR BEE APPLIANCES.**
*ILLUSTRATED CATALOGUE FREE ON APPLICATION*


## A ROLL OF HONOUR.

**Although bee-keeping is considered a minor pursuit, we venture to say that it has provided more fighting men than the usual average of any industry. To place on record the part the members of our craft have played in the present war we propose to make a "Roll of Honour," and shall be pleased if our readers will forward us the NAMES and ADDRESSES, together with the REGIMENT and RANK, of any bee-keeper serving his King and Country at home or abroad; also if killed or wounded.**

We print a further list of names to those sent in, and shall be pleased to have other names as soon as possible.

Lieut. G. E. L. Burder, Chappells, E. Chillington, Lewes.—R.G.A.

Gnr. C. H. Green, New Dale, Wellington, Salop.—M.G.C. Discharged through wounds received in France.

Pte. T. Green, New Dale, Wellington, Salop.—A.S.C., M.T. Discharged through accident in England.

Pte. J. V. Thomas, Penrock, Llansadwrn, Llanwrda.—A.S.C., B.E.F., France.

## ERRATA.

In Dr. Abushâdy's article in the JOURNAL of May 30, p. 178, column 1, line 52, the word "honey" should read "nectar"; on the same page, column 2, line 36, the words "60 deg. C." should read "60 deg. F."

## A DORSET YARN.

This last week of summer weather the air has been full of the music of bees. One would think that a swarm was going over the fields, but it is the thousands of workers going searching for the sweets of the flowers. On our farm it is still the raspberries; lines 300 yards long have an enormous lot of flowers to look over. The fruit on the first to bloom is already swelling. The cornfields are one large glow of charlock. The white clover is opening fast, as are the lotus clovers, but the bright red of *T. Incarnatum* has gone down before the cutter; many acres are down, and a great many already in the rick-yards for farm stock in winter. There is no shortage of food for bees, as the forest trees are a continual feast. The pasture fields are more thickly covered with white clover than ever before; the dressings of basic slag have caused this plant to spread enormously in the pasture fields of Dorset.

Bees are now working their hardest, sections are being filled at a rapid rate, everything on the farm is at high pressure; even the cows are reproducing their species fast—three cows with calves at the same time. That is the most we have had at one time on the farm before. But the bees this year seem the most wonderful. The hives are simply crowded with workers—with one exception—very few drones. The honey in the sections has a most delightful taste and is very thick; it does not readily run out of the cells when in use on the table, as it does when the bees work the lime-trees.

Bees are still much sought after in Dorset; many write for swarms and advice on starting. I advise them to read the B.B.J.; they will get both swarms and tuition. A lot of swarms are straying about our neighbourhood, looking for a suitable home to shelter them. The parson's gardener told me one went over the rectory grounds on Thursday—the largest he had ever seen. On Saturday a man showed me one in the hedge of a neighbouring farmer's field. One swarm of Italians came over the glass houses, and one of the girls advised me where they had clustered, in among the heath and gorse. After hiving them safely in the skep, Mr. Young's two daughters came and claimed them, so they had to go back to their old home. They had their frolic flight for naught. I suppose it was young queens, and they flew so much farther from home. Honey is much sought after: the number of inquiries for good sections is far away beyond ever supplying them from our farm. I advised them to send an advertisement to the BEE JOURNAL.

Our County Council horticultural and agricultural adviser, Mr. MacFail, came to see me this week. He is another enthusiast in bees. He teaches that bee-keeping and horticulture should go hand in hand with each other; that was what he taught at Swanley College. If he emphasises this into the teaching of villages in Dorset we shall again see the industry very strong. His interesting talk of all the oranges in commerce being grown in this country was a new thing to me. I wish they would winter in the open, so as to help the bees with their beautiful flowers. I was glad to welcome this able Scottish teacher, and I think he will be a great asset to Dorset.

The hot, dry weather, with so many hours of sunshine, has hastened on the maturity of crops. The whole of autumn-sown lettuce has been marketed. Seville broad beans and peas have begun. Asparagus this year has grown very fast; strawberries are a light crop and are soon

gathered; gooseberries are the heaviest crop I have ever had (the bees had their share of the sweets from the flowers); acres of black currants are just showing colour. The farm now is at its best for small fruits. We lifted the first lot of early potatoes this last week. These early vegetables, with milk, honey, and butter, make it very easy for the man who eats no flesh foods to have a varied and palatable diet. —J. J. KETTLE.


AGRICULTURAL FACTS AND FIGURES.

Dr. Planta somewhere gave the following analysis of nectar:—Water, 73 per cent.; invert sugar, 12 per cent.; cane sugar, 12 per cent.; ash, etc., 3 per cent. Koenig's analysis of honey was:—Water, 20 per cent. down to 6 per cent.; invert sugar, 72 per cent.; cane sugar, 1 to 7 per cent.; and a small amount of phosphorus, gum and various acids. An analysis of sugar stood as follows:—Water, 15 per cent. (or less); cane sugar, 84 (up to 99) per cent.; and ash, about 1 per cent.

Pap supplied to the young queens showed water 69 per cent. and nourishing matter 30 per cent. For the drones and workers, water 72 per cent. and 28 per cent. of nourishing material.

Composition of the pap fed to the larvæ was as follows:—

| | For Queens. | For Drones. | | For Workers. | |
|---|---|---|---|---|---|
| | For whole period. | First 4 days. | After. | First 4 days. | After. |
| | % | % | % | % | % |
| Albumen ... | 45 | 56 | 32 | 53 | 28 |
| Fat ... | 14 | 12 | 5 | 8 | 4 |
| Sugar ... | 20 | 10 | 38 | 18 | 45 |

The cells of the queens receive 14 times as much pap as a drone cell and 90 times as much as a worker cell.

The amount of honey consumed by a normal stock in wintering has been calculated to be as follows:—November, 1 to 2 lbs.; December, 1 to 2 lbs.; January, 2 lbs.; February, 3 lbs.; March, 5 lbs.; April, 6 to 7 lbs.; after, there is a heavier drain.

Honey contains inorganic elements, and although the amounts are small they are very important, as they form constituent parts in the organs and fluids of the body. Of these, the following are present in the ash of honey:—Phosphorus, iron, calcium, magnesium, chlorine, sodium, potassium, sulphur, manganese and silicon. All honeys contain these, but many in only small quantities. As man requires supplies of these, it can be seen that honey must be a valuable food.

A queen begins to lay sometimes at a very early date in spring. At first the patch of brood is small. It is not, however, until March or April that even the best queens lay at the rate of more than 100 eggs a day. In late April or early May this increases to 300 or 400, but by the middle of the latter month this may extend to 1,500 eggs in the 24 hours, and by the end this number may be doubled. In June and July the best queens may lay from 3,000 to 4,000 eggs a day, but not every day. The above periods may be ante-dated in the South and post-dated in the North. A good queen should lay in a given time 100,000 eggs, but there is no guarantee that 80,000 mature bees will ever issue from these cells.

A pound of bees may number 5,000 workers, but 4,500 may be a safer estimate. In a swarm, however, the number may not count more than 4,000, or less. A good swarm *may* contain 30,000 bees, but more likely not more than 20,000 when the bees are heavily gorged.

Bacteria—frequently called germs, microbes or parasites—are very minute plants (or animals). At times they are so tiny that if 12,000 are placed end to end they measure but an inch. They increase in number with marvellous rapidity, for it is found that, under favourable conditions, each bacterium may become thousands in a space of half an hour. At this rate millions are formed in 24 hours. Dr. Zander calculated that one bacterium may multiply into over 16,000,000 in a day and a night, and in 48 hours, at this rate, they would number no less than 281,500 millions of millions! Later, many of these become spores, which are somewhat comparable to the seeds of higher plants, and these spores are very difficult to kill by heat, cold or disinfectants. This will explain why some of our bee diseases are so difficult to eradicate.

A standard Langstroth (American) frame measures $17\frac{3}{8}$ in. by $9\frac{1}{8}$ in., and has thus a comb area of 134 square inches. With 25 cells to the square inch, and doubling it for the two sides, we would have about 6,760 cells on each frame. For a ten-frame hive this would give 67,600 cells. Our "Standard" frame measures 14 in. by $8\frac{1}{2}$ in. The cells on each frame would work out to about 5,000, and for the ten-frame body we would find about 50,000 cells. Several American frames are larger than the Langstroth, especially in depth; the Gallup being $11\frac{1}{4}$ in. deep, but the number is rather negligible. The thicker wood used in the American standard makes both nearly the same in actual depth of comb.

This is a Continental estimate of what colonies of different strength can accom-

plish in the way of honey-gathering in one day's work :—

| | | | |
|---|---|---|---|
| 20,000 | bees | collect | ¼ kilo. |
| 30,000 | ,, | ,, | ¾ ,, |
| 40,000 | ,, | ,, | 2 kilos. |
| 50,000 | ,, | ,, | 3 ,, |

If correct, the inference to be drawn is that we should do our utmost to have all colonies strong. Just note 1 and 3. With only double the number of bees, 3 gathers eight times the quantity of honey collected by 1.

The books generally tell us that we get five cells to the inch. A comb built entirely by the bees shows 4.926. Messrs. Roots' manufactured foundation has it 4.877, Dadant's 4.828, Dittmer's 4.849, and a Rietsche machine 4.535. All of these show a difference in the cell-base impressed in sheets of foundation to rear worker bees. Which is right?

From America we learn that "lumber," wood for hives and appliances, has gone up 50 per cent. since last season, and metal work 300 per cent., prices for the latter being almost prohibitive. Wages, too, have gone up. Yet, showing the steady rise of our industry, one appliance manufacturer increased by 30 per cent. in 1916, and last year stood 50 per cent. over that. As time flies, beekeeping is making vast strides, and yearly there is steady progress.

## DISCHARGED SOLDIERS AND BEE-KEEPING.

Bee-keeping is one of the occupations to which a discharged limbless soldier can turn his energies either as a vocation or as an addition to other sources of income. Mr. Alex. Steven, hon. bee master and instructor at the Princess Louise Hospital, Erskine, in the course of a lecture delivered at the Inter-Allied Conference at the Central Hall, on May 22, gave an interesting account of work which his institution is accomplishing in training men for this pursuit, Successful bee-keeping requires some practical experience, and the apiary in the hospital grounds affords the needed opportunity for instruction. Last summer 76 men received personal and direct instruction at the apiary, and some of them have now begun to keep bees on their own account. Mr. Steven speaks of the keen interest which has been taken by his pupils both at lectures and at demonstrations in the habits of bees. They appeal to men with a turn for natural history, and the interest grows as they learn the art of handling them. By bringing together the scattered experience that is being accumulated in the problem of re-starting the maimed soldier in civil life the conference is serving a most useful purpose, and lectures like the one Mr. Steven has given touch very practical aspects of the work.

The conference was exceedingly interested in Mr. Steven's lecture, which was not on bee-keeping, but which he described as an attempt to show how bee-keeping can materially assist in the solution of some of the problems confronting us to-day. The chief of these being, first, the increase of our food supply from home resources; second, the provision of suitable employment to the discharged sailor and soldier.

In dealing with the question of food resources from the standpoint of bee-keeping, Mr. Steven impressed on his audience that honey is not a luxury *only*, but a food, more valuable as a nutrient than sugar, as it is grape sugar. Prior to the war we imported immense quantities of honey, and neglected to garner the vast store from untapped home resources, which lie at the hand of every rural dweller. This was especially to be deplored, when one reflected that our own country is so suitable for bee culture, that even in ancient times it was known as the "Isle of Honey."

Mr. Steven also pointed out the value of the honey bee as a polleniser of fruit blossom, and said that as fruit is food, this is another aspect of the food problem.

The suitability of bee-keeping as a vocation for the maimed and limbless was then dealt with, and as Mr. Steven has been giving instruction to men who have lost a limb, or limbs, he was able to speak from his personal experience. The question of outlay was considered, and the lecturer pointed out that even supposing the cost of starting was four times the pre-war rate, the price of honey has advanced sufficiently to meet this higher cost. Hives may be made from discarded packing cases, as was done at Erskine, and it is part of the scheme at the Princess Louise Scottish Hospital Apiary to provide stocks of bees, at a moderate charge, for those limbless men who desire to take up bee-keeping. The work at the Princess Louise Hospital was started in 1916 with some success. From a small beginning, and at a very moderate outlay, the stocks have been more than trebled, and from those set aside for honey gathering, an average of 76 lbs. per hive was secured last year.

During the winter and spring instruction is given by lectures, with limelight illustrations, and hives and other apparatus are exhibited and explained to the class, which is composed of limbless men.

In addition to class instruction, practical demonstrations are given at the apiary. By means of glass observatory hives and ordinary hives pupils can study the habits of the bees and learn how to handle them.

## BRITISH BEE-KEEPERS' WAR BOND.

Bring the craft to notice.
Resist petty squabbles.
Insist on "Legislation."
Turn over your portion for the wounded.
Instruct and assist the novice.
Show the advantages of your Association.
Habits of cleanliness mean health.

Bring pleasure, reliance and profit.
Enterprise and business security.
Encourage thrift, and use from waste sources.

Keep your bees dry and warm.
Ensure supplies, then all is well.
Enter notes of profit and loss.
Pay your bills; but count the cost.
Enter produce for exhibition.
Respond to orders, true to sample.
Seek to please, and pleasure's found.

Win your British respect.
And ensure a "Home Market."
Resist the temptation of inferiority.

Better the conditions of home and food.
Owners can save for the rainy day.
Never say die when adversity knocks.
Death and the coward are half-way met.

—A. H. HAMSHAR.

## BEES AND WAR.

Somewhere in France, a few kilometres behind the line, I found an apiary undisturbed by the hand of war. I had often seen scattered remnants of once flourishing apiaries—a few deserted, upturned skeps and scattered pieces of comb, sometimes a few despairing bees, but at last I discovered a "Rucher" peopled by 15 or 16 prosperous colonies of vigorous black bees.

The hives stood in one long line, seven frame hives of various patterns, and eight or nine skeps of straw, or osier.

The wooden hives were made, with one exception, by M'sieur himself (for I made it my business to introduce myself to the owner); they held a varying number of frames, seven, ten or twelve, and in one hive there were fifteen.

At the side and rear of each hive was a pane of glass, protected by a wooden shutter, and the outside combs could be seen fast filling with honey from fruit blossoms and sainfoin. The owner did little manipulation of his hives, but made much use of these windows.

Beyond the frame hives were the skeps; those of osier were plastered with a mixture of clay and lime to make them cosy and weatherproof, and all had their rough outer covering of loose straw thatch, that one sees in England. A stout central pillar ran through the centre of each skep, and protruded at the top, and small horizontal supports ran from it to the inner walls.

In the rear of the line of hives was a wind screen of stout straw, about 4½ ft. in height, and, level with the fronts of the wooden hives were carefully trimmed "trees" of hawthorn, so that each hive looked out from a shady bower of leaves.

Currant and gooseberry bushes and dwarf fruit trees grew in front of the hives: they were so inviting that as Monsieur informed me adventurous swarms were usually content to cluster in their leafy branches without going further aield.

One day when the sun was out in full strength, and the fruit in full bloom, I helped the little French bee-keeper to put on his boxes of shallow frames. We removed the broad strips of wood that fitted together to form a lid, or covering, for the brood frames, gave a few puffs of smoke, and on went the drawn out combs for the surplus honey; the strips of wood were placed above them in place of the calico quilts we use at home (no queen excluders were in use). "Madame" was there, too, in a white sun bonnet—for had not "Madame" cared for the bees while Monsieur had been at the war, and while he had suffered in hospital? and had she not written, for three long years, in every letter to her husband, news of the bees, of their swarms and of the honey-flow? She had brought in this way the peacefulness of the "rucher" to cheer him in the field of battle, and to comfort him on his bed of suffering.

Now he had returned from the war, and Madame still assisted him in his work amongst the bees. As we worked among the bees Madame stood behind the straw screen, giving a hand when she could, and taking charge of the now unnecessary winter wrappings of old garments.

We spaced the combs, no metal ends were in use, "covered up," and left the bees to do the rest.

In the village, half deserted by the civilians, and half peopled by our Tommies, I found the bee-keeper and his family; a simple, hardworking, homely family, in a simply furnished, brick-floored cottage. There we drank coffee and talked of bees, of swarms, of honey, as bee-keepers always have done, and as I often talked myself in the days before the war.

No, I am not a linguist, Mr. Editor, but a limited vocabulary is enough when one

is aided by the freemasonry that always exists among real lovers of the honey bee.

Armed with a souvenir copy of *L'Apiculture Nouvelle*, which I got in exchange for my current copy of the B.B.J. (though Monsieur will not be able to read a word of it), I said " Bon Nuit " to my friends. No doubt with the aid of this French Bee Journal I shall learn many more of the terms in use amongst French bee-men.

When I last saw the hives they were bathed in sunshine—a few shells whistled and fell in neighbouring villages—perhaps among the many little apiaries—but there few shells had fallen.

I wonder if I shall see the sun bathed apiary again, or hear the homely song of its busy workers? I hope to be able to leave the guns again, and to assist in the harvesting of the honey. It may be that before the surplus is secured the bee-keeper's family will have to leave all, and flee before the advancing tide of war. And the apiary? perhaps swallowed up, like so much of La Belle France, by the ravage and waste of war.

All of you at home, and all the Tommies in France, hope that we shall stem any further Boche advance—but as a bee lover I hope so still more strongly, so that the homes of bees and bee-keepers there, somewhere in France, may be left in their former atmosphere of industry, peace, and safety.—Cpl. C. Dobson, R.G.A., B.E.F.

## THE CUMBERLAND AND WESTMORLAND BEE-KEEPERS' ASSOCIATION.

ANNUAL MEETING.

The annual general meeting of the Cumberland and Westmorland Bee-keepers' Association was held in Varley's Confectionery Rooms, Workington, on the 11th inst., the chair being occupied by the Rev. D. R. Jones, of Seaton. The attendance was very fair considering the present difficulties of travelling. The statement of accounts and the annual report of the Executive Committee, read by the Hon. Secretary, were considered and approved. The financial position of the Association was declared satisfactory, although a debit balance of £11 4s. 9d. is shown; but this is not excessive when compared with many previous balance sheets. The deficiency is largely due to unpaid subscriptions (so many members being with the Colours), and the greatly increased cost of many items during the season, which could not be foreseen last spring when all arrangements for the year's work had to be made.

The " Isle of Wight " disease which is still present in many parts of both counties has killed off a considerable number of stocks, but the majority of members are making a determined, and apparently successful, effort to stay its progress, by adopting preventive measures. Many non-members are working equally hard in the same direction, but much of the success attained is lost through the scourge being allowed to exist and spread by the indifference and carelessness of a class of bee-keepers from whom it is feared little improvement can be expected until legislative powers are granted to deal with it on similar lines to swine fever and other diseases. Foul brood is no longer a source of anxiety, having been reduced to under 3 per cent. It is estimated that last season between £5,000 and £6,000 worth of honey was produced in Cumberland and Westmorland, but as our annual import of honey is well over £160,000, there is every need to keep our shoulder to the wheel, particularly in face of the present scarcity of sugar. So far as can be judged, the condition of bees is better than at this date last year, and the beneficial effect of the instructions by experts is seen in the gradual improvement in the methods of bee-keeping amongst members.

Great interest was shown in the Restocking Scheme inaugurated by the Association, under which three apiaries have been restocked from the original small effort at Keswick. After an animated discussion it was resolved to carry the programme forward, and endeavour to complete the arrangements for the Cockermouth and Egremont apiaries during this season. It was also decided as a safeguard against emergencies to maintain a standard strength of four stocks in each Association apiary, and to distribute at a nominal cost any stocks above that number.

The Secretary pointed out that the present price of paper and the abolition of the halfpenny post were likely to increase the cost of the reports to about 4d. each, and it was therefore agreed not to issue the usual report this year, but to devote part of the funds thus saved to the purchase of up-to-date books for the Library. Any information usually supplied through the report will be obtainable by application to the Secretary.

The Right Hon. Rosalind, Countess of Carlisle was unanimously re-elected president. The vice-presidents were re-elected with the exception of Mrs. Morton and Sir B. Scott, who wished to resign, and further elections were made to fill the vacancies thus created. No alteration was made in the Executive Council. Mr. John Steel, Cardewlees, Carlisle, and Mr. John B. Millican, Bank of Liverpool, Carlisle, were reappointed hon. secretary and treasurer and hon. auditor respectively.

The Association had again been favoured

with the usual grants of £50 from the Cumberland Education Committee and £25 from the Westmorland Education Committee, also a special grant of £5 from each Committee for lecture fees. During the year goods to the value of £36 had been bought in bulk by the Association and sold at cost price to members, thus ensuring them supplies of candy, etc., in lots to meet their requirements at 25 per cent. to 33 per cent. below current local prices for small quantities.

Votes of thanks to the Chairman and the Hon. Secretary for their services, also to the Education Committees for their continued interest and support, concluded the meeting.—(*Communicated.*)


***The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.***

## A NOTE FROM HERTS.

[9685] *Re* our friend Mr. Kettle and his Dorset Yarns, I much appreciate same, and shall be very sorry if they are discontinued, although I know from experience how difficult it is to write a weekly interesting letter, as I have two boys, one in the Army, and another a civil prisoner at Ruhleben. Although over 60, with 40 years' experience in gardening and agriculture, Mr. Kettle has given me valuable hints.

After being without bees for many years I became the possessor of a cast, or second swarm, about a year ago. I bought some second-hand hives and sundries from a friend who had lost his bees, and after well disinfecting, I put the cast in one of them, and they did very well, filling ten standard frames, and started on some shallow frames, so I got a few pounds of surplus.

I packed them up for the winter, and they came through alright, with plenty of stores. In April I fed them with Pascall's candy syrup, and I noticed they dwindled some, which I attributed to the very cold, bright days we had. Early in May I found a lot of crawlers, and sprayed them with Izal for several days without effect. Then in desperation I took the watering pot, removed the cover and quilt, and deluged the bees with a tablespoonful of Izal to about a gallon of water. That was about second week in May, since when I have not seen a single crawler, and I must have lost thousands, as they were all over the garden. I put a box of shallow frames under the brood box, and to-day I find the hive crammed full of bees, and many of the shallow combs nearly full of honey.—CHEERIO.

## BEES DYING.

[9686] A lady who has kept bees successfully for 20 years, last November found one of her stocks without food, and gave them half a pound of candy. They were then quite lively, but about a week after they were found dull, and a few days after that they gradually died off. The other three hives had honey in their combs, but on giving them also half a pound each of the candy they became dull about three weeks later, and a few days after that they died. The bees looked healthy, and they and the hives were clean. The bees have been kept on the same spot and under similar conditions all the 20 years. Can the above be accounted for?—R. J. A., Rhyll.

[It is probable that the bees died of "Isle of Wight" disease.]

## DIET AND "ISLE OF WIGHT" DISEASE.

[9687] It may interest Mr. J. L. Rentoul (9650) to hear of one bee-keeper who *never* fed his bees on sugar, but who always left enough, and to spare, of sealed natural stores for them to winter on, but still lost the whole of his stock (6) from "Isle of Wight" disease.—W. GOLDSMITH.

## THE HONEY INDUSTRY IN THE WEST INDIES.

Development of the honey industry in the West Indies, in the interests of the home food supply, is under the consideration of the West India Committee. Some of the finest honey in the world comes from Jamaica, which sends us 500 tons a year, or nearly five-sixths of its total production. But the other British West Indies produce little honey, though well suited for it. Experts suggest at least half-a-million beehives, to be put down this year between the Bahamas and Trinidad, and an increase of production by five to ten thousand tons. How so many swarms are to be obtained we are not told.—From the *Yorkshire Post.*

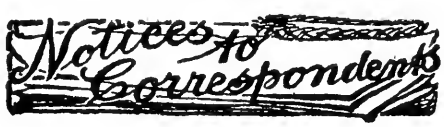
## BEES AND DISEASE.

"With the R.A.M.C. in Egypt," by "Sergeant-Major R.A.M.C." (Illustrated. Cassell. 6s. net) is a record of medical work carried out successfully amidst climatic and other circumstances of extraordinary difficulty. The habits of the natives of the country are not—to put it mildly—sanitary: and then there are the insects.

According to the author, there are only two insects which are above suspicion. He hedges a little even over one of these; he seems to intimate somewhat grudgingly that nothing is known at present against the butterfly. Of the other excepted insects he is generous indeed to the honey-bee. He says that "the complicated blend of acid, alkali, and alkaloid forming bee sting poison" is good for rheumatism and preventive of rheumatism.

But of all other insects whatsoever "Sergeant-Major R.A.M.C." would echo the words of the American gentleman on the serpents of Eden: "Cut them down; they mean wenom." A. M.

—*From the Evening News.*




***Correspondents desiring an answer in the next issue should send questions to reach this office NOT LATER than the FIRST POST on MONDAY MORNING. Only SPECIALLY URGENT questions will be replied to by post if a STAMPED addressed envelope is enclosed. All questions must be accompanied by the sender's name and address, not necessarily for publication, but as a guarantee of good faith. There is no fee for answering questions.***

R. WARAKEN (Surrey).—*Swarm decamping from hive.*—Swarms will do this at times without any apparent reason, but it is seldom they do it so often as seven times. The bees had evidently located the hollow tree before leaving the parent hive, and were determined to establish themselves there. Get them out of the tree if you can do so. If a comb containing brood is placed in the hive when the swarm is run in, the bees will, as a rule, not desert it.

"LEARNER" (Grimsby).—*Bees not storing in super.*—If the bees have gone into the super, they will store honey when they can obtain it. At present there is evidently no nectar to be gathered beyond what is needed for their own immediate use.

We cannot say where your method of making mead was wrong; probably it was allowed to ferment for too long, or it was not tightly corked, with the result that you have made vinegar, instead of mead, but your expression "sour as the bitterest gall" leaves us in some doubt. Use it as vinegar, it will improve with age, and is, in our opinion, much better than malt vinegar.

*Moving Bees.*—If you move now, it will be better to take them the mile. If you move them only 300 yards a great number will probably be lost. Under the circumstances it will be better to move them as soon as you can.

"NOVICE" (Devon).—*Colony not increasing.*—(1) The insect is a Blind Louse (*Braula cœca*). One or two will make no difference to the queen laying. (2) If there are a fair number of bees, and the weather is favourable, the queen is evidently a poor one, and should be replaced. (3) You may transfer a comb of brood from the other hive. Choose one in which the bees are just emerging from the cells.

F. W. HARMER (Bexley).—*Working for honey and moderate increase of stock.*—Make a nucleus with three frames of comb. We should prefer to make it now, as to do so will check any tendency of the parent stock to swarm, and the nucleus will have a better chance of working up strong enough for wintering. You may do it after the honey flow, but in that case you will most likely have to feed the nucleus. If there are queen cells in the hive it is good practice to utilise one of them for a nucleus, as you suggest.

J. FLITTON (Letchworth).—*Instructions for making W.B.C. hive.*—You will find these in "The Beekeepers' Practical Note Book," post free from this office for 1s. 1½d., or for 1½d. we can send you a leaflet with instructions how to make a W.B.C. hive from boxes.

"EXTRACTOR" (Paignton).—*Extracting queries.*—You may extract the honey as soon as it is sealed over, but the longer it is left on the hive the better it is. Honey that is extracted before it is sealed will probably ferment. You may cut the thick combs down to normal thickness when uncapping them. The cappings should be well broken up and the honey strained from them through butter muslin, or ordinary plain muslin. The honey will go through if you give it time; if very thick, put it in a warm room, or near the fire. The cappings may be soaked in warm water, thoroughly stirred, and again strained, the sweetened water being used to make mead or vinegar. Then put the wax into a vessel with some water, and place it in the oven, or near the fire, until the wax is all melted; be careful it does not boil over or burn. When all is melted, remove from the fire and allow to become cold, when the wax may be removed in a cake and the dirt and other matter scraped from the bottom. To make it quite clean, remelt it and strain through flannel. You will find the extraction of honey treated in the "Guide Book."

If you are five miles from the heather the bees will not reach it in sufficient numbers to gather surplus. Two miles is considered the limit for foraging, though a few bees may go more than double that distance. The plan you suggest would be impossible.

E. J. WALKER (Street).—You may place another queen, securely caged inside a travelling and introduction cage, in the box with the bees.

"ENQUIRER" (Hampton Hill).—We cannot account for the bees quarrelling, unless strange bees are attempting to enter the hive. The hive would be quite safe. You need not be alarmed at finding a dead bee occasionally.

F. SHEPHERD (Mellor).—(1 and 2) Yes, if the weather is favourable, but we should prefer having them nearer if possible. (3) Two miles.

M. FORLEY (Buckhurst Hill).—The insect will be a mason bee, or wasp. We cannot say without seeing it; probably the former. It will not injure the bees. It was curious the bees should swarm.

G. LEDGER (Weybridge).—The retail price of honey is 2s. 6d. to 2s. 9d. per lb. jar extracted; sections, 3s. each.

M. E. HARTLEY (Sturminster Newton).—From 2s to 2s. 4d. per lb. wholesale.

F. C. KEY (Godalming).—The bees are old and robbers, which accounts for their appearance. They are hybrid Italians.

*Suspected Disease.*

"HARTFORD" (Cheshire).—We cannot say why the drones are unable to fly. We do not find any disease. Either natives or Dutch.

# Special Prepaid Advertisements.

## One Penny per Word.

***Trade** advertisement of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at* **1½d.** *per word as* **"Business"** *Announcements, immediately under the Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of 3s. per ¼in., or 5s. per inch.*

***PRIVATE ADVERTISEMENTS** are only intended for readers having* **Surplus Stock** *to dispose of.* **Driven Bees, Nuclei,** *and* **Queens that are reared or imported for sale,** *are Trade Advertisements, and can only be accepted under trade terms. A charge of 6d. extra will be made if a box number is used.*

### PRIVATE ADVERTISEMENTS.

SWARMS.—Two strong, healthy May Swarms, 35s.; 4-frame Nuclei, 50s.; carriage extra.—CHEASLEY, Lashbrook, Henley-on-Thames. f.18

"ISLE OF WIGHT" DISEASE.—Wanted to purchase, stocks of diseased bees for experimental purposes.—Full particulars to Box 35, B.B.J. Office, 23, Bedford Street, Strand, W.C.2. f.19

SIX Swarms wanted, from guaranteed healthy hives.—MILLER, Hockley Heath, Warwickshire. f.20

VIRGIN QUEENS.—June delivery, 3s.; few 3-frame Nuclei, £2 2s.—GRANT, 49, Ashbourne Street, Leicester. f.21

STRONG Stocks, Hybrid Italians, ready for supering, £5 each; in serviceable hives with super, nine wide frames, wired foundation, £5 15s.—H. BOWREY, Swallowfield, Berks. f.22

FOR SALE, two good Stocks of Hybrids on eight frames of comb; plenty of brood in all stages; guaranteed perfectly healthy; carriage paid; £4 10s. each. Deposit system if preferred.—MAY, South Nutfield, Surrey. f.23

2½ DOZEN bottles finest Cambridgeshire Honey, 30s. per dozen.—HALFORD, West Wratting, Cambs. f.24

FOR SALE, giving up bee-keeping, Honey Press, Extractor, Section Cases, and a great number of necessary appliances for an apiary.—Apply, JAMES MARR, 27, Crow Road, Partick, Glasgow. f.25

FOR SALE, quantity Lee's Holborn Hives; clean, good condition; well painted.—Box 36, B.B.J. Office, 23, Bedford Street, Strand, W.C.2. f.26

FOR SALE (Kent, 12 miles London), Hive with healthy Stock on five frames, £3 10s. Must be removed by purchaser.—Particulars, Box 37, B.B.J. Office, 23, Bedford Street, Strand, W.C.2. f.27

WOULD give £5 for really strong, healthy Stock, 1917 or 1918 Queen, on 10 frames, sent immediately, carriage paid.—NELSON, Great Blakenham, Ipswich. f.29

FOR SALE, one May Swarm from bar hive, two Nuclei, three and four frames, all from healthy stocks.—J. BROOKS, Winthorpe, Newark-on-Trent. f.30

FOR SALE, about middle of July, two good Stocks of Bees. Too far from heather.—KIRKBRIDE, Terrington, York. f.36

WANTED, Geared Extractor and Ripener. Give cash or nuclei to value.—BARNES, 20, Bourdon Road, Anerley. f.37

COWAN Extractor, reversible cages, good condition, 57s. 6d.; W.B.C. Hive (George Rose), brood chamber, excluder, shallow super, lifts to accommodate four supers, 32s. 6d.; two W.B.C. Section Racks, hanging frames and dividers, 10s.; Cottage Hive (Redshaw), excluder, rack of 21 sections, dividers, 18s. 6d. The lot on rail for £5 15s.—ALUN JONES, Halkyn, Flintshire. f.28

FOR SALE, two Hives in good condition, nearly new, painted white, £1 each, carriage paid; also Skep and two zinc Queen Excluders, 5s. 6d.—St. Mars, Ewhurst, Hawkhurst. f.31

QUEENS.—1917 pure Italian (clipped), 1917 British, both prolific, 7s. 6d. each; after 20th. Stamp reply.—WILLIAMS, 8, Corrennie Gardens, Edinburgh. f.32

WANTED, Extractor, in good working order; also Honey Ripener.—E. FRANKLAND, Ravenstonedale, Westmorland. f.33

THERE is no magic in Flavine. All it will do is to confer immunity to "I.O.W." disease for some time. Good bee-keeping will mean just as hard work, if you use it or not. The only definite statement we can make is that stocks, treated with it early in the season, will resist the disease better, if attacked later on, than those not thus treated. The primary source of infection is not known, but we venture to assert that the robbing out of diseased humble bee nests in the autumn is one of the causes of its prevalence at that time.—(*To be continued*).—S. H. SMITH. f.34

STRONG Stocks of Bees wanted. Must be guaranteed healthy.—TRINDER, Edwinstowe, Newark. f.4

### BUSINESS ADVERTISEMENTS.

**1½d. per word.**

COMFORTABLE APARTMENTS for Brother Bee-keepers visiting Douglas. Terms: Tea, bed, and breakfast, 3s. 6d.; or full board, 6s. per day.—HORSLEY'S, Merridale House, top of Castle Drive, Douglas, Isle of Man.

STRICTLY BUSINESS.—No more Sprayers at present. A free sample Flavine for a stamped, addressed envelope; 6 packages, 6d.; "Intensive Bee-keeping," Chapters I.—IV., 6d.—S. H. SMITH, 30, Maid's Causeway, Cambridge. f.35

PURE Fertile Italian Queens, direct from Italy, due to arrive June 30, 10s. each.—BRITISH FOOD CULTURE ASSOCIATION, LTD., 63, High Holborn, London, W.C.1. e.74

"ISLE OF WIGHT" Disease permanently cured. Tested four years. Solution and directions, 2s., post free.—PRESSEY, St. Elmo, Coulsdon. d.73

QUEENS.—Virgins, 4s.; Fertile, 12s. 6d.—PRYOR, Breachwood Green. f.16

**HONEY AND BEESWAX PURCHASED.**
Run Honey in bulk. Sections per gross.
**HONEY FOR SALE.**
Cuban, Californian, English, Irish.
Free tins and cases, carriage paid. **Cash with** order. Samples, 3d. Prices on application.
**A. GORDON ROWE, 28a, Moy Road, Cardiff.**

**LECTURES AND DEMONSTRATIONS ON BEE-KEEPING.**
W. HERROD-HEMPSALL is open to give the above in any part of the country; providing his own lantern, slides, etc., demonstrating tent. **Also private instruction at pupil's own residence.** Terms on application.—W. B. C. Apiary, Old Bedford Road, Luton, Beds.

**MUSHROOM SPAWN, FRESH.**
6d per brick.
Carriage paid on all orders over six bricks.
**JOHN E. KNIGHT & SON,**
**Seed Growers & Merchants, WOLVERHAMPTON**


## A ROLL OF HONOUR.

**Although bee-keeping is considered a minor pursuit, we venture to say that it has provided more fighting men than the usual average of any industry. To place on record the part the members of our craft have played in the present war we propose to make a "Roll of Honour," and shall be pleased if our readers will forward us the NAMES and ADDRESSES, together with the REGIMENT and RANK, of any bee-keeper serving his King and Country at home or abroad; also if killed or wounded.**

We print an additional name to those previously sent in, and shall be pleased to have other names as soon as possible.

Major G. M. Ellison, Melton House, Exning, Newmarket, 1st Lincs. Regt., wounded Sept., 1914.

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Will our readers kindly note that we still prefer halfpenny, rather than three-halfpenny, or penny stamps for small amounts.

When packages of bees or honey and a letter are sent in separate covers, the name of the sender should always be written on, or in, the package.

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## A DORSET YARN.

The week ending June 15 has been a poor one for bees at the farm. Several days it was very cold; none of them ventured out in the early morning. One can see to work now soon after four, but the glad hum of the bees was not with one, as it was the warm week previous, but ours are storing honey fast, and it does not seem to be from the white clover which is now so abundant, but the false acacia proves more alluring to them. These trees always seem to bloom when the strawberries are ripe; they are somewhat ephemeral; like the Spanish broom, they do not last long. Many flowers that seed freely are only open a short time; the number of bees on them soon fertilises the seed organs, and they quickly close up, as their mission of reproduction is complete, like the May fly, which lives a whole year in the bottom of fresh water lakes; a few days at the end of May and early June it leaves the water a graceful flying insect—many thousands of them at one time. They have a fine time for a few hours, and when the female has been visited by the male she knows her mission in life is over, and she goes back to the water, lays her eggs, and dies. The eggs are hatched out and the larvæ lives on to the same time the next year, when the same carnival is held again. If you want flowers to last a long time, they must not be fertilised. Some of the orchid family have been known to last perfect 80 days when no insects have been able to get at the flower, but others that have been fertilised by insects do not last nearly so long; so with the Robinea or False Acacia, bees are so abundant when the trees are in flower fertilisation is soon complete, and the flowers close up.

Our numbers are still going up. Another large swarm came and took possession of one of the hives last week. They were hybrids, and look like giving a good account of themselves. The other lots are doing fine, and look as if no disease had ever been near the farm.

The honey this season has a most delightful flavour, and is much sought after. The article by Mr. Macdonald in last week's JOURNAL, giving the analysis of nectar, was very interesting reading, and proves its high value as a food for the human race. Perhaps this is what keeps us in such good health, for we clear a section at tea. We need to keep well just now, as I have nearly 20 acres of hay to take up, loads of gooseberries and strawberries to send away each day; long days of work, from 4 a.m. till 10 at night, one needs to have one's body in good condition. If honey helps to do this, then it is a fine food indeed—a food "fit for the gods."

Though the weather has been very dry, everything in the country looks full of promise. The rasps. look like giving abundant crops, the black currants are gaining colour, but apples and pears are very thin. Plums are good; they were not hurt much by frosts; but when the pears were in bloom we had very sharp frosts at night. Bush fruits are the most reliable crop; besides giving abundance of early food for bees, they yield a great many tons to the nation's store of food. Summer is coming early this year; all crops are developing very fast, wheat is showing the ears, where the corn will soon be formed. I hope the weather will keep good for the bees, as it is only for another month that we get the great yield of honey. Already the heather is in blossom—not the ling that the bees revel in, but *Erica Cineria*, that deep-coloured one; but the other will soon be out in blossom. I have always noticed it soon follows; but it shows how the summer is going on. We seem a month in advance. It was the hot, dry time of a few weeks ago that has hastened things on so.—J. J. KETTLE.

## THE BEE GARDEN.

THE OFFICIAL LISTS.—(*Continued.*)

*Limnanthes douglassii*, Nimble Nancy or Codlins and Cream, is one of the best-known bee plants. Walking one day from Perivale through Greenford to Ruislip I passed, at Hayes West End, a cottage on the right-hand side of the road, well set back behind a fairly large garden, one-half of which was a mass of limnanthes—a most arresting sight. Glancing at the cottage, I saw, at one end of it, a bee-house in the ancient style, enclosing a number of skeps, some of which were capped or supered with smaller ones.

Their owner was in the garden, and I could not resist the temptation to linger and have a "crack" about the bees and the feast provided for them. I was told that the limnanthes had occupied the same ground for a number of years, sowing their seed lavishly from season to season. Among them was a good deal of crocus "grass," and on inquiring, I learned that that was the succession; first the purple and gold crocus, then the white and yellow limnanthes, so that the bees had their table almost always spread. Seed was offered me, to be had as soon as ripened. Accepting, I later rode that way and was handed a bag containing enough to set me and two or three others up with a good bed. Not until I removed to Heathrow was I again without limnanthes, and, fortunately, had not been there long before I saw an offer of plants by Mr. Bowen, of Cheltenham, in the *Journal*. Taking advantage of this, I made another bed of "Nancies," and from that day to this have kept seed or plants. As I write I have before my lifted eyes an oval centre bed in which standard roses are rising from a carpet of limnanthes, cyanus minor, and lavatera rosea, while on the lawn the campanula pyramidalis in tubs also rear themselves above a ground of limnanthes. The plant is quite worth growing for its own sake. It is of Californian origin; is robust and of spreading habit, not making more than 6in. in height. The delicately-scented flowers, yellow in the centre and white at the edge, are most abundantly produced. While of the greatest value to the bees when grown in a mass, it is also valuable as an edging. There is a white variety, l.d. alba, but I have never grown it, nor have I any knowledge of its qualities. As few annuals stand the winter better if sown in autumn, and as seed sown then produces stronger plants which flower earlier and more freely than spring sown ones, I strongly recommend this practice. For succession, sowings may be made in March, April and May, whereby bloom will be obtained till October. Sow 1-16in. deep in the open ground. Limnanthes flourishes in poor, light soil just as well as in heavily manured clay. It is resistant to drought, and luxuriates in mossy, undrained places. Subsequent cultivation consists in leaving it alone, as it can, and does, look after itself.

(*To be continued.*)

## BEE-KEEPING AT A PUBLIC SCHOOL.

*By the Assistant Music Master.*

(*Continued from page* 189.)

Another day I was sent for to hive a swarm in one of the college courts; it had come from one of the wild colonies in the school buildings. The college electrician, having made friends with one of the young bee-keepers, had copied his hive, and desired to commence bee-keeping. Seeing the swarm near the top of a laburnam tree within the school precincts, he thought he would try and take it, so securing a skep and a pair of steps he set to work. He had just succeeded in shaking the bees into the skep, when the steps gave way, and he dropped the lot, getting about seven stings. He now sent a message to me, and I soon hived them and handed them over to the would-be bee-keeper; the headmaster coming up took a photograph of the scene after the swarm was in the skep, showing the boys and the two principal actors standing round. The picture was included in a book of views sent out to old boys serving in His Majesty's Forces, and a copy was presented to me.

A 5 lb. swarm settled late one evening in another part of the college grounds; where it came from I do not know. I was giving a music lesson at the time I was sent for, so did not go immediately, but gave directions to provide a ladder, etc., saying I would come shortly. While waiting for me the boys had become impatient, and had tried to hive the bees themselves in a pail and borrowed skep, but without success. I found some of them in a rather excited condition kicking the skep about, which still contained two or three hundred bees, while one or two boys, who had already learnt something of bee-keeping, looked on in dismay, not being big enough to interfere. What a pity the bees did not retaliate, I thought! A boy, previously unknown to me, stepped forward and asked if he could have the swarm. I promised it to him, and soon had all safe inside the skep. I put them into a frame hive temporarily, afterwards transferring the frames into another bought by the new owner, who later removed bees, hive and all to his own home

not many miles off. This boy had a very unpleasant experience. The next day after the swarm was hived, I invited him to one of my apiaries to learn something about handling bees. We turned back a quilt to see how some sections were getting on; a bee or two buzzed round us; my companion dodged slightly, I think, though warned not to do so, and received a sting on his nose. He retired some distance behind the hives under a large tree (it never occurred to me to throw him a veil, as I thought he would be fairly safe there); some bees followed him, however, and he called out that another had stung him in the same place. I went to his aid only to see a third bee disappearing up his nostril. It would be too much to expect an absolute novice to maintain his self-control in such circumstances. Before I could do anything, he made frantic endeavours to get the bee out, and, of course, was stung a third time. After this I advised him to clear out and come again another day. All this time the bees never molested me in any way.

At the end of 1917, wishing to take up different work, I relinquished my appointment at the school, and no longer having any suitable place to keep them, disposed of my bees. I was sorry to leave my young friends whose initiation into the mysteries of the craft had given me so much pleasure; but as I am not very far away, I shall be able to cycle over and see them occasionally. About Christmastime I received a copy of "The Bee-Master of Warrilow" from them, and also the promise of another book on bee-keeping as soon as it can be procured—very acceptable mementos, which I value greatly, of delightful hours spent together among the bees. As I told my young friends, it gives me satisfaction to think that if they ever attain that sad condition, admitted by some of us older folk, of having forgotten all they learnt at school, they will still retain that knowledge of how to handle bees, which I helped to impart to them.

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## THE MAKING OF A BEE-MAN.

(*Continued from page* 188.)

Up to the date of writing, May, 1918, neither the two roof colonies nor any of their offspring have suffered from any disease whatever, and we may infer that when bees are not deprived of their honey they can safely withstand the cold and wet of a very severe winter. Each of these roof colonies had twelve to thirteen combs, the centre combs being about 24 ins. long by 14 ins. wide at the top, a total comb surface of about 6,000 square inches, as against 2,400 of our standard ten-comb brood chambers. It seems reasonable to infer that a suitable hive size is two to three of our standard brood-chambers, and that if the two or three chambers be piled up above each other, the shape of the space provided will suit the bees.

But let us return to our Bee-man. Towards the close of the severe winter the Mother, remembering the starvation disaster, made enquiries, and was told that sugar should be placed on the frames. She lifted the roof of No. 1 and made a little heap of sugar on top of the sections; but when she attempted to lift the roof of No. 2 the roof seemed glued down to the hive; it resisted all her efforts, but the disturbed bees swarmed out and stung her badly.

All this time the Bee-man had been away from home almost continuously, and had given no thought to the bees; but the accident to the Mother brought them to his notice, and his verdict was, "We are ignorant, therefore the fault is ours. We must learn to get honey for the children in these war-times." But the landlord persisted in his passive resistance, and by the end of June, 1917, at least five swarms had been lost, and the honey was still unharvested.

One Saturday afternoon, on his return home, the Bee-man found the family watching a neighbour catch the sixth swarm, a cast of "Goldens." The catcher was asked to tackle the obdurate roof of No. 2 hive, but did not relish the job and declined.

The Bee-man said, "We will tackle them to-morrow. Make us all veils, Mother, and we will wear our stoutest gloves." By Sunday afternoon the Bee-man, Teddy, and Peter were armed cap-à-pie; no one thought of smoke; but a large biscuit tin was made ready, and hive No. 1 was first tackled. Most of the sections were found sealed over, and the few bees on them were easily flicked off as the combs of seventeen out of the twenty-one sections were rapidly cut out and arranged in the biscuit tin; the empty sections were replaced. So far, no stings.

But No. 2 proved a very different job. When the roof was eventually prised up with the help of a long screwdriver, and with difficulty lifted off, a scene of pitiful destruction was revealed. There were only five frames without either quilt or division board, and the bees had filled the roof with comb, which hung right down into the space behind the five frames, whilst those combs which hung over the five frames had been glued down to the top bars, and it was this attachment, together with the weight of the comb, which had made the removal of the roof

so difficult. The honeycombs had broken, honey was oozing out everywhere, and the whole was one mass of live, drowned, and drowning bees. Something had to be done, and that quickly. The comb was all cut out of the roof, and the lower portions full of brood were arranged as well as possible in the space behind the five frames. This left two large basins full of honeycomb covered with bees, which could certainly not be taken into the house.

A decision was soon taken. It was then 4 p.m.; by 9 p.m. the bees would have gone home, and the honey would be secured. But the family little knew how bees can work and how bees can rob. Long before sunset the whole of the 30 lbs. or so of honey had been cleared out, and at least three good honest colonies had been initiated in the wicked delights of robbing. But of this more hereafter.

The family were agreed that evening that matters had been mismanaged, and must be done better next time: Bees' must be read up.

## OUR FIRST BEES.

I had never seriously thought of bee-keeping till one day I saw a bee-keeper opening one of his hives. He was wearing a veil, but no gloves, and it was a marvel to me to see his fearlessness when lifting out hundreds of bees on a frame, from one of our modern movable frame hives. Gradually growing more and more confident I stepped closer and closer, and had the different kinds of cells pointed out and explained to me. Here were the sealed worker cells, and the unsealed cells showing a tiny egg or a fat white grub coiled within. Then there were the larger and slightly raised drone cells, and one queen cell just being formed. This the bee-keeper broke off, not wishing his bees to swarm when a new queen was ready. That day I became infected, and the symptoms began and grew till I had bee fever in one of its worst forms. From that time onwards, the bee, always a wonderful creature to me, became a kind of passion. I watched her in the flowers gathering nectar, I noticed what colour pollen she was collecting in her little pollen bags, and I bought and read bee literature, simply devouring Maeterlinck's "Life of the Bee," and Tickner Edwardes "Lore of the Honey Bee," and the result of all this was that I could never be happy without keeping bees. I paid another visit to my new friend the bee-keeper, and bargained for a stock to be delivered in April, with hive and apparatus complete. Some of the apparatus came before the bees,. What a joy it was to behold my first rack of 21 sections, and how like a child with a new toy I was, as I pulled them all out of the rack, simply for the pleasure of fitting them all back again! What curious stuff the wax foundation in each section appeared to be, and how wonderful that the bees should be able to draw it out on either side into deep cells!

At last the bees arrived in a white hive, and were duly placed down the garden. Nothing now delighted me so much as to sit on a little stool by the side of the hive, out of the bee-line, and watch the little creatures arrive on the alighting board. Here was one with pale yellow pollen, perhaps obtained from the bluebells. Perhaps they came from the apple blossom. Here was another with some deep orange-yellow pollen. Had she been to the gorse on the hillside? Here was another with purple pollen from the pretty pink or white campions; and here was yet another with red pollen. Where could she have got that? So I sat watching till my cramped position forbade it any longer.

The bee-keeper came in May to overhaul the hive and see if it needed any attention. Yes, there were three queen cells forming, and these must be broken off, and the queen's wings must be clipped also, lest she should be tempted to lead a swarm while I was away all day. My friend, the bee-keeper, called again several times that summer to see if all was well and to put on extra supers, as the honey was coming in so fast, but he never allowed me to do more than lift one frame to feel how heavy it was, though I was most anxious to manage them myself. How I finally did so is another story.

A farmer had promised us some of his bees in the autumn, instead of sulphuring them as usual, if we knew how to take them. After having read "How to drive bees" from the guide book, we were sure we could manage it. So one September morning saw us starting off with a straw skep, veil, gloves, a piece of sacking and a smoker. The farmer showed us two lots of bees which we might take, while he and his family stood watching. With a little mixture of importance and diffidence we donned our veils and gloves, and having lighted the smoker we copiously puffed smoke into the entrance of one hive, then standing behind it we gradually turned it back towards us. All was quiet, not a bee stirred. In fact it was uncannily quiet, so that we ventured to look in. Not a bee was to be seen, but the hive was full of a woolly substance, and long white cocoons. We knew from a picture that we had seen in the guide book that this was the work of the wax moth, and that it had literally eaten the bees out of house and home! We tried the next hive. There were bees in this one. I held the hive

steady, while my friend, with the help of driving irons, secured our new skep to the side of the inverted one at an angle of about 45 degrees. Now all we had to do was to beat the sides of the old hive and the bees would obligingly walk into the new skep—at least that was what the book said, so accordingly I started. When I became tired my friend took up the drumming. So far not a bee had set foot in the new hive. "How long will it take?" ventured one of the spectators. "Oh, only twenty minutes to half-an-hour," I volunteered casually, for so the guide book had said. However, time was passing, and one by one our spectators slipped quietly and sceptically away, for there was nothing to see. "Which side were we supposed to beat?" said my friend when they had all gone. "I don't know," I replied, "I wish we had not forgotten the guide book. Let's try banging on the other sides now." Ah! a few bees go up. We must have the right sides now. Why didn't we think of that two hours ago! "Couldn't we raise a tune now that things look more hopeful," I said. So accordingly we began drumming the hive to the tune of "The March of the Israelites," and more briskly to "A Life on the Ocean Wave." Yes, either our singing or the beating on the other sides was having effect, for the bees were now calmly walking up the slope into our skep in shoals. A glance at our watches showed that we had been three hours bending our poor backs and drumming! "Someone had blundered," but we didn't know where, nor care now that the bees were really in. A few more minutes, and in went the last one. Then we put sackcloth over the top, tied the skep round tightly, and walked home, exhausted, and famished but triumphant.

*(To be continued.)*


## BEE INFECTIONS AND VACCINE THERAPY.

[9688] Depending on your courtesy and support, might I venture in your columns to request the Associations' experts interested in my original research for *the artificial immunisation of bees against "Isle of Wight" disease* (and possibly against other bee infections) to favour me with samples of undoubted cases of this infection, in separate marked cages. Attempts are being made to re-test bacteriologically the cause of this disease and to prepare a vaccine from either the causative organism (if such an organism could be definitely proved and cultivated) or from ancillary organisms, and to try the effects of such a vaccine chiefly in prophylaxis, though also in treatment. In my humble opinion, this line of investigation is worthy of the consideration of other bacteriologists interested in bee culture, and it would give me great pleasure if, through your influence, others are persuaded to co-operate.—A. Z. Abushady, Laboratory for Clinical Research, 21, Cairn Avenue, Ealing, W.5.

## A NOTE FROM FRANCE.

[9699] I derive great pleasure in reading the B.B.J., which I have had sent out to me during the last eighteen months. I was sorry to notice that Mr. Kettle had ceased to contribute the "Dorset Yarn." I sincerely hope that he will take it up again. I am sure that the majority of your readers, like myself, have looked upon the yarn as being one of the most interesting articles in the Journal. It certainly makes one long to pay a visit to the Violet Farm and make the acquaintance of its owner.

I am sorry to say that I have lost almost all my bees through the "Isle of Wight" disease. Out of 25 stocks which I had in 1916, only one stock of hybrid Italians, which appear to be practically immune from the disease, remains, but I am hoping that I shall be able to build up my apiary again. I may say that the bees are being well looked after by my brother during my absence.

I have noticed a fair number of stocks of bees since I came out here, but most of them are kept in very small skeps, so that the harvest of honey must be small, although they should have a lot of swarms.

There seems to be a lot of bee forage about, such as rape, hawthorn, beans, and also fruit blossom, and later on there will be a lot of clover, as well as the lime trees, for them to work on. In conclusion I must wish your journal every success.—Gnr. H. Valley, R.F.A.

## THE CAUSE AND CURE OF "ISLE OF WIGHT" DISEASE.

[9700] The letter in your issue of June 6 appears to call for some comment. If you receive criticisms from others more competent to discuss the subject than I—well, let the waste paper basket do its duty.

This district has suffered severely from "Isle of Wight" disease for the last four years, but I have kept going—and hoping, and naturally have formed certain opinions.

Your correspondent again raises the old

question of a return to more natural methods. Well, the only bees in this district which have survived are in frame hives—with an exception which I will mention later—although in former years a large number of skeps were kept, and there were a good many trees containing bees. In many cases "Isle of Wight" disease was the cause of their disappearance, to my certain knowledge.

Then we are told that hybrids are generally inferior to either parent. Surely your correspondent is overlooking the fact that so-called hybrid bees are not hybrids at all! I believe I am right in saying that the result of crossing two varieties of any animal is almost invariably to produce an animal healthier and with more stamina than either parent. My experience makes me certain that Italians, and Italian "hybrids" (first cross), are very much more resistant to "Isle of Wight" disease than natives, and this seems to be the general opinion. The objections to "hybrids" are well known, and I think most bee-keepers prefer pure Italians. Yet we are to be forbidden to import them! I am, of course, aware that pure Italians are bred in this country; in fact, I have purchased three such queens this year. But I should imagine that the breeders of these must find it necessary to import fresh blood from Italy from time to time. If the bee-keeper—as distinct from the queen-breeder—cannot obtain pure Italian queens, he will not long succeed in breeding first-cross hybrids.

Now as to the exception referred to above. There are one or two colonies surviving in trees, but in every case that I know they are at least 15 ft. from the ground. Several others, low down in the trunks of trees, have gone. This suggests to me that possibly the former colonies have survived owing to crawlers, and perhaps slightly infected and weak-flying bees, failing to return to the nest and spread the infection. And this leads me to wonder if we are not doing wrong in keeping our hives on short legs, and extending the flight board to the ground.

If I may be allowed, I should like to allude to one other matter. I, too, regret to see so much space in the journal devoted to horticulture; not because I am not interested in gardening—as a matter of fact I am nearly as keen on it as on bees—but horticulture already has a large and excellent press devoted exclusively to its interests, while bee-keeping has not a large press. The JOURNAL, to my mind, is none too large to be devoted entirely to bees. The suggestion of one of your correspondents that those who do not agree with him are anxious to see themselves in print is beneath contempt.—G. R. STRONG.

[9701] Your correspondent Mr. Taylor (page 189) is not on very safe ground in his second paragraph, when he compares the hybridisation of plants and animals with the "hybridisation" (so called) of bees. Hybridisation is, of course, the inter-breeding of two *species*, whereas what we call the "hybridisation" of bees is merely the crossing of two *varieties* of *one* species.

Now, the crossing of two varieties in plant or animal life tends to strengthen the vitality of the issue, which is the opposite effect of hybridisation. Consequently, your correspondent's whole theory is based on a groundless supposition. Continual in-breeding of one family of bees is, in my opinion, likely to weaken the strain, but the continual crossing of varieties will have the other effect.

Is not this disease rapidly getting less virulent now? I think so. Can anyone else give their opinion of this? There is no doubt that this is no new disease. Is there such a thing as a new disease, I wonder?

Your correspondent's proposal on page 190 to grant permits to certain men to have control of a certain area (many square miles) is on the face of it impossible. Where would our liberty be if such things could be done? He probably would not like it in his own district—unless he was the chosen man. Besides, what about wild bees, and swarms?

I think that the conclusion that the disease will go on indefinitely is right, but not to such an extent as to in any way cripple bee-keeping—witness foul brood.

1. As to the tabulated measures suggested, the first is, I think, quite wrong in principle.

2. The second is obviously right. Only I would add, "Destroy the combs."

3. Can anyone guess what Mr. Taylor means in his third by "a slight amount of infection"?

4. What is an "immune" variety, and where is it to be had?

6. Is no doubt perfectly right—if you can get the sugar.

As to No. 11, if Mr. Taylor believes that, left to herself, Nature would soon eradicate this disease, why does he suggest all these measures?—R. B. MANLEY.

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[9702] I was much interested in Mr. Taylor's article "As to the Cause and Cure of 'Isle of Wight' Disease." I agree with him on most points, but certainly not on all. If you will permit me, I should like to give my experience of 25 years with most races of bees; but first of all I should like to deal with Mr. Taylor's item No. 1, which reads, "Have nothing to do with foreign bees."

Now, this, in my opinion, is like killing

the goose that lays the golden egg. The foreign bees have done wonders in making ours immune: in fact, the Italian and Cyprian and their crosses are all that remain alive in my district. When the disease attacked our bees around here some years ago we had nearly all English —or, rightly named, German—brown bees, and they all died with the exception of a stock or two of Italians, owned by a neighbour, and a stock of imported Cyprians owned by myself. These have lived on through it all, and to-day there are some 40 to 50 colonies, and no disease.

What would have happened if there were no foreign bees here? We should have been without a single bee.

I will now give my experience with the black bee, which is not very favourable.

Being very much against the "Yellows," I decided to give the "Blacks" a fair trial, and so procured the very best strains. I bought queens from well-known breeders, and fine ones they were, too. I expected great things when they came; introduced them successfully, and they did well, taking to the sections and starting them in a business-like manner. All went well until they had drawn out about half the combs. Then they started swarming, and I returned them to the hive; but they simply kept hanging round the doorway, doing very little in the supers.

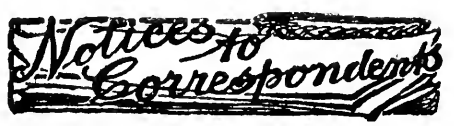
The next season I tried the plan of standing the swarm on the parent stand and supering them. They worked well until they had drawn out the body box; then they coolly swarmed in July, with the result that I had very little honey.

They were also very vicious, attacking one at quite a distance from their hive. (A friend of mine has some "Blacks" now which are so spiteful that he finds little or no pleasure in keeping them.)

Needless to say I soon turned my "Blacks" into Italians, which I must tell you, in my opinion, after ten years working them, are the best of all bees and certainly the most quiet.—A. H. B.

## BEE-KEEPING IN MANITOBA.

At a meeting of the Manitoba Bee-keepers' Association last autumn it was stated that there were no less than 10,000 colonies of bees in Manitoba in 1916, and they produced over 800,000 lb. of honey, which at the present price would mean a revenue of $100,000. Every district in the older part of the Province of Manitoba has its bee-keepers. The number of colonies owned by single individuals runs from one to 134, and the spring count shows a yield of from 7 lbs. to as high as 227 lbs. of honey per colony. The president of the Association stated that the average annual loss of bees during the winter was about 15 per cent. As a matter of fact, this comparatively low average winter loss is somewhat remarkable in view of the cold winter climate of the Province. While some bee-keepers winter their bees outside with a fair measure of success, the method generally adopted in Manitoba is to winter them in cellars. The bees are usually placed in their winter quarters early in November, when they have had their last fly for the year, but some bee-keepers prefer to protect the hives with straw outdoors until the really cold weather sets in somewhat later. The cellars have to be dark and quiet, well ventilated and free from dampness, and are kept at an even temperature of 45 deg. In his address at the meeting, the president of the Association mentioned that the first apiarist in Manitoba imported five hives of bees from Minnesota in 1875. He had very good success, but it was not until 1885 that another bee-keeper, who since then has done much to encourage the industry in the Province, followed his example.—From the *Western Morning News*.




***Correspondents desiring an answer in the next issue should send questions to reach this office NOT LATER than the FIRST POST on MONDAY MORNING. Only SPECIALLY URGENT questions will be replied to by post if a STAMPED addressed envelope is enclosed. All questions must be accompanied by the sender's name and address, not necessarily for publication, but as a guarantee of good faith. There is no fee for answering questions.***

"DUCK" (Bridlington).—*Small hive for the heather.*—We think the best plan will be to make one to suit your own requirements. Probably a single walled hive to hold five combs would answer.

"SKEPS" (Berks).—*Taking honey from skep.*—If there is a hole in the top of the skep, you could fix a small section rack on. This you can get from an appliance dealer, or you could use a small straw "cap" or a bell glass. To get the honey out of the skep the bees must first be "driven" out, say, about the middle of August, and the comb then cut out, broken up, and the honey strained from it. The bees must be either fed up on drawn-out combs, or united to another stock.

J. FLITTON (Herts).—*Getting honey from combs without an extractor.*—This is always a most unsatisfactory business. If the capping is pared off and the comb laid flat, the honey will drain out in time. When one side is drained turn it over to do the other, and do not use the knife hot enough to melt the wax, or a film may be left over the honey. Place the comb in a warm room, or near the fire. If the honey is at all dense it will take a day or two to drain out. An alternative method is to pare the comb down to the mid-rib, or cut it out altogether, break up and strain.

BEGINNER (Essex).—*Combs built across the frames.*—Place the seven combs in a box over the present brood box, putting frames of foundation, or comb, in their place, and as soon as you can find the queen on the new combs place an excluder over her; in three weeks' time you could take away the old combs. The difficulty will be to find the queen, but if the bees are well smoked at the top, or a carbolic cloth laid over the frames for five minutes, she will most likely go down.

"Bee-keeping Simplified" is 6d.; post free for 7½d.

J. R. B. BRANSON (Hants).—*Swarms taking possession of empty hives.*—This is quite a common occurrence, and "decoy" hives are often left as you describe. There is nothing to prevent anyone doing this, and the most annoying part is that infected hives and combs are so left, and thus spread disease all over a district. Leaving such hives and combs open to the visits of other bees should be made a criminal offence.

X. O. X. (Maldon), PARKER (Glos.).—*Price of honey.*—2s. 6d. to 2s. 9d. per 1 lb. jar, 3s. per section, run honey £8 to £10 per cwt., sections about 30s. per dozen.

E. M. MARINDER (Glos.).—*Using beeswax for sealing bottled fruit.*—It may be made suitable for this purpose by mixing a little oil with it. Olive oil would probably be the best.

H. A. TAYLOR (Longparish).—*Clarifying beeswax.*—Melt and strain the wax through flannel.

G. M. ROOLING (Paignton).—*Difference between fertilised and unfertilised queen.*—If the queen is laying there is no outward difference, but the unfertilised queen will be a drone breeder. A queen, before mating or laying, has the abdomen shorter and more pointed. She is also more lively. After mating eggs develop in the ovaries, the abdomen becomes more elongated, and the queen has a more "matronly" appearance. A young queen will pipe when alone. We have had them do it in a match box in our waistcoat pocket. The time between the queen leaving the cell and mating depends greatly on the weather. We have known it to be several weeks.

"QUERIST" (Edinburgh).—(1) Yes. (2) Yes. Small bees, such as the one you sent, are at times bred in "transition" cells.

E. J. DAVIES (Cards.).—Your plan will help to prevent infection, and will not harm the brood, but it may hinder the bees from entering the hive readily. A good plan is to take out the floorboard occasionally, and wash it down with the disinfectant and water.

"HENLLAN" (Cards.).—Your young queen will mate with drones from another hive. It will be quite safe to make the artificial swarm.

"VICTORY" (Derbs.).—Italian hybrid.

MISS TURNEY (Suffolk).—Italian hybrids. The combs from skep may be used in the extractor if they are fairly level, and you can manage to uncap them, but it will be a very messy job.

S. F. (Towcester).—We are afraid the bees are suffering from "Isle of Wight" disease. It attacks the old bees first; therefore, it is no uncommon thing for a swarm to show symptoms a considerable time before the parent colony.

"HUGH" (France).—Norfolk is a good county for bee-keeping, and we think you would find Cromer or Sheringham good districts.

*Honey Samples.*

J. E. JAMES (South Wales).—The grittiness is simply the granulation, and the flavour is due to slight fermentation. The honey will be improved by melting down again.

S. BLACKETT (Hindhead).—The honey can hardly be called unripe, but the density is poor. If it is exposed in a ripener in a warm room for a few days it will improve very much.

*Suspected Disease.*

J. D. (Kent).—We do not find any disease, but spraying would tend to prevent infection.

G. HENLEY (Cowes).—We have two lots of bees with no name attached, and in one case the post mark cannot be made out. These are in a match box, and are affected with "Isle of Wight" disease.


## SEASONABLE HINTS.

The weather just now is not ideal from the bee-keeper's point of view, and nectar is coming in only very slowly. In some districts the quantity being brought into the hives is barely enough to keep the bees going. It is well to keep an eye on newly-hived swarms, as, having no combs of stores to fall back upon, they may be short of food.

In those localities that have been favoured by much-needed rain and warmth, more supers should be added, as those now on become two-thirds full. If sections are being worked, they should be removed as soon as a rack is completed, or nearly so. If one or two of the outside sections are not quite finished, they may be put in another rack and returned to the hive.

Combs from stocks that have swarmed, or have started queen cells, may be utilised for making nuclei for rearing young queens. A good idea is to have a nucleus hive, to hold four combs, for each hive. When the hive is becoming crowded a nucleus may be made from it, and for the purpose of rearing a queen for re-queening after the honey-flow it should stand in front of the hive, and a little to one side to be out of the flight of the bees. The operation may be deferred until queen cells are started, and a comb containing one, situated towards the top if possible, placed in the centre of the nucleus. Should it be desired to rear the queens from any particular stock, a comb with queen cell may be taken from this and put in the nucleus, the bees being first brushed off, or the queen cells may be cut out of the combs and fixed in nuclei. If there are no queen cells in the stock desired, they may be obtained from it in several ways. One or two combs and the queen may be taken away and put in a nucleus hive permanently or for a few days, and the cell walls surrounding a few eggs that are in suitable positions in combs in the now queenless colony, may be broken down in order to induce the bees to use them for queens; or, three or four days after making a nucleus, all the queen cells that are started in it may be destroyed and the centre comb exchanged for one containing eggs from the breeding stock, the bees being shaken from both combs. It is well to look the nucleus through again about four days later, and destroy all queen cells on the other combs. Other methods of obtaining queen cells from the breeding stock may suggest themselves. If up-to-date methods of artificial cells and transferring larvæ are to be followed, get a copy of Sladen's "Queen Rearing in England," and follow the instructions there given; but the foregoing methods will suffice where only one or two queens are needed. The easiest way of re-queening is to buy a queen, but there is much more interest in rearing and introducing one's own queens from selected stocks than in merely buying a queen from someone else and introducing her.

Take all possible precautions to ward off disease. Keep the hives supplied with disinfectants, and it is a good plan when a stock has to be opened up for any purpose to spray brood combs and bees with one of the remedies for "Isle of Wight" disease; also keep a sharp look out for any brood disease or wax moth. If the silky covering to the tunnel of the large wax moth larvæ is noticed on the capping of the brood, a gentle prodding along the line will disclose its position, when it may be caught between the point of the knife blade and the thumb. Kill all the moths possible; they may be seen at times towards evening hovering near the hive entrance trying to gain admittance in order to deposit eggs.

## BRITISH BEE-KEEPERS' ASSOCIATION.

The monthly meeting of the Council was held at 23, Bedford Street, Strand, London, W.C.2, on Thursday, June 20, 1918.

Mr. G. R. Alder presided, and there were also present Messrs. M. D. Sillar, W. H. Simms, F. W. Watts, J. Smallwood, J. Herrod-Hempsall (Association representatives), Capt. Lord (Kent), E. Ff. Ball (Bucks.), J. Rae (Essex), Rev. A. C. Atkins (Sussex), and the Secretary, W. Herrod-Hempsall.

Letters of regret at inability to attend were read from Messrs. T. W. Cowan, W. F. Reid, T. Bevan, A. G. Pugh, A Richards, G. J. Flashman, C. L. M. Eales, F. W. Harper, C. Swan, and Major Sitwell.

The minutes of Council meeting held on May 16, 1918, were read and confirmed.

The following new members were elected:—Lady Katharine P. Bouverie, Lady Pelly, Mrs. D. Stevenson, Mrs. M. A. Doggett, Miss M. M. Doggett, Miss Atkinson, Sir E. W. Moir, Bart., Major E. H. Wilkinson, Capt. C. C. Lord, Dr. A. Z. Abushâdy, Messrs. D. Stevenson, P. J. North, R. I. Mable, E. Coomber, C. F. Pool, and F. Holland.

Life Member:—R. F. Nicholson, Esq.

The following Associations nominated

representatives on the Council, and all were accepted:—Hertford and Ware, A. Wilmott; Warwickshire, J. R. Ingerthorp; Lincolnshire, F. W. Frusher; Northumberland, W. Sanderson; Cheshire, N. G. Bailey.

The report of the Finance Committee was presented by Mr. J. Smallwood, who stated that payments into the bank for May amounted to £24 18s. 4d. The bank balance on June 1 was £167 15s. 3d. Payments amounting to £60 12s. 6d. were recommended.

The report on preliminary examinations held in Bucks. was presented, and it was resolved to grant a certificate to J. R. Valiant.

A resolution sent to the President of the Board of Agriculture by the Leicestershire Association pressing for legislation for bee diseases was read.

Applications for preliminary examinations by the Kent and Staffs. Associations, also one at Hinckley, were granted.

Next meeting of the Council, July 18, 1918, at 23, Bedford Street, Strand, London, W.C.2.

## A DORSET YARN.

At Wimborne market on Tuesday there were some first-class sections for sale. They were from the apiary of Mr. Butson, of Wimborne. His Italians are doing fine this season. To put a stop to them swarming from one hive, he has given two extra brood chambers; as one is filled with brood, he has placed beneath it another, which was quickly taken to by the queen, and it has given him stocks with huge populations, and as a sequence plenty of surplus honey. I have written before of the wonderful egg-production of the queen bee, but am still amazed at her marvellous fecundity.

Mr. Butson says he likes lime honey best. Well, he is close to huge lime trees and should have plenty of it this next week or two, for many of them are of great size and covered with blossom. There were some estates in the years gone by which planted this tree in quantity. One does not see anything like it now, nor shall we again, as our land will be made more of by the tiller of the soil, and trees will be largely crowded out, and food for man and beast will be spread over the earth's crust far more than it has been.

It has not been a favourable week for the bees on our farm; sometimes quite cold, and in some places frost enough to spoil the potatoes. In the low-lying valleys close to the river bees are largely on the many umbelliferous plants that grow by the sides of fields and hedgerows—one particularly, that boys seek after to feed rabbits, I cannot tell its correct name. They are not working the clover so much with me; as I cut some each day for the horses, it is easy to see that there are not many bees on the flowers. There must be some forest trees in blossom that take them away from it. Work is so engrossing now one cannot leave the farm for long. This year one has to send the fruit by boys, but the largest cheques are for honey. A few dozen sections do not take up much room in the van, but the value is much more than gooseberries. This year I have not time to paper the sections. Just clean off the propolis with a sharp carving knife, and pack closely with strips of cardboard between the rows. The traders are only too glad to get them; they do not look so much at the finished article, though there is no doubt that the sections with grease-proof paper over them are best, as it keeps off robbers from them in the shop windows, besides keeping off dust, and possibly microbes. Still, all this must wait for better times.

One of my soldier sons writes of France. He has been in the Champagne country for this last few months. He says "it is a very productive part of France," and just now is being over-run by the German hordes in their assaults on the heroic French people. One would like to see this country of vines when the grapes are ripe, but all this must wait till happier times, "when wars shall be no more."—J. J. KETTLE.

## PLAYING THE GAME.

By J. PRICE.

When history is written on these eventful years during which the scourge of "Isle of Wight" disease played such havoc in the apiaries of Great Britain, I wonder what some future Mr. Smallwood will glean from present-day bee journals, and consider to be the most interesting points which will appeal to the bee-keepers of the next generation? Sometimes I fancy that they will smile at the absurdity of many of the remedies that were first applied, and are even now a thing of the past; but it may be that they will also be amused at the thought that even the latest things which we are using should have appealed to us at all. I am convinced of one thing—that there yet needs something far more beneficial than we have at present, whether it be in the shape of some system of treatment or application of some drug I cannot say.

At the present time we are labouring under difficulties that probably will not be tolerated in the near future. How can we expect good results from anything so long as one's neighbour allows old combs to remain on which bees have

died of disease? These are constant sources of re-infection, and are an attraction to bees at all times of the year.

This is undoubtedly a great difficulty at the present time, and is a very unfair test to any remedy that may be applied.

I would remark that this does not necessarily mean that cottagers or skeppists alone are the culprits. My experience is very different; usually these persons are scrupulously clean.

To be frank, it is persons usually well educated, at any rate sufficiently educated to know better, and the very first persons that would protest against the retention of the dead carcass of any small animal, such as the body of a cat or dog. Yet it appears to me that the keeping of hundreds of dead carcasses in the shape of bees which have died from an awful disease can be overlooked. On my rounds I find many excuses given. Usually it is lack of time in these busy days; sometimes it appears to be a case of retention with the view of attracting stray swarms, which is not right. Yet what other conclusion can I come to when I find that stray swarms have been secured this way; but I am more annoyed when I find that these very same persons, having secured one stray swarm, will not then take the trouble to remove the contents of the other filthy hives, and give these bees a chance of living.

I am no advocate of using decoy hives for attracting stray swarms. I claim that absconding bees always have been and always will be, for the simple reason that it is natural; and I see no reason to blame anyone that is fortunate enough to secure one, however disappointing it may be to the owner that lost them.

The objection I have is that, while Nature is certainly trying to right herself, there are persons that upset her aims by luring them into diseased habitations. Quite recently I came across a working man who became possessed of two swarms in this way last year, and now they are crawling all over the place, the result of being housed on infected combs.

To me it is quite clear that these bees were healthy last summer, and if they had been treated properly by the new owner, they would have been healthy to-day.

Another case I will quote. Three persons in one village who had previously lost their bees by disease, and had made a clean up, each secured a stray swarm the same summer. Their owners are now the possessors of healthy bees, and are proud to reflect that they cleaned up before the new bees came.

I do believe that it is the fault of beekeepers that the prevalence of disease is prolonged, and if every reader of the BEE JOURNAL would make up his, or her, mind not to tolerate the keeping of any old combs, even for a single day, although there may be some doubt as to whether the bees died of disease or not, we should soon see an improvement in our bees.

It is possible that someone may question this statement; that it is doubtful whether old combs retain the disease or not. I am not out for arguing one way or the other. What I do maintain is that combs on which bees have once died are not fit things to put fresh bees on, especially when we expect their produce (honey) to be a food for us; and they certainly have been known to produce the disease again. The issue is clear. Is it fair to the bees to place them on old combs? Does it pay in the long run? And is it "playing the game" by treating our bees in this manner?

I fancy I hear the reply No! No!! No!!!

Let everyone then decide on a cleaning up in their own apiary; use as much persuasion as you can to get your neighbour to do the same. In the latter case sometimes a little offered help in these busy days goes farther than a lot of talk; and I am convinced that if this is done thoroughly the bees will do the rest.

## BEE-KEEPING IN DEVON.

In days of yore Devon was noted for its cream and honey. The former, alas! is only procurable nowadays on a medical certificate for invalids and children; while the latter is conspicuous by its absence. No longer do Devon villagers point with pride to their "butts" or beehives, ranging from wooden tubs or skeps to the latest up-to-date dovetailed hive, so great have been the ravages of the dreaded "Isle of Wight" disease, making a clean sweep of the bees in the countryside. On Monday evening, June 10, a small but enthusiastic audience, presided over by the Mayor of Tiverton (Mr. A. T. Gregory), assembled in the garden apiary of Mr. C. L. M. Eales, a retired Anglo-Indian Judge (whose apiary is a model of how bee-keeping should be carried out, its excellence bringing forth commendation and great praise from the lecturer, who advised his audience to go and do likewise), and listened to a lecture on bee-keeping from Mr. W. Herrod-Hempsall, secretary, lecturer, and expert of the British Beekeepers' Association. With his usual felicity of phrase and clearness of expression the lecturer brought home to his hearers (who ranked from the wife of the greatest local magnate to the village postman, and many of whom had "loved and lost" their bees)

the most practical and economical methods of modern apiculture, enabling them in this time of stress and scarcity to produce the oldest and most efficient substitute for sugar. After explaining the construction of the well-known and well-tried W.B.C. hive, the lecturer manipulated a small stock of bees and demonstrated by the negative method that bees may be kept in close proximity to a dwelling-house with perfect safety to its inmates and their friends and visitors. After the lecture was over Mr. Herrod-Hempsall answered a large number of questions fired at him by his auditors of both sexes, many of whom appeared to have caught the "bee fever" in a pronounced form. Luckily both for the lecturer and his audience, a calm and sunny evening followed on a windy and showery forenoon, and thus helped to put the seal of success on a most instructive and enjoyable lecture. With the usual votes of thanks the proceedings terminated.—*Communicated.*

## OUR FIRST BEES.

(*Continued from p. 205.*)

We kept our newly taken bees all night as it was dark when we arrived home with them, but we had the foresight to gently raise one corner of the sacking and put in a piece of candy for them. Next morning we were faced with the problem of hiving them in a proper movable frame hive. The guide book described two ways. One was to throw the bees on a sheet before the hive, when they would walk in. As we had not found them so good at "walking in" the day before, we decided to try the second method, which was to open the top of the hive and invert the skep over the top of the bars. Well, we smoked them through the top of the sacking to subdue them. By the ensuing buzz we guessed that they were anything but subdued. In fact we did not remember till afterwards that smoking is done in order to frighten the bees into feeding themselves, after which, like most human beings, they are easier to manage. As there was no food in their skep but the tiny piece of candy of the night before, of course our bees were not subdued. Then we inverted the skep with the sacking still on, then untied it and withdrew it, thinking that the bees would drop into the hive. No such thing! They clung in thousands to the sacking! Oh! why hadn't we removed the sacking before inverting the skep! Would they have taken wing? At any rate they did now. With an angry buzz they flew into the air glad of release and eager to revenge their captivity. Very viciously they buzzed at our veils, stung our sleeves and gloves till we began to look like budding hedgehogs with discharged stings sticking out of our clothing. Ah! I had heard that if a swarm would not settle it was good to squirt water into the air. I ran and got the garden syringe. Certainly it had a momentary effect, though some poor bees looked so drenched that we feared they would never rise again. There seemed to be nothing to do but to leave them, though we were in a great state of anxiety lest they should sting the neighbours or abscond after all our trouble, yet at times we half wished they would fly away. At half-hour intervals we peeped out, but still the angry crowd of bees was surging about, and it was positively dangerous for anyone to venture near them without protection. At dusk we gave a last look. All was quiet. They had actually gone in at sunset, and we thankfully covered them up for the night.

This year we have entered into partnership, and are now the proud possessors of three hives of bees, and members of a County Bee-keepers' Association. We often laugh over our mistakes, but what we lacked in method we gained in confidence. *Experientia Docet*, is as true to-day as it ever was.— H. A. Y.

## BEE-KEEPING.

An Essay read at a meeting of the old Crayford and District Bee-keepers' Association (now Kent Bee-keepers' Association), November 22, 1915.

*By W. H. J. Prior.*

It is with apologies that one, who would not for a moment pose as an expert, presents an essay on the subject of bee-keeping. Having been put to it, however, by the challenge thrown out by our secretary, one can at least put forward his experiences after two years at the craft, in the hope of showing the errors an amateur may drop into, his possible difficulties, and the desirability of obtaining all the practical assistance possible.

On the occasion of one of my rambles into the country I came upon a beautiful garden containing a dozen hives of bees, and could not help thinking that its picturesqueness was largely due to the happy manner in which the hives were dotted about here and there. The owner being found, I ventured to remark: "I see you keep bees," to which our friend replied, "Well, no, sir, rather t'other way 'bout; them has't help to kep me." I have never regretted the conversation with that man; he was an enthusiast, to say the least, and I

have to thank him for having first interested me in the subject and showing me a hobby which has afforded me much health, pleasure and recreation.

I took my friend's advice, and read books on the subject, and began to feel quite an expert. The BEE-KEEPERS' JOURNAL was brought to my notice, and, having a copy in my possession whilst journeying in a train one day, the curiosity of a gentleman was aroused, who asked if I was interested in bee-keeping. More interesting conversation on the subject, and another enthusiastic friend.

Now I find myself persuaded to become a member of a bee-keepers' association and attend meetings and lectures. I am at last persuaded, too, to make a start in actual bee-keeping, and, in spite of all I had read, all the good advice I had received, my first step was an error. I gained possession of three hives of bees from a man who had during the previous year lost all his bees by "I.O.W." disease. One of the hives contained a strong stock ready for supering; it had been captured early and was a stray swarm. I bought his stock-in-trade, including supers, sections, foundation, smokers, feeders, quilts, etc., for the sum of 15s. This was in June, and my idea was that even allowing that I might subsequently lose the bees by the disease I should, at any rate, have a super of sections off first, and my loss would not be great.

Well, I supered the "animals," but could not persuade them to enter the super. I appealed to my friend for advice, who came along and suggested it would be better to try increase by making an artificial swarm. This, with my friend's assistance, was done, and everything seemed to go on well; so well that I intended further increase, when, lo! one bright morning there were "crawlers" on the ground about hive No. 1. The force of my folly now began to dawn upon me seriously. Again I call my friend—"I.O.W." is pronounced. I am advised to smother the lot and burn frames, quilts, and all, to disinfect the ground about the hive, and the hive, and hope to save the lot in hive No. 2. That hope soon vanishes, however, for symptoms of the disease speedily develop here too, and there remains nothing to do but to burn this lot out also, and the rest of the "gear." Net loss, all the bees and paraphernalia, including new frames and foundation.

The loss of the bees grieved me most. I could not bear the idea of smothering the little workers, toiling away in spite of the dread curse gradually overcoming them. But what a gain! I had learnt by experience now what the risk of the disease meant, and, as my friend told me, my experience so far had been cheaply bought.

Many, of course, would say I was asking for trouble. Well, as I have said, I thought I was on something good—that the bees being so strong when purchased could be supered at once to yield at least one rack of sections and cover their cost. As it happened, I got no honey, spent time and money, and had got everything in the place contaminated.

Experience had taught me these essentials:—Start clean and with a stock preferably from one whose bees you know have been immune for two or three years; study the district from which you purchase, for there is no certainty in obtaining bees from a stranger who perhaps cares little whether there are symptoms of the disease in his apiary or not. There are some who, I am sorry to say I have already learnt, are always anxious to sell their bees, and you also, if you are not wide awake.

"Start clean," I said, and I feel sure no one can improve on the advice always given, to have brand new hives. But failing that, for the sake of your fellow-bee-keepers in the district, as well as for your own sake, see that any hives you are about to use, which have been used before, are thoroughly disinfected.

After my loss I thoroughly scrubbed my three hives with strong hot soda water and a brush, and, when fairly dry, thoroughly scorched the interiors with a painter's lamp and disinfected with a solution of carbolic and water applied with a brush. This was in the autumn of the year, and before starting in the spring of this year I thought I should do no harm by giving them another cleansing. (They had still the taint of the carbolic applied in the autumn, although they had stood through the winter.) So I gave them another scrub with strong hot soda water, and they were exposed to dry thoroughly. My neighbour next door watched me scrubbing in the autumn, and scrubbing in the spring, and was so kind as to remark that my bee-keeping seemed to consist of scrubbing out hives, and wasn't all honey. Let's hope I'll yet be able to present him with a section of honey.

Now, then, three well-disinfected hives, everything else burnt. The hives also painted two coats of good white lead paint and put by for the winter, and with this I congratulate myself on my first year's experience, and the lesson gained.

*(To be continued.)*

## CORRESPONDENCE.

*The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.*

### FLAVINE AND "ISLE OF WIGHT" DISEASE.

[9703] I do not agree with setting one article off against another, but in the B.B.J. of June 6 Mr. Charles Rawson asks if anyone has failed to cure "Isle of Wight" disease with "Flavine." I only tried it on one apiary of seven stocks last year, and they all died, although the instructions were carried out to the letter, but I have not had a single case of relapse among those I treated with Bacterol.

Please note: This letter is in answer to an inquiry.—W. J. GIBBS.

### NUMBER OF FLOWERS VISITED FOR ONE POUND OF HONEY.

[9704] In reply to Mr. Donkin, it would appear that the writer of the magazine article he quotes has given a very loose rein to his imagination. Professor Planta, of Zurich, a bee-keeper and a celebrated chemist, found that about 190,000 sanfoin flowers would yield 1 lb. honey. Rhododendron hirsutum would give 1 lb. of honey from about 75,000 flowers. The statement in the magazine article that it required 219,000 flowers to produce 1 oz. of honey, *i.e.*, 3,504,000 flowers for 1 lb. of honey, would, indeed, demand a colossal industry of our little workers.

The secretion of nectar varies enormously in different varieties of flowers. There are some tropical flowers which yield far more than a bee can carry; hence, when gathering from such flowers, the bees would only visit one on each journey. It has been found that during a good honey flow, 10,000 bees will bring in 1 lb. of nectar on each journey, which means that each bee carries about two-fifths of its own weight of nectar. A soldier, who weighs 10 stone, carries two-fifths of his weight when in heavy marching order, but when carrying this load he does not feel at all like flying.—W. B. WALLACE, Lieut.-Colonel.

### EXPERIENCES WITH "ISLE OF WIGHT" DISEASE.

[9705] My experiences with two of my stocks of hybrids may be of use for the following reasons, and the main reason seems a cogent one. Had I been a novice in the craft, or more inclined to sharp practice than I am, I could have done irreparable injury to a whole district of bee-keepers. Four stocks came through winter strong and well, and two of these are doing splendidly at the present, though one has given off more swarms than I wanted. The two others showed unmistakable signs of "Isle of Wight" disease when the spring flying really began. I treated with Bacterol in the one case, and Dioxogen in the other, but the results were not very successful. As there is a large upland district in this parish well outside the radius of any bee-flight. I decided to isolate the two affected stocks, and did so. The two stocks apparently have lost all signs of "Isle of Wight" disease; at least, there are no crawlers, and they have swarmed. I poured in some undiluted Bacterol into the back of each hive, a very rough-and-ready experiment, but I thought the volatile principle of Bacterol might effect something.

The three swarms caught seemed perfectly healthy, and two vigorous ones; the best of the lot were lost, as I could not reach them in time. One of them had clustered about a mile from the hives. I can hardly doubt it was one of mine, as the few bees remaining showed the hybrid bands, and no other bees are kept in that part of the parish. Now my reason for giving this experience comes in. The first swarm, about a week ago, began to show plenty of crawlers, and does so now. As the parent hives had apparently become healthy and the swarm was a strong one, healthy to all appearances, I might have sold it—and the result—a few weeks, and "Isle of Wight" disease in the purchaser's apiary. But how easy for an inexperienced person to have done this.

It seems that no one should start bee-keeping at this present time unless there is a guarantee that he or she will not act apart from the advice of an experienced bee-keeper, one, above all, who has had experience of "Isle of Wight" and other diseases. The shock, disappointment, and pain of 1915, when I made a bonfire of frames, quilts, combs, etc., is indelible, and has, I hope, made me sensitive on the side of care and precaution towards my fellows in the craft.

The second reason for which I write is the apparent throwing off of symptoms in

the parent hives. Does treatment show results after a time or immediately?

In 1915 the swarms showed the disease at once. It was my best hive, teeming with bees and brood, which threw off two swarms within three or four days, and these swarms were badly affected at once.

In the present case my swarm did not show any disease for about 14 days. I am just about to try Flavine. I should like to know whether Flavine as fed or sprayed is the more effective.—C. F. BURGESS, Wanborough, Wilts.

## CAUSE AND CURE OF "ISLE OF WIGHT" DISEASE.

[9706] In letter 9700, by Mr. Strong, I am sure your correspondent is right about our hives being too low, *id est*, on too short legs. But this cannot very well be helped, as if we have the legs much longer the top supers will be very awkward to deal with. I find mine quite high enough now. But to extend the flight boards to the ground has always seemed to me to be the very limit of unnecessary risk. Despite all that is said, this saves very few bees that are strong and healthy, for even if they miss the flight board when returning loaded they almost invariably get up again after a moment's rest, and if they are so weak as not to be able to do this they are best out of the hive and dead.

I think your correspondent's point of the bees high up in trees surviving is a very strong one.—R. B. MANLEY.

## METAL ENDS.

[9707] It may interest Mr. F. Heath (9664) and other readers of the BRITISH BEE JOURNAL to know that I have successfully kept bees for over thirty years without using metal ends, or any device for spacing combs. The eye and hand should soon get accustomed to spacing combs correctly. I have, of course, given metal ends a good trial, and they are no help to me, but a considerable hindrance. They may be most useful to beginners and others who have a difficulty in quickly spacing their combs. In supers they would be absolutely useless to me, as I space my combs to get fat ones weighing 8 to 9 lbs., such as I have had this year. I have had 44 hives working without metal ends in a season, and so far as I can remember I have never had a brace-comb in the brood chamber. But I get them now and then in the supers.

The productiveness of the Violet Farm in delightful articles greatly enhances the value, in my opinion, of our excellent Journal.—R. T. SHEA.

# Notices to Correspondents

***Correspondents desiring an answer in the next issue should send questions to reach this office NOT LATER than the FIRST POST on MONDAY MORNING. Only SPECIALLY URGENT questions will be replied to by post if a STAMPED addressed envelope is enclosed. All questions must be accompanied by the sender's name and address, not necessarily for publication, but as a guarantee of good faith. There is no fee for answering questions.***

A. P. S. (Sussex).—*Combs in two supers joined together.*—This will happen at times, especially when honey is coming in fast. Placing combs in top super at right angles to those below will probably prevent it.

"DRONE" (Aberdeen).—*Dead and dying drones outside hive.*—Probably stores are running low, and weather unfavourable, so some of the drones are being killed off.

R. F. KEASEY (Cheshire).—*Queen disappearing.*—The bees were most likely disastisfied with the queen and have superceded her, or she may have met with an accident.

M. M. SHAW (Hereford).—*Flowers for bees.*—Better plant early spring flowers, such as Crocus, Snowdrop, White Arabis, etc. You will find useful information in the articles "The Bee Garden." Do not plant tall growing subjects in front of the hives.

H. EVANS (York).—*Effect of Bacterol on brood.*—The Bacterol will not harm the larvæ, but the solution should be used warm. Two teaspoonfuls to a pint of water.

R. O. TRONHAM (Biggleswade).—The drone had mated with a queen

MRS. M. L. CHAMEN (Brentwood).—There is no need to buy another swarm. If your own bees swarm you could requeen the swarm with a queen from a distance, or of another race if you prefer that.

"WYVERN" (Kent).—See reply to "X. O. X" last week

"RELTUB" (S. Woodford).—(1) The very best thing you could have done. (2) As soon as the limes are over. (3) Yes, by feeding liberally (4) Mr. G. R. Alder, 7, Bulwer Road, Leytonstone.

K. KENDALL (Spilsby).—Honey is mainly from fruit, and is first-class quality. See reply to "X. O. X." last week.

The bees would probably be covered with pollen.

The queen should be able to get out at the bottom of spiral queen cell protector, the opening being closed by a small square of celluloid, or tin, until the queen is to be liberated.

*Suspected Disease.*

G. B. S. (Poole).—The bees are suffering from "Isle of Wight" disease. The small lumps are dirty wax, but we are unable to account for their presence.

C. ROYDS JONES (Leicester), G. HENLEY (Bishopsteignton).—The bees are affected with "Isle of Wight" disease.

W. S. (Bramley).—The comb contains odourless foul brood.

MRS. LEWIS (Beckenham).—Death was due to starvation.

C. B. LINDSAY (Horley).—We have examined the comb carefully, and there is nothing at all wrong so far as we can see. If you can tell us what caused your suspicion we shall be better able to advise you.

## Special Prepaid Advertisements.

**One Penny per Word.**

*Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.*

*Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.*

WANTED, a Cast, or Nucleus, of Italians at once; must be healthy.—SINCLAIR, Klondyke, Glenboig, Lanarkshire. f.57

WANTED, healthy June Swarms, or Nuclei.—ROBARTS, 23, Oliver Grove, South Norwood. f.58

WANTED, back numbers of JOURNAL, with chapters on "A Wonderful City." Could return.—J. KNELLER, Penrhyn, Bangor, North Wales. f.59

QUEENS.—Fertile Italian Hybrids, 1918; price, 6s. 6d.—HOSEGOOD, 7, Purley Park Road, Purley, Surrey. f.60

WANTED, second-hand Extractor, Ripener, Lawn Roller.—State full particulars and lowest prices, RECTOR, Llanfair, Henllan Cardiganshire. f.61

FOR SALE, good, light Honey; samples, 3d. each.—W. A. TALL, Manea, Cambs. f.62

FOR SALE, three 4-dozen 1 lb. bottle joiner-made Travelling Boxes, wood divisions, lock, three for 24s., 8s. 6d. each; three 1-dozen 1 lb. bottle Travelling Boxes, one 2s. 6d., two 1s. 6d each; Tin Feeder, 6d.; 1-dozen Section Travelling Box on springs, 2s. 6d.; seven glazed shallow frame Show Cases, 1s. 9d. each; 17 Section Racks, 1s. 4d. each; 42 metal Section Dividers, 3s.; zinc Queen Excluders, 10d. each; 1 dozen Hives, two lifts, 10s. each; Shallow Frame Racks, 1s. 4d.; 30 Shallow Frames, drawn combs, wired, 3d. each; or exchange.—F. SOFTLY, Letchworth, Herts. f.63

FOR SALE, 1918 Fertile Queen, 10s.—MR. LAMB, 7, Redbourne Avenue, Church End Finchley, N.3 f.64

FOR SALE, Hybrid Italian and Hybrid Carnolian 1917 Queens, 5s. 6d. each; guaranteed disease free. Re-queening stocks.—Box 38, B.B.J. Office, 23, Bedford Street, Strand, W.C.2. f.65

WANTED, at once, few clean Swarms, or Stocks, to restart my 50 hives again Hybrids preferred.—BURGOYNE, Assistant Overseer, Lyonshall, Herefordshire. f.66

STRONG, healthy Swarm wanted immediately; also Extractor and Ripener. — C. WADSWORTH, Stairfoot, Barnsley, Yorks. f.67

LIGHT Cambridgeshire Honey, in 14 lb. tins, 2s. lb.; tins returnable.—R. WHITTING, Manea, March. f.68

FOR SALE, good Stock of Bees in bar-frame hive; fine breeding and honey gathering strain; price £5. 25 per cent. discount if removed by purchaser.—FISON, Rawdon, Leeds. f.70

WANTED, June Swarm from healthy stock.—RECTORY, Llangammarch Wells. f.71

FOR SALE, two single Conqueror Hives, nearly new, well built, last a life-time, fitted with brood chamber for 12 frames standard and three boxes shallow, price £2 10s. each on rail; also one double, ditto, £3 10s.—HEWETT, 5, Owens Road, Winchester. f.72

WANTED, Geared Extractor; good condition. —Particulars and price to NELSON, Great Blakenham, Ipswich. f.73

NUCLEI.—Can book few 3-frame Nuclei, hybrids, for delivery now onwards, £2 2s. each, carriage paid.—NELSON, Great Blakenham, Ipswich. f.74

FOR SALE, two Neighbour's straw-cane worked Hives, with three glass observatories, thermometer, and floorboard, complete, as new. Will exchange a strong, healthy swarm.—GEO. LEDGER, Weybridge. f.75

BEES FOR SALE.—Surplus stock. Hybrids, Italian-Carniolian cross, or Italian-Dutch, 10s. per frame, 1917, or tested fertile 1918 Queens. Cash with order.—PENZER, Kingswinford. f.76

IF we had not been sure we had a message of hope for discouraged bee-keepers we should not have sent out free samples, nor advertised all through the winter. It would have been easy enough to have put ½d. worth of Flavine into a bottle and to have joined in the "cure" chorus. Eventually you would have had to buy it, and at our own price. Instead of that it has been given to you—without money and without price.—S. H. SMITH. f.77

FOUR W.B.C. hanging frame Section Racks, complete, without sections, 5s. 6d. each; Sections and full Sheets, 3s. 6d.; carriage extra. Clean, healthy.—W. WOODS, Normandy. f.79

1S. DOZ. PLANTS.—Crisp's Perennial Broccoli, five to nine large heads for years, greatest cropper known. Photo showing three years' crops free. Leeks, Onions, 1s. 100.—CRISP, Fordham, Colchester, Essex

**W.B.C.** HIVES wanted, good condition; also strong Stocks.—68, Ridgmount Gardens, W.C.1. f.56

DUTCH BEES.—Stock, or Swarms, wanted Must be guaranteed free from disease.—Full particulars and price to C. E. RICHARDSON, Finbat Works, Aizlewood Road, Sheffield. f.52

### BUSINESS ADVERTISEMENTS.

**1½d. per word.**

COMFORTABLE APARTMENTS for Brother Bee-keepers visiting Douglas. Terms: Tea, bed, and breakfast, 3s. 6d.; or full board, 6s. per day.—HORSLEY'S, Merridale House, top of Castle Drive, Douglas, Isle of Man.

STRICTLY BUSINESS.—A free sample Flavine and the Circular for a stamped, addressed envelope; 6 packages, 6d.; a copy of "Intensive Bee-keeping," Chapters I.—VI., 1s. All the above and a Japanned Sprayer 6s.—S. H. SMITH, 30, Maid's Causeway, Cambridge. f.78

WANTED, Extracted Honey, Sections, Beeswax.—NORTH, Cressing, Braintree, Essex. f.69

"ISLE OF WIGHT" Disease permanently cured. Tested four years. Solution and directions, 2s., post free.—PRESSEY, St. Elmo, Coulsdon. d.73

QUEENS.—Fertile, 12s. 6d.—PRYOR, Breachwood Green. f.80

HONEY.—Wanted, any quantity of guaranteed PURE ENGLISH HONEY extracted this season. Must be clear and of good colour.—Please send samples to JOHN TRICKEY & SON, Produce Specialists, "A.M." Dept., Hillfarrence, Taunton, stating lowest price delivered to Norton Fitzwarren Station, G.W.R.

**HONEY AND BEESWAX PURCHASED.**
Run Honey in bulk. Sections per gross.

**HONEY FOR SALE.**
Cuban, Californian, English, Irish.
Free tins and cases, carriage paid. Cash with order. Samples, 3d. Prices on application.
**A. GORDON ROWE, 28a, Moy Road, Cardiff.**


## BEES AND POTATO SPRAYING.

During the time of potato spraying last year, several of our readers were under the impression that their bees were poisoned by collecting the spray. Judging from our own observation, bees visit the potato flower very little, if at all, but during dry weather they may, when needing water, collect the spray from the foliage, or may collect moisture from it when a shower follows after the spray has dried, and thus be poisoned. Owing to the good offices of a friend, we have the opportunity of having some bees that have presumably died from poisoning analysed, but not less than a pound weight of bees are necessary, as each individual bee would contain so little of the poison it would be impossible to detect it. We shall be pleased if any bee-keeper who has reason for thinking his bees have been poisoned will send some on to our office, the only condition being that there must be good grounds for the presumption that spraying is the cause of the trouble. Neither the analyst nor ourselves want pounds of dead bees dumped on to us that have never been near any spray.

## A DORSET YARN.

Bees are now working their hardest, and what they are getting their stores from is a mystery to me, the hedgerows are full of flowers of blackberry, but the number of bees on them is not great yet; it must be the limes and some other forest trees that are now in full bloom. As one works in the fields one can hear them in their swift flight overhead. Have not been able to leave the farm for several days, but I know it is not clover, for so few are on it when it is cut by the scythe for the animals; our land has such a lot of white dutch in it, as have all the dairy lands close to the river, but the great attraction to the honey gatherers is away from the farm.

Day after day visitors come to see the farm. On Wednesday from Hants, and Thursday Mr. and Mrs. Avery, of Longbridge Deverill, in Wilts; he motored over for strawberries, gooseberries and black currants; his knowledge of bees is extensive, and he has been for many years a practical and successful bee-keeper. He has found that bee breeding is very profitable, the demand for nuclei is very great, even round this neighbourhood 20s. is given for small swarms. One of my neighbours, who works on the railway, and is away all day, has sold them at that price. I hived them for him in his absence, so knew the size of them; it is good to see so many are taking up the industry, let them take up land as well and their lives will be all the fuller, all the happier for doing so; there is so much pleasure in following the rotation of crops, pleasure of production in all kinds of animals, and then the bees with their wonderful economy, as well as their great power of increasing their population.

I find, also, that visitors always take more interest in the hives on our farm because of the glass over them, as they can see the bees, and the bee-keeper who goes round each day can see how fast the sections are being filled, even with fresh swarms on bars, a small piece of glass over a hole in quilt will let one see that they are making progress; then the blacks, Italians, and hybrids, all show their marking through the glass, and add to the interest of the whole.

The bees that are in the roofs of houses do not seem to get the disease as do those in modern hives. Those for years in old trees are exempt from it, there has been one in a gentleman's grounds adjoining our farm, very strong, it has been there many years; it swarmed last week, a large skep nearly level full of bees. They were somewhat fightable when I hived them; there were stakes and stones near to them as if the men had tried to drive them away before they sent for me. These are a kind of rusty black in colour, they all streamed into the hive after they were jerked out on to the sheet in the front, just as if they had come out of a bar hive instead of a hollow tree, some distance from the ground.

Bees have been in the roof of the mansion of the same owner for many years, but have not been known to swarm; there is plenty of room for them to build comb and store honey each year, so there is no need to swarm, or they swarm and are not seen.

Letters still come to me about bees and their food—the one depends on the other. One writer puts it "as well write of a garden without the sun as bees without flowers." I wish they would write to the JOURNAL as they write to me. I do not conserve the little knowledge I have, but tell all the writers as much as possible about bees and flowers, about fruit and garden crops. Am glad someone is willing to learn aught of production. An old book says, "how can they learn without a preacher." If the experts do not teach more, then those who know less must supply the want.—J. J. KETTLE

## THE BEE GARDEN.

THE OFFICIAL LISTS.—(*Continued.*)

*Lobelia speciosa.*—This is distinguished from the *compacta* class by its spreading habit and its rich purple stems and foliage. Unlike them it is free from association with the name of the Paranoiac of Potsdam.

Whereas *L. compacta* and its varieties are specially indicated for edgings, window boxes and pattern work, *L. speciosa* is more particularly adapted to use as clumps for vases and hanging baskets. The colour is a rich, deep blue. Height, 6 in.

This is another subject best sown in autumn. Sow the seed, only just covering them. Prick out 1 in. apart, keeping them close to the glass in 65 deg. to 70 deg. When they touch, take out every other one, making a second box of the lifted ones. In May put into a cold frame to harden off, and plant out in June. As, with two exceptions, the lobelias are not true annuals, if lifted and potted-up in the greenhouse they will flower into the winter and furnish stock plants for cuttings. Plants struck from cuttings are truer to strain and colour than those got from seed, and give a finer effect in masses or borders.

*Reseda odorata* (Mignonette).—"But now I sit with all the windows and the door wide open, and am regaled with the scent of every flower in a garden as full of flowers as I have known how to make it. We keep no bees, but if I lived in a hive I should hardly hear more of their music. All the bees in the neighbourhood resort to a bed of mignonette opposite to the window, and pay me for the honey they get out of it by a hum which, though rather monotonous, is as agreeable to my ear as the whistling of my linnets."

Cowper, when he wrote the above-cited passage, did not exaggerate the charm that a perfect bee-garden in perfect weather has for its creator. Admittedly no bee-master himself, his flowers grown, presumably, without the slightest intention of supplying their needs, he yet obtains the reward of their glad music. How much rarer, then, would have been his enjoyment—how much grander their allegro—if every flower in his garden had been selected for its bee-value, and the owner thereof could look forward to the task of harvesting a rich meed of honey, quintessence of all the perfumes, sublimation of all the savours.

A native of both shores of the Mediterranean, mignonette was introduced into this country in 1752. Since then, however, many improvements have been made on the wild type. Varieties ranging from white (Garaway's) to deep red (Victoria, Bismarck), through numerous shades of yellow and orange, habit varying from more or less prostrate forms to immense, pyramidal, hard-wooded shrubs, make mignonette suitable for many purposes, from annual summer bedder to perennial indoor pot-plant. Yes, it is another of the perennials that are almost invariably treated as annuals, being only half-hardy and the varieties coming true to seed. Its outdoor cultivation is very simple, while it is not difficult for ordinary pot work. Sow the seeds in the open in March or April, and thin where necessary. Transplants badly, resenting root disturbance. In mild localities only a sowing may be made outdoors in August for spring flowering. Earlier bloom and finer plants will be the result, should they survive. Weak liquid manure applied when in bloom, after rain or watering, will improve the size of the flower spikes.

*Myosotis* (Forget-me-not).—The cultivated varieties of Forget-me-not are, although perennials, usually treated as biennials, being easily raised from seed. Sown in the summer, they flower in the following spring, either as self masses, as a groundwork for Hyacinths and Tulips, or as an edging. Any ordinary garden soil will grow them, although they are best suited by a moist position, flourishing to perfection in the upper portion of the water-garden. *M. Palustris* especially is a moisture-lover; both it and *M. dissitiflora* average 6 in. in height. Most of the species are quite hardy and seed freely. *M. dissitiflora* is the best known and earliest to bloom. The sky-blue, yellow-centred flowers are abundantly produced in racemes in early spring. There are several garden forms, including a white one—*M. S. alba.*

Nasturtium (*Tropæolum majus*).—All the nasturtiums are natives of South America. *T. majus* was introduced from the land of the Incas in 1686, and has become a universal favourite. It should be grown in poor soil, as if the ground be rich an excess of foliage is produced, to the detriment of the flowers. It can be put to all sorts of uses, such as covering trellis or verandahs or any unsightly object, and will make a temporary hedge or screen if given the support of a row of pea or bean sticks to ramble over. The seeds, picked green, are made into a pickle, while the flowers and leaves can be used in salads. It is sometimes called Indian Cress. The height made is from 6 to 8 ft. in the season, and the colours vary from almost white, through yellow, orange and scarlet, to deep crimson; some selfs, others striped. There are dwarf, Tom Thumb forms which make very effective edgings to beds, or even pretty bedders, especially the newer Ruby King, with scarlet flowers and dark foliage, and Queen of Tom

Thumbs, with crimson flowers and argent variegated foliage. These bushy little plants are very neat and compact, come into flower earlier than the climbing varieties, and keep up a display the whole summer long.

## DONCASTER AND DISTRICT B.K.A.

A very interesting demonstration on hive manipulation was given by Mr. R. W. Merriman at the apiary of Mr. W. Clarke, of Adwick-le-Street, on Saturday, June 1.

The weather was all that could be desired, and there was a very fair attendance of members. Mr. Clarke has a large number of very strong stocks, and plenty of well-filled supers were in evidence. Perhaps the most interesting part of the demonstration was the making of an artificial swarm; two colonies being made into three.

Unfortunately, disease has been very prevalent around Doncaster. Returns from eighteen members show that they had 91 stocks in 1917 and 44 in the spring of 1918, a loss of 47 stocks during the winter.

## KENT BEE-KEEPERS' ASSOCIATION.

DEMONSTRATION BY MR. WATTS.

In response to the invitation of Mr. H. Watts, many members of the Kent Bee-keepers' Association visited the Holmleigh Apiary, Bearsted, on Saturday, June 15. Mr. Watts had promised to demonstrate how nuclei are made. After explaining what a nucleus is, and what it is not, he indicated one of his 62 stocks as the colony he had prepared for the demonstration. In order that bees may accept and not destroy the queen cells, or virgin queens to be supplied, he pointed out, it is better that neither eggs nor young brood should be present to tempt the bees to start new queen cells. So ten days previously the colony which was to be divided into nuclei had been moved to the position it now occupied, leaving behind the queen and one frame of brood. Mr. Watts, after opening the hive, showed that it contained no unsealed brood, and pointed out the queen cells which the queenless bees had made. The nine frames were divided among three nucleus boxes and a good queen cell was given to each. As a queen cell at the bottom of a comb might easily chill, with serious results to its occupant, Mr. Watts showed how to cut it out and place it in the middle of a comb, a much safer place. The lecturer advised that, of the three nuclei being formed, the side ones should be made stronger than the middle one, as the latter would receive the flying bees. The emptied hive was removed and the small new colonies left for the princesses to emerge, mate and begin work as fertile queens. Next, it was shown how to make bees rear for themselves a new queen from eggs laid in another hive. A stock of black bees was deprived of its queen and a prepared frame of brood, laid by an Italian queen with a good record, was given. From this, with some assistance by the bee-keeper, the stock would requeen itself and in consequence eventually become hybrid, if not pure Italian.

As the lecture proceeded, the feeling grew that modern bee-keeping is essentially an intellectual occupation. The lecturer displayed power of observation, experience and knowledge, on which he drew largely for the benefit of his audience, and which account for his own very successful bee-keeping.

After tea, of which Mrs. Watts invited all visitors to partake, a cordial vote of thanks was passed to host and hostess.

Inquiries as to the work of the association may be addressed to Mr. J. W. Price, Barming Heath.


***The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications***

## BEE-KEEPING EXPERIENCES IN FRANCE.

[9708] It may be of interest to your readers to know a little of my experiences in bee-keeping. This year I made up my mind that I would do something in the bee-keeping line. First, I looked around the district where we were camped to see what there was in honey producing trees and plants. Second, to see if there were any bees in the area, a part that had been heavily shelled by our artillery, and ground we had gained and since lost. Going to a wood where there was plenty of withy palm growing I saw some of my favourite insects, so made up my mind to find out where they had survived the ordeal of war. Following their flight I found, to my surprise, I landed in a cemetery. I wondered if some bee-keeping enthusiast was keeping them on a grave. I had some difficulty in tracing their trail.

when I was again surprised to find them alighting upon a large crucifix, and entering at the back of the body. Imagine my feelings on that lovely spring morning as I worshipped in a double sense.

I tried to think of a way to get them out, and in that I failed. That experience filled me with a determination to get some bees. Asking my captain if he would allow me a day off, I set out for a distant town some 16 miles away.

My difficulty was that I could not get the French people to understand what I wanted. At last I overcame the trouble while in a shop with about eight ladies. I thought this was my chance, for women generally know what is about. I made inquiries as far as my French would allow me, then signs by making a buzzing noise, and moving my hand about and alighting on some flowers that were in the shop. It worked like magic. "Comprès," they all said at once. A short consultation followed, and one of them took me to a place where there were about 12 hives. I made my choice of a skep, knowing it would be most convenient to carry. Procuring a box I waited till dusk and then shut them in. I found it very heavy, for the skeps used out here are much larger than those we use in England.

I hailed a guard on the cross roads to give me hand with them. He made inquiries what it was, and when informed said, "Be ——— if I will." A little persuasion as to their being quite harmless and he helped. My next trouble was getting them to what the Tommy calls "home," though we shall all welcome our "blighty" ones. Some 10 minutes and a motor ambulance came along, an officer accompanying it. I asked if he would mind carrying my bees in the car. "To where," said he. After telling him, he said, "Where will you put them?" "Inside," I said. "Well, you don't expect me to sit in there with them, do you?" "Oh no, sir," I said. "I'll take charge of my despised pets." On the journey back the officer made a few inquiries to know if they were quite alright. From the car to the camp I had half-a-mile, and this part of the journey I had help. Next morning, about 10.30 a.m., I let them out in quite a new area for them, and with the sound of guns booming away. As unconcerned about war as though they were in a peaceful spot they took their bearing, and in less than 10 minutes were back as yellow as could be. Next morning the offensive started, two of our company were killed by shells that made tremendous holes; one about 15 yards from the hive that sent the earth all around. I was not far away at the time, so went to see what effect it had upon my bees. They were in and out just as though it was a beautiful summer's day in some quiet, peaceful spot, and took no notice whatever of the bombardment around them, as though the war among men made not the slightest difference to them. It was the next morning that we had orders to clear out of the camp quickly. I gathered together what I could, but, alas! my bees were to be left to the mercy of the Hun. Shells of all sorts were flying around. Everybody seemed to have the wind up. I took one parting look at my bees, and they taught me this, "Be calm," and in that mood I left them, to be another addition to the captures of the Hun.

Times have I thought of them, and more so during this past three weeks, for while I was sitting down to lunch three weeks to-day I heard a sound familiar to me. Looking up, I saw the air full of bees. I immediately picked up a petrol tin and went across the orchard banging it, not so much for the bees, as to attract attention of others in the camp. The effect was two-fold, the bees settled, my mates thought I was "gone on top."

Fixing an ammunition box over them where they pitched, I left them till I had sufficient time to attend to them, for on that day we were having some sports that occupied my time. Next morning I got them all in and set to work. A few more difficulties presented themselves, for I made up my mind to get them to work properly. At the first favourable opportunity I made frames, not of a standard size, but to fit another ammunition box for storing honey. Things being so unexpected I had nothing ready, so had to make the most of what I could find. Queen excluder zinc was one of the puzzles to me, so I set up a search for a suitable substitute. This I found in a stream where water was filtered, the filter holes being about the size of the holes in excluder zinc. I tested it on the front of the hive, and found the drones could not get through, but I am risking the queen. (Here I should like to know if it will stop the queen when she tries or is she smaller than the drone.) I cut about 20 holes into the makeshift brood chamber with the brace and bit, and fixed the excluder on. Out of the brood chamber I had taken a piece of comb and cut it into pieces and fixed on the shallow frames. Yesterday, June 20, I noticed they had started extending the comb. They are very busy, almost as much as I am, giving answers to a few hundred questions about their habits. To-day I had the pleasure of explaining to Lord Elgin the working of a hive, and must say he was quite interested.

Upon our notice board is the following:—Lectures on bees will be given by Lce.-Corp. S. Wills, and on suitable occasions practical demonstrations will be given.—Lce.-Cpl. S. Wills, 60 Lab. Coy., B.E.F., France.

## INEXPERT DEMONSTRATORS.

[9709] When reading, in the issue of the B.B.J. of June 27, a report of a lecture at Tiverton by Mr. W. Herrod-Hempsall, I was much interested to see that "the lecturer manipulated a small stock of bees, and demonstrated by the negative method that bees may be kept in close proximity to a dwelling-house with perfect safety to its inmates and their friends and visitors."

I could not help mentally contrasting such a demonstration with one, witnessed by myself, given under the auspices of the County Association to which I belong.

The lecturer commenced by standing with a friend directly in the line of flight of one of the hives, a proceeding which soon resulted in angry bees threatening those nearest to the hive in question. Then, explaining that he did not believe in smoking too liberally a hive containing sealed honey, with a few puffs from his pipe he slightly subdued the bees in another hive, with the result that when the quilts were lifted, numbers of furious bees were soon buzzing around, to the consternation of the audience.

Well, to cut a long story short, about six hives were examined, and out of about thirty persons present at least ten were stung, some receiving as many as six stings and others a less number.

Now, Sir, as I understand that it is desired by these demonstrations to enlighten and encourage would-be bee-keepers, would it be too much to suggest that county associations exercise some supervision over those who undertake to unveil the mysteries of bee-craft, and sternly discourage any such exhibition of how *not* to manipulate our little friends the bees.

With all good wishes for the continued prosperity of the B.B.J. and its esteemed editors.—O. K.

## METAL ENDS.

[9710] I totally and thoroughly disagree with your correspondent in last week's Journal *re* metal ends (9707). I am not a novice or beginner in bee-keeping, as I have had nearly 30 years' experience. During that time I have not only managed up to 30 stocks of my own, but other apiaries as well, and I would on no account be without metal ends, and up to the present have not found a single disadvantage from their use on brood frames, and nothing worth considering on shallow extracting frames. Your notes on this subject in "Seasonable Hints" (B.B.J., April 25) are very much to the point, and I quite agree that no experienced bee-keeper will need warning not to discard metal ends; but inexperienced beginners are only too apt to follow suggestions that run off the beaten track, generally to their sorrow.

Metal ends are worth anything, if it is only in the saving of time. This thought struck me forcibly when looking through a colony a few days age. When the work was finished, a little pressure with the thumbs behind the division board and all the combs were pushed up and correctly spaced to 1-16th of an inch. Just imagine the difference in the time taken in examining a dozen colonies if each comb had to be placed in position separately and the distance judged by the eye. Fancy seeing a novice attempt this with a few angry bees round his fingers.—L. S. Smithers.

[We are in full agreement with our correspondent, and would emphasise the warning given in "Seasonable Hints" to which he refers. We do not think anyone will class *us* as novices or inexperienced. In doing expert work in all parts of the country for years, we have had exceptional opportunities for seeing bees managed—and mismanaged—in a variety of ways, and have noticed the trouble and waste caused by incorrect spacing of combs. One of the last things we would do, or advise anyone else to do, would be to discard metal ends, or wood shoulders to the frames; but, having tried both, we prefer the W.B.C. metal ends.—Eds.

## THE ARTIFICIAL IMMUNISATION OF THE BEE AGAINST "ISLE OF WIGHT" DISEASE.

[9711] Supplementing my brief note on this subject, a short explanation appears necessary in reply to the questions which I have privately received since the appearance of my note in last week's issue of the Journal.

Bee-keepers in general fully realise that in the present absence of legislative measures for combating the spread of the "Isle of Wight" bee disease, we are left in a helpless condition with regard to the question of its prevention. It is true that antiseptics are advocated and tried with occasionally good results, both in prevention and treatment; but there is no definite proof to show that in the absence of these antiseptics infection of the healthy stocks would have taken place, or that relief of the infected stocks concurrent with improvement in the weather would not have occurred. This remark does not mean at all that I under-estimate the value of antiseptics in combating bee

diseases. On the contrary, one must admit, on scientific grounds, that they are very helpful, and their use, therefore, should be *strongly advocated*. But it would be desirable to know their exact merits, and this could not be done without proper research.

Apart from the use of antiseptics or disinfectants for prophylactic purposes—and their use is often limited to spraying, whereas, to be really useful, they ought to be *constantly* administered to the bees in their water and syrup during the spring and summer, and in their candy during the winter months—apart from the use of these chemicals for preventing infection, nothing else in the shape of a protecting " specific " drug is available, just as there is no " specific " drug known to us for treating this malady. In view of the admirable research carried out six years ago by Dr. Graham Smith and his eminent colleagues, it is surprising that no additional research has been done for the purpose of finding a " specific " drug for treating this infection; and, so far as I am aware, not one of the well-known preparations found effective in other protozoal infections has been experimented with. This is suggested on the supposition that *Nosema Apis* is definitely accepted as the cause of " Isle of Wight " bee disease; but even this point necessitates further research, on account of the conflicting clinical evidence, which is constantly accumulating, although a considerable amount of research was done before. The important question of " hereditary " infection is, again, another matter which is not yet settled.

It will be seen, therefore, that, in the absence of efficient means of prophylaxis and with the lack of a " specific " drug for prevention and treatment, the position of the craft is really pitiful, and nothing could be more opportune than a combined effort to solve these mysteries. It occurred to me, in view of the supposed existence in Nature of partly immune strains of bees (e.g., the Italian bee, the Tunisian bee, the Egyptian bee, etc.) to investigate the question of artificially immunising our susceptible strains. This means a considerable amount of research, necessitating, apart from the question of expense, a good deal of work and co-operation with others interested in investigating this subject. It is, therefore, more suited for a committee of scientific men and not for a single researcher, whose spare time is much limited. Were it not for the encouraging support of Mr. G. W. Judge, the honorary secretary to the Kent Beekeepers' Association, I would not have ventured to undertake this heavy task. My first effort is directed towards attempting to cultivate the *Nosema Apis* on artificial media, and incidentally to isolate the ancillary organisms met with in typical cases of the infection, and to compare them with others met with in healthy bees. Next, by means of experiments on healthy isolated stocks of nuclei, to determine the pathogenic character (if any) of each of them. Thirdly, to prepare one or more vaccines from these organisms thought important after attenuating them, and to try carefully the effect of such vaccines in prevention and treatment.

Those who know the technical laboratory work required will easily understand that it means the examination of many samples sent regularly in a satisfactory condition. It is a work of months, and not of days or weeks; but the sooner it is started the better, and the greater the co-operation, the easier is the task, and the more likely it is to be fruitful. This is specially the case in connection with the experiments on isolated healthy colonies allotted for the purpose, and I avail myself once more of your courtesy and help to appeal to the Asosciations commanding such facilities to lend their support.—A. Z. Abushady, Laboratory for Clinical Research, 21, Cairn Avenue, Ealing, W.5.

## BEES IN A CRUCIFIX.

[9712] Anyone who has been out in France knows how often the crucifix is seen along the roads. I was visiting a friend of mine from Rothes, N.B., yesterday afternoon (June 23), and getting near the village of Ternas, I saw a lot of bees flying around the Figure on the Cross. On examination I found that a swarm of bees had taken up house inside the figure, which was life-size, and were hard at work. Passing on through the village I found another colony in the same kind of hive. I fancy the figures would be cast-iron and hollow. The bees, in both cases, had found entrance through a hole in the back. Between that part of the figure and the cross was about an inch of space. In the first case the bees had built a small piece of comb, filling the space just round their entrance. I walked 28 kilometres out from where I am stationed, and apart from these, the only bee hive I saw yesterday was a straw one, containing a young swarm, in the garden beside our own cookhouse.

Being interested in bees I am always on the outlook for them. I little expected to find them where I did yesterday. I wonder if any of your readers have seen them working in a more curious place?

I am with the 102nd Canadians.

The summer of 1916 was very wet during the honey season. Then in August the weather turned very hot and dry, with the result that the alder tree leaves

were covered with honey dew. My bees stored it in abundance. In the following spring there was bad weather for a while when they couldn't get out, and they all died. I don't suppose I could have saved them if I had been at home, but meantime I had made up my mind that I would like to see what was doing in France.—A. KEIR (Cpl.).

### PREVENTION OF SWARMING.

[9713] The Dorset Yarn always greatly interests me. The statement, this week, that Mr. Butson, to put a stop to his bees swarming, has given two extra brood chambers arrests my attention. I have had two brood chambers on two of my hives all through the winter and they are still on, and three racks of shallow frames above these; the bees are Italian.

The hive is full of bees, but not much honey is coming in. I have cut out 15 queen cells, and they have thrown out one big swarm and one big cast. Many frames in the lower brood chamber have not yet been occupied, so that in these two hives the giving of extra room has been no hindrance to swarming. I am beginning to think no system is successful with all stocks.—R. OSWALD FORDHAM.

### TAKING A SWARM FROM A CHIMNEY IN CORNWALL.

[9714] On an evening in June, too late for operating, a messenger arrived from Mr. F. G., "Can you come and take a swarm of bees from my chimney?" Being engaged the next day we set out the following day on the bicycle with a partly combed skep, which after lashing two ladders together was placed on the top of a high chimney with the hope of enticing the bees to ascend, but the next day revealed they had been too long in their new quarters.

The next step was to get on the bedroom floor with the flue brush, by the aid of which we managed to fill the grate with comb and bees, the latter also covering the bedroom floor. After a close search we found the queen unhurt under the grate, and later we mounted the bike with all the bees except those wounded in the fray. Compliments from Cornwall to J. J. Kettle.—J. M. BEST, Trewoon Apiary, St. Austell.

### PECULIAR BEHAVIOUR OF BEES.

[9715] The doings of one of my stocks are rather interesting.

Swarmed, June 2, fine 8 lbs. swarm, which unfortunately absconded after hiving. Cut out all queen cells but two. Bees loafed for a fortnight; then began to find young queens thrown out at entrance—one one day, two the next, one the day after; then two days later swarmed in the rain, with at least two queens, as I found one dead on floorboard of new hive next morning after hiving. Old stock has doubtless another queen. Curious thing is that young queens should be killed and then stock swarm after all. Truly, bees do the unexpected.—J. W. BRANDER.

## Notices to Correspondents

***Correspondents desiring an answer in the next issue should send questions to reach this office NOT LATER than the FIRST POST on MONDAY MORNING. Only SPECIALLY URGENT questions will be replied to by post if a STAMPED addressed envelope is enclosed. All questions must be accompanied by the sender's name and address, not necessarily for publication, but as a guarantee of good faith. There is no fee for answering questions.***

J. JONES (Essex).—*When are bees bringing in honey.*—Bees that are bringing in honey do no "fooling about," but go as direct as they can to the hive entrance. They usually fly with the abdomen low. Young bees will fly around the hive in order to locate it. The cold weather will probably account for the bees not working in sections.

"TYRO" (Lincs.).—*Making increase.*—(1 and 2). Your plan of dividing after the honey flow is feasible. Better make a nucleus of three frames of comb, one of which should contain eggs, in which a queen may be reared ready for the queenless half of the colony. You may have to feed the bees after dividing. We cannot say whether the bees are likely to swarm; they may, but making a nucleus from them will check swarming. (3) Keep the hive supplied with naphthaline. An occasional spraying is a wise precaution. (4) Let it alone, and stick to the kind you have. We cannot give reasons in this column.

"B" (Lewes).—*Use of carbolic cloth.*—The strength of carbolic acid and water given in the "Guide Book" will not blister the hands. It is the cloth that is sprinkled, not the hands, and we have constantly used a cloth damped with the solution without any ill effects.

It is not reliable, but there will be no harm in trying it

G. C. AIMES (London).—So far as we know hign potential electrical treatment has not been tried on bees.

"NOVICE" (Suffolk).—Honey is selling at 2s. 6d. to 2s. 9d. per 1 lb. jar retail, and about £10 per cwt.

*Suspected Disease.*

I. DRAYSON (Eythorne).—We are sorry we are unable to say. They may be old bees, or exhausted, perhaps both. If the symptoms continue send a few more bees.

W. M. S. (Haywards Heath).—Some of the bees sent were evidently inveterate robbers, and death was due to fighting. Rear a piece of glass in front of the entrance, or spray the front of the hive and alighting board with carbolic acid and water. The bees are hybrids.

F. B. C. (Bees), X. Y. Z. (Calliope), MISS E. H. D. (Retford), and "HINE" (Beaconsfield).—The bees are affected with "Isle of Wight" disease

## Special Prepaid Advertisements.
### One Penny per Word.

**Trade** *advertisement of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at* **1½d.** *per word as* **"Business"** *Announcements,* immediately under the *Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of* 3*s. per* ½*in., or* 5*s. per inch.*

*PRIVATE ADVERTISEMENTS are only intended for readers having* **Surplus Stock** *to dispose of.* **Driven Bees, Nuclei,** *and* **Queens that are reared or imported for sale,** *are Trade Advertisements, and can only be accepted under trade terms. A charge of* 6*d. extra will be made if a box number is used.*

*Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.*

*Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.*

### PRIVATE ADVERTISEMENTS.

FOR SALE, five Stocks of Bees, guaranteed healthy, Doolittle strain, crossed, all 1918 Queens, 3½ to 5 guineas each; 20 guineas the lot.—GOLDEN, Leire, Leicestershire. g.1

FOR SALE, small Nucleus Hives, several Lee's, Holborn, and W.B.C. Hives; clean, sound, well painted. Few other accessories.—Box 39, BRITISH BEE JOURNAL Office, 23, Bedford Street, W.C.2. g.2

QUEENS (Hybrid Italian), 4s. each.—BEE-KEEPER, 961, London Road, Leigh-on-Sea, Essex. g.3

SWARMS of reliable Bees for sale, mid July. What offers per lb., please (too far from heather)?—E. COOMBER, Upper Haysden, Tonbridge, Kent. g.4

SURPLUS Italian and Black Queens, tested, 6s. 6d., 8s. 6d., 10s. 6d., 12s. 6d. Business pressure prevents, otherwise I would gladly challenge any other remedy against my method for *most effectual results, re* "I.O.W." disease.—A. TROWSE, 51, Eade Road, Norwich. g.5

LIMITED number of healthy, reliable Swarms for disposal. Send reply stamp.—STANLEY, Pulloxhill, Ampthill g.6

WANTED, small Stock pure-bred Italian Bees on standard frames.—V. CODY, Vale Croft, Ash Vale, Surrey. g.7

WANTED, practical instruction in Bee-keeping immediately. State all particulars, with number of hives.—DENYS, 34, Tankerville Road, Streatham, London. g.8

THE first Flavine used in combating "I.O.W." disease came from the Middlesex Hospital, and it is only just that we should make some return. All who have benefited will they please send some honey for the use of our wounded soldiers and sailors under the care of that hospital. The Secretary, Walter Kewley, Esq., will duly acknowledge receipts.—S. H. SMITH. g.10

WANTED, second-hand Extractor, Ripener, Lawn Roller.—State full particulars and lowest prices, RECTOR, Llanfair, Henllan Cardiganshire f.61

WANTED, at once, few clean Swarms, or Stocks, to restart my 50 hives again Hybrids preferred.—BURGOYNE, Assistant Overseer, Lyonshall, Herefordshire. f.66

### BUSINESS ADVERTISEMENTS.
**1½d. per word.**

COMFORTABLE APARTMENTS for Brother Bee-keepers visiting Douglas. **Terms: Tea,** bed, and breakfast, 3s. 6d.; or **full board, 6s. per** day.—HORSLEY'S, Merridale House, top of Castle Drive, Douglas, Isle of Man.

STRICTLY BUSINESS.—A free sample Flavine and the Circular for a stamped, addressed envelope; 6 packages, 6d.; a copy of "Intensive Bee-keeping," Chapters I.—VI., 1s. All the above and a Japanned Sprayer 6s.—S. H. SMITH, 30, Maid's Causeway, Cambridge. f.78

QUEENS, 10s. 6d. — PRYOR, Breachwood Green. g.11

WANTED, Extracted Honey, Sections, Beeswax.—NORTH, Cressing, Braintree, Essex. g.9

"ISLE OF WIGHT" Disease permanently cured. Tested four years. Solution and directions, 2s., post free.—PRESSEY, St. Elmo, Coulsdon. d.73

HONEY.—Wanted, any quantity of guaranteed PURE ENGLISH HONEY extracted this season. Must be clear and of good colour.—Please send samples to JOHN TRICKEY & SON, Produce Specialists, "A.M." Dept., Hillfarrence, Taunton, stating lowest price delivered to Norton Fitzwarren Station, G.W.R.

**LECTURES AND DEMONSTRATIONS ON BEE-KEEPING.**

W. HERROD-HEMPSALL is open to give the above in any part of the country; providing his own lantern, slides, etc., demonstrating tent. **Also private instruction at pupil's own residence.** Terms on application.—W. B. C. Apiary, Old Bedford Road, Luton, Beds.

**HONEY AND BEESWAX PURCHASED.**
Run Honey in bulk. Sections per gross.
**HONEY FOR SALE.**
Cuban, Californian, English, Irish.
Free tins and cases, carriage paid. **Cash with** order. Samples, 3d. Prices on application.
**A. GORDON ROWE, 28a, Moy Road, Cardiff.**

**"ISLE OF WIGHT" DISEASE.**
To prevent and cure Bees of "Isle of Wight" Disease,
## J. C. ALLSOPP'S B'KURE
(REGISTERED).
The Powder is simple to apply. Quick in action. Full directions on tins. Price 2/6 per tin. Postage 5d.
**J. C. ALLSOPP, 87, Gertrude Road, West Bridgford, Nottingham.**

# BURTT, Gloucester, FOR BEE APPLIANCES.
*ILLUSTRATED CATALOGUE FREE ON APPLICATION*


## THE LATE LORD RHONDDA.

The death of the most successful Minister in the present Government is a severe blow to the nation. The name of this public benefactor is known even to the smallest child just capable of lisping its prayer, "Give us this day our daily bread." By his fearless handling of the food question at a critical period Lord Rhondda enabled that request to be fulfilled, instead of the suffering from hunger which would have been the case with thousands of people. By his skilful management, all have been able to secure a regular, if limited, supply of food.

It is not generally known that Lord Rhondda, when a young man, was for many years a most successful bee-keeper on commercial lines; at one time he was the proud possessor of over 300 colonies of bees.

It has been the writer's privilege on several occasions to be invited to visit his lordship to talk bees. He was most enthusiastic on the subject, and when conversing alone together in his office it seemed impossible to realise that the homely man who, with child-like enthusiasm and delight, talked bees for a couple of hours, instead of the half-hour arranged, was Britain's most noted and popular statesman.

We were just two bee-keepers comparing notes, and talking over old times when each one had gone through the same experiences, such as going out for miles into the country driving cottagers' bees from their skeps, cycling home at all hours of the night and early morning, with innumerable packages of bees tied on to both cycle and cyclist.

In the light of recent events, a remark made at one of these conversations was prophetic, and showed that months ago he was feeling the great strain his unselfish labours imposed upon him. When I enquired how he managed to do so much bee work, he remarked, "Oh, I had plenty of time in those days, and plenty of energy." He paused for a moment, then, with great feeling, said, "I wish to God I had half as much now."

He carried out innumerable experiments, one of the most interesting of which was keeping a stock of bees in an incubator hive in his bedroom, with flight from the window, so that he could get them very strong early in the spring, to obtain surplus from the fruit blossom. In this he succeeded, but also proved that the expense was too great for its adoption on a commercial basis.

He was conversant with the older men of the craft, and constantly referred to such men as T. W. Cowan, J. M. Hooker, Rev. Peel, F. R. Cheshire, W. B. Carr, and others.

By his death the nation has lost one of its most unselfish and patriotic Ministers, and bee-keeping a keen and enthusiastic member of the craft.—W. HERROD-HEMPSALL.

## A DORSET YARN.

Bees at the Violet Farm are now storing surplus honey at a rapid rate. I put on a rack of sections with whole pieces of foundation in all of them, and in six days they are drawn out and some of them finished. All this I assume is from the limes, as I saw the first bloom of these open on the last day in June. That is why there are so few on clover and blackberry; they have the limes to make merry over.

I wrote last year, "Happy is the man that plants a tree, so that others may sit beneath its shade and bless the hand that planted it." This I read in early life, and it will never be forgotten, for as year by year goes by I see how many enjoy the shade of trees in summer time. At a new school in the Poole area I saw a class of scholars sitting in the full sun, as if they were having a sun-bath; not a tree has been planted by the borough officials in the playground. Now, at our village school there are some fine limes, planted by the founder of the original small classroom and small schoolhouse where the woman teacher had to live. His will can be found in the Government Blue-books of the charities of our land. The lady was to teach the scholars in the principles of the Church of England, and she was never to be married. He left a small farm to pay her, and find the boys in books. I am digressing from the subject of bees again. But how many a scholar appreciates the shade of the limes and must bless the hand that planted them. Our bees certainly get a lot of food from the flowers, and the writer of this yarn gets the result of their labours. They are so close to the limes they can deposit the honey in the cells and go back for more.

Another strong swarm came last week. They are the same colour as those that came from the hollow tree in Glendon grounds—ashy-brown in colour. There are no yellow marks on them, as there are on those that are crossed with Italians. All ours now have the markings on them. It looks as if the males of Italians are stronger in flight than the

blacks when the queen takes her wedding tour, or she may have a fancy for the stranger male.

I have before written of the number of drones in some hives. I took out a frame last week that had almost the whole of one side covered with drone cells; a large part of the other had been built over with them, and that frame was new last year, and fitted with worker foundation. All this year's swarms have very few drones, at least up to now; many of them that go off with a swarm must return to the parent hive. They seem to be disgusted with the barrenness of the new home; they like to find plenty of honey gathered for their delicate stomachs.

There is no lack of flowers for bees just now, for the beautiful white jessamine is now in its beauty. It is remarkable how they frequent this sweet-smelling flower; it is not only odorous, but has nectar in addition, or they would not work it so assiduously. It must be very plentiful in Sunny Spain, as one of their poets has left on record some lines of elegant gallantry about this odorous and pure-white flower:—

"From my summer alcove, which the stars this morn
With lucid pearls o'erspread,
I have gathered these jassamines thus to adorn
With a wreath thy graceful head.
From thy bosom and mouth they, as flowers, ere death
Ask a purer white and a sweeter breath.

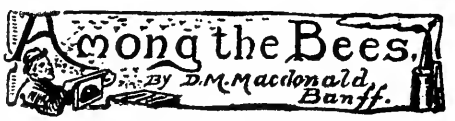
"Their blossoms, a host of bees, alarmed,
Watched o'er on jealous wing;
Hoarse trumpeters seemed they all, and armed,
Each bee with a diamond sting.
I tore them away, but each flower I tore
Has cost me a wound that smarteth sore.

"Now as these jassamine flowers entwine
A gift for thy fragrant hair,
I must have from those honey-sweet lips of thine
A kiss for each sting I bear:
It is just that the blooms I bring thee home
Be repaid by sweets from the most lovely one."

This flower is more fragrant at night time, or at any rate, the perfume is more in evidence in the evening and early morning than it is in the daytime. Many other units of the floral kingdom have the same peculiarity—for instance, the Japanese honeysuckle, which is also now in flower. This blooms in the axils of the leaves, and the tube is shorter than others of the *Lonicera* or Woodbine genera.

"'Twas midnight—through the lattice, wreathed
With woodbine, many a perfume breathed
From plants which wake when others sleep;
From timid jassamine buds—that keep
Their odour to themselves all day,
But, when the sunlight dies away,
Let the delicious secret out
To every breeze that roams about."

I cannot remember the writer, but in early life one had a love to read these beautiful strings of words. It shows how the great writers loved Nature, how they luxuriated in the beautiful flowers and places of our own and other lands.—J. J. KETTLE.




BEES' FOOD AND DRINK.

Bee-keepers know that at least three different substances are carried into the hives for the sustenance of the denizens—viz., nectar, bee-bread, and water. The first, honey or nectar, is sucked up from the flowers through the proboscis, swallowed through the gullet into the honey stomach, and from thence small quantities find their way into the true stomach for the sustenance of the insect. Leaving for the present what is regurgitated into the cells as pure honey, we follow the process of digestion. In this honey are many grains of pollen, and if the supply is scant the bee easily provides herself with more. Here are supplies of nitrogenous and non-nitrogenous food, enabling the busy worker to renew and repair worn-out tissue—flesh-forming and heat-forming food to keep up her strength and renew her youth. The honey consists of invert sugar, a predigested food, and there is no doubt that honey is one of the best kinds of sugar taken as food. These heat-forming food elements are of primary importance, but when taken alone are not sufficient to support the body. The proteid food is also necessary, as it contains chemical elements absolutely required for the formation of tissue. Here we have honey, or heat-forming food, and pollen, or flesh-forming food, both required to sustain her life.

When heavy breeding is going on in spring and early summer the most unobservant bee-keeper must notice what

vast quantities of pollen or bee-bread are carried into the hives on the pollen baskets of the worker bees, how they are consigned to the cells near the brood, and how quickly they are appropriated by the nurse bees and fed to the young and old unsealed larvæ. With honey alone in the hive these grubs would dwindle and die. With honey and pollen to feed them copiously they flourish and grow to full size. The adult bees require both kinds of food, much more does the growing grub demand a full provision, and this the nurses furnish them with.

The tissues of the busy workers wear out quickly unless they are constantly being repaired. This is done by the digested food passing through the stomach being changed into blood, which is pumped into every part of the body by the organs of circulation. The tissues are being constantly worn out by steady work in the hives or in the fields, but are as constantly being renewed involuntarily. Hence strength and energy are maintained when foraging for nectar, pollen, or propolis is active. In a time of inactivity less is required, therefore the stores are less drawn on.

This is fortunate during the period of the long winter rest. Heat has to be maintained, but tissue does not undergo much, if any, waste; hence the proteids have practically no drain made upon them. Should bees be disturbed during winter they may consume too much of this matter, to their own undoing. It is a superfluity, and must be got rid of; therefore dysenteric symptoms arise to the detriment of the community.

Honey is a saccharine matter, a sweet, a kind of sugar. Cane sugar can indeed be converted into a bee food, and if it is well made bees can winter on it perfectly. They can build comb with it, and they can rear young bees with it. In the last case, however, they require the other element. Non-nitrogenous food in itself is insufficient; they require the addition of nitrogenous.

It is estimated that at certain seasons of the year, during part of the day, 75 per cent. of the bees leaving the hive are bent on water carrying. As is well known, it is required to thin down the honey in the cells to convert it into suitable food for the young bees. Pollen is an ingredient in the food fed to the larvæ from the time they hatch until they are sealed over, on or about the ninth day, in the cells, to undergo their wonderful metamorphosis. No less is water a necessary constituent of this bee food on which the young are cherished. We have, therefore, to add it to the honey and pollen necessary for the full development of the growing young, whether queen, drone, or worker. Without it a necessary element would be wanting in the period of breeding.

Substitutes may at times be given to the bees which they will accept in place of these materials. Sugar, as noted above, may be made to take the place of honey, both as a winter food and a substance from which they will rear young bees. Sugar syrup in the liquid form, or sugar candy in the solid, may serve the purpose at times admirably. Meal, flour, and many other proteids of the cereal or leguminous orders, can take the place of the pollen gathered from flowers. Unfortunately they accept other saccharine substances of a rather spurious nature, such as the well-known honeydew. In season they make the best of this, combs are built from it, and young bees are bred on it, but as a winter food it works evil. If they at times partake of substances which prove injurious, does not man show them a bad example? It seems to be ingrained into the very being of Apis Mellifica that wherever sweets are to be had they are the undoubted perquisite of the whole family. There they congregate, there they feast, and from there they carry home to their hive the spoils they garner. At another time more may be said of the food and drink of bees.

## JOTTINGS.

EXTRACTS: "THE WEEKLY TIMES," MELBOURNE, FEBRUARY 9.

It is interesting to find our Colonial contemporaries supplying the bee-keeper with his special column. A topic worth consideration in England is the *scarcity of bees-wax*, with its relation to our insatiable demand for foundation. The writer quotes a few figures quite easy to recognise, which I'm afraid we don't quite realise, while our 7 lb. or so continues to arrive. One hundred three-story 10-frame hives at 7½ sheets to the lb. amounts to 375 lb. Which of us can claim to produce 10 lb. per year with double that amount of hives? The writer doubts if the new production reaches 4 per cent. He also gives some interesting attempts at substitution—among others, thin calico, thinly coated with wax—but claims everything has failed. We must attempt "our bit" in this direction.

"*Ti-tree Blossom Honey*" (Feb. 16). Owing to the density of this honey, the writer says, several extractions are necessary, it being found sometimes necessary to soak the combs in water. How is this

accomplished, as heat seems available? And doesn't this interfere with the honey? I should be glad if one of our Colonial friends would explain this. Here seems to be one likely wax source, by a freer use of the "press."

*Manipulating Garment.*—Now that so many ladies are taking up duties in the apiary, it may not be out of place to mention an idea to keep clothing clean, and as an antidote for that discomfiting menace, the crawling bee. A clean canvas bag, with the bottom corners cut out, and tied at ankles and waist, would furnish a cheap substitute. Other washable and more efficient designs could be catered for, for the individual taste and wishes.—A. H. Hamshar.

## BARNET AND DISTRICT BEE-KEEPERS' ASSOCIATION.

This Association, which for several years has been quiescent, was restarted at a meeting held last December, at which about 12 people attended.

At a general meeting held subsequently the Rev. W. Manning, M.A., was elected president; Mr. Norris S. Toms, hon secretary, and Mr. A. Snell, treasurer. A strong executive committee was elected, sub-committees for co-operative buying and re-stocking, and a committee of experts were also formed.

All these committees are doing good work. A number of members have already been supplied with swarms or stock; in addition to which hives and appliances have been supplied. Much help and advice is being given by the experts, who are also endeavouring to induce all bee-keepers in the district to join, so that a united effort can be made to stamp out any disease in the neighbourhood. Up to the time of writing the membership has increased to 56.

Miss Stone, of Barnet, has kindly lent to the Association, free of charge, a beautifully situated piece of ground for an apiary; here the Re-Stocking Committee have already several stocks of bees, and it is hoped that next season members will be able to obtain nuclei and swarms for re-stocking their apiaries.

On February 12 a lantern lecture entitled, "The Honey Bee and Honey Production," was given in the Church House by our Secretary to the members of the "Barnet Natural History Society and Field Club," to which the members of the Association were kindly invited. There was a large attendance, and at the close several new members joined. On Saturday, June 22, a very successful lecture was given by Mr. W. Herrod-Hempsall entitled, "Bee-Keeping for Profit," at the Association's Apiary. The lecture was closely followed by about 80 people, and special interest was shown when a hive of bees was opened and the lecturer demonstrated the way in which bees could be subdued, handled, combs withdrawn and examined. He also pointed out the various cappings, queen cells, etc. A very practical result of the lecture was the enrolment of 10 new members.

The committee, looking back at what has already been accomplished since the restarting of the Association, feel that there is every prospect of its becoming very strong and influential, in spite of the many drawbacks in these days.

Norris S. Toms.

## KENT BEEKEEPERS' ASSOCIATION.

### LECTURE AND DEMONSTRATION AT GILLINGHAM.

An interesting lecture and demonstration in connection with the Rochester District Branch of the Kent Beekeepers' Association was given by Mr. George Bryden at Bleak House Apiary, Gillingham, on Saturday afternoon, June 22nd. Mr. J. E. Price, secretary of the Maidstone District, presided, and amongst those present were Messrs. A. Fry, C. Gee, E. Semper, W. Carter, J. C. Whettam, and others.

Mr. G. Bryden said nuclei making or increase was one of the perplexing problems for the beginner to face without loss of a honey crop. The control of natural swarming was probably the most difficult problem that the beekeeper had to solve in the average locality. Certain plans and methods would work very well for years, but once the bees had caught the swarming fever they were very likely to keep it going. They would suddenly swarm in spite of the best possible attention. With bees the community is the unit rather than the individual. Normally they would swarm at about the height of the honey flow, when natural conditions favoured the establishment of a new colony. As a rule, enough honey would have been stored to carry it through the winter. The practical method was for the beekeeper to divide up his colonies at the time when the greatest profit might accrue. He should strive to make his increase just before or at the end of the honey flow, so that he would get both increase and a crop of honey. Crowded hives favoured natural swarming. A heavy honey flow would also prevent bees from swarming. Clipping the queen bee's wings was one of the best methods in large apiaries of preventing her escape with the swarm. Clipping had a great advantage

where there were trees. No one should be satisfied unless a complete record of all the transactions in the apiary be kept. If the bee-keeper would plan ahead he would have queens ready for his divisions and so introduce them at once. It was usually a simple matter to hive a swarm. Sometimes it would be possible to shake it into a skep. After they had been hived it was a good plan to introduce a frame of honey and a frame of brood to keep them there until they established their own colony.

At the conclusion Mr. Bryden gave an excellent demonstration at the hives from which the restocking for the county of Kent is carried out.

## THE HONEY BEE.

When spring's warm breath comes stealing o'er the land,
And sap in stems and gnarled roots arises,
And snowdrops and the crocus blooms expand,
The bee, then, from her winter's rest arouses.

She boldly ventures forth in sunny hours,
Buzzing round the home, her memory to renew,
And off she flits to find the fragrant flowers,
Tasting each, then on, her journey to pursue.

When orchards' blossoms blow all white and pink,
There she fondly frequents with her kind, to peep
Into the heart of every flower, and drink
Its soul, whose balmy sweetness she takes to keep.

But, when bounteous summer gives her fullest,
The pastures, hedgerows, and woods are all ablaze
With garlands of bloom, whose luscious harvest
Of nectar awaits the bee for wintry days.

The miles, the times, she journeys to and fro,
Laden with golden honey and pollen bright;
Never wearying, but thinks of the morrow
When summer's gone, so gathers while there's light.

Industrious Bee! so frail, and quick indeed;
Free, yet slave for others, man's unpaid friend,
Who fertilises his fruit and his seed:
Your short spell of life is Duty to the end.

L. W. W.

## HONEY RECIPES.

*For a Cold in the Throat.*—Take two tablespoonfuls of honey, two whisky, juice of a lemon.

*Honey Tart and Custard.*—Cover a baking plate with paste, put in some honey and a few breadcrumbs; put a thin paste on the top and bake.

*Honey Pudding.*—Put some honey in a basin, make a batter pudding and put on the top of honey and steam for two hours.

*Custard.*—Bird's custard made with honey instead of sugar.

*Milk Puddings.*—Made with honey instead of sugar or eaten with honey are nice.

*For Fruit.*—Strawberry and raspberry. Use honey instead of cream.

F. Rimmington (Mrs).


***The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications***

## DEALING WITH DISEASE.

[9716] Mr. Price, in June 27th *Bee Journal*, states that "at present we are labouring under difficulties that probably will not be tolerated in the near future."

I presume he means by this that we shall have legislation. Let us hope it will be so, though there does not appear to be any sign of it coming.

It seems an absolute farce to allow the carelessness of a certain class of bee-keeper to upset the whole industry.

The indiscriminate sale of swarms and stocks from diseased districts ought to be stopped; they are invariably purchased by people who have never seen a bee and know nothing about bees, and as long as it is allowed we must expect the disease to remain with us.

I heard of a bee-keeper the other day advising the hiving of swarms on diseased frames of comb. Is it surprising the disease spreads?

Again, how frequently one meets a bee-keeper who never sees any bee literature

whatever. How can we expect to get rid of the disease?

Bee-keeping in this country is like building a house on clay, the foundation is rotten, it should be placed on a solid basis by the compulsory destruction, or cure, of infection wherever it appears.—F. W. Moore.

HEIGHT OF HIVES FROM GROUND.

[9717] I am glad to see that Mr. Manley [9706] thinks there is something in my idea *re* the height of hives. The difficulty with regard to the supers is obvious, but I think it could be overcome, if it were worth while, by standing the hives on a platform with room to stand and work at the back, but with the alighting boards overhanging the front of the platform.

On Sunday, June 30, I strolled over to one of the trees I mentioned in my former letter, and was lucky enough to find a small swarm just clustering. I secured this—it weighed only 1¼lb.—and hived it on four drawn-out combs in a loft about 10ft. from the ground. Last Wednesday I captured another stray swarm—only 1lb. this time—and united it with the other. I have the alighting board hanging over space, so that crawlers will probably fall on to the ground, not on the floor of the loft. If it is of any general interest I will report the result of the experiment next year. I shall endeavour to re-queen in August with an Italian.—G. R. Strong.

L.C.C. LECTURES, HORNIMAN'S GROUNDS, FOREST HILL, S.E.

[9718] As one of the beginners who attends these lectures, I should like to say through the medium of the B.B.J. how much I appreciate them. The Council is, I think, to be congratulated upon having obtained the services of Mr. W. H. J. Prior, an expert who spares no pains in his demonstrations and keeps his good humour to the last through a volley of questions from the audience.—P. A. Roberts.

SCIENTIFIC RESEARCH.

[9719] The letter from Dr. Abushâdy in this week's issue of B.B.J. contains the most hope for afflicted bee-keepers of anything that has appeared lately. Some time ago I suggested it would be to the advantage of the craft to enlist the interest and ability of one or more bacteriologists for further scientific research on *Nosema Apis*. If Dr. Abushâdy will undertake this, we bee-keepers, both as individuals and associations, should give him all the support and encouragement we are capable of, for I am sure it is only along this line of scientific research we can hope to obtain a remedy for this disease. The position of the craft is pitiful, chiefly for lack of the scientific ability which Dr. Abushâdy can supply. I trust all bee-keepers will readily recognise the value of his proposals, and afford him ready support.—F. W. Duke, Ongar.

DRONE BROOD IN SECTIONS.

[9720] Sir,—I wonder if my experience is a common one? I found four sections in a super filled with brood, so I put a queen excluder underneath and waited till the young bees hatched thinking they would go below. Now I find the super crowded with drones who have been imprisoned there, living on the honey in the sections. Had I been an experienced bee-keeper I should have detected drone comb. One lives to learn!

C. Warren-Davis.

[There is always a risk of the queen laying eggs in sections if a queen excluder is not used. If sections contain drone brood they should be taken away. Eds.]

## QUERIES AND REPLIES.

*Queries reaching this office not later than FIRST POST on MONDAY MORNING will, if possible, be answered in the "Journal" the following Thursday. Those arriving later will be held over until the following week. Only SPECIALLY URGENT queries will be replied to by post if a STAMPED addressed envelope is enclosed. All queries must be accompanied by the name and address of the sender, not necessarily for publication, but as a guarantee of good faith. Correspondents are requested to write on one side of the paper only.*

BEES IN OBSERVATORY HIVE.

[9076] I shall be much obliged if any of your correspondents can give sound information on observation hives, the care and management, and especially how to start. Will a nucleus colony do? I have one for four frames, and am not sure whether the bees will live in so small a number through the winter.—Frances Flint (Mrs.).

Reply.—A nucleus colony will do for the observatory hive. The management will be the same as for an ordinary hive. You do not say how the combs are arranged. Are they all in one compartment, or single combs one above the other? Our own experience is that bees will not winter in an observatory hive of the latter design, but we shall be pleased to hear the experiences any of our readers have had with observatory hives.

## Bee Shows to Come.

*A nominal charge of 2s. 6d. is made for notices (not exceeding 7 lines) in this column, 10 lines charged 3s. 6d., up to 15 lines 5s., which covers cost of insertion from order till date of show. Cash should accompany orders for insertion.*

**Monday, August 5, 1918, at Cannock, Staffs.**—Honey Show, in connection with the Horticultural Society's Show. Eight open classes for Honey, Wax, etc. Good prizes. Schedules from J. Bird, F.R.H.S., "Glenmay," Allport Road, Cannock.

### WEATHER REPORT.

WESTBOURNE, June, 1918.

Rainfall, ·88 in.
Heaviest fall, ·34 in on 18th.
Rain fell on 11 days.
Below average, 1·22in.
Sunshine, 208·6 hours.
Brightest days, 6th and 30th 14·1 hours.
Sunless days, 0.
Below average, 21·3 hours.
Maximum temperature, 74 on 2nd.
Minimum temperature, 34 on 16th.
Minimum on grass, 32 on 16th and 17th.
Frosty nights, 0.
Mean maximum, 66·1.
Mean minimum, 44·5.
Mean temperature, 55·3.
Below average, 1·7.
Maximum barometer, 30·481 on 1st.
Minimum barometer, 29·613 on 19th.

L. B. BIRKETT.

### PRESS CUTTINGS.

CAN BEES FEEL?

There is as much cruelty caused from thoughtlessness as from all other causes put together. I must own that it is rather horrible to find in these enlightened (?) times people who gravely assert that bees have no feeling, and therefore it does not matter how we treat them. It has struck me that this error may arise from the teaching of our experts. They tell us (and rightly) that bees have no feeling for each other, and that a sick or injured bee receives no help from her sisters. This is rather different. I believe that the bee can and does suffer as intensely as any other living creature; in fact, it is more than doubtful if any of Nature's creatures are incapable of feeling pain. Yet I have found people who are greatly put out by the least act of cruelty to, say, a horse or a dog, who, without thinking, cause equal suffering to our industrious little friends.

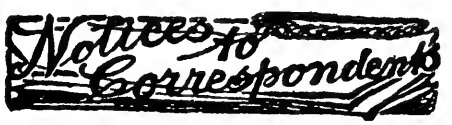
I am induced to write this by the following incident. Passing a spot from which a stock had been removed, I saw about 500 bees clustered on the ground, and was told that the owner closed the hive while bees were flying and removed it, and on his attention being called to the number left out, coolly remarked, "Oh! that's all right; they have no feeling, you know." So it doesn't matter leaving the poor little creatures to die of cold and exhaustion! And, mind you, this was no uneducated person, but one who had received far better training than falls to the lot of most of us.

If we must remove bees, close the hive late in the evening, and should any be left behind kill them; do not condemn them to a lingering death. If you by accident injure a bee, it is merciful to kill it outright, for the bee, being a true socialist, has no time for attending the sick, all her attention being given to the welfare of the hive. Her motto is, "No work, no food," so when from whatever cause a bee is unfit for work she is promptly expelled to die at her leisure.

At present there is a break in the nectar-producing flowers, and there is no great inflow.

In a few days time, however, the white clover will be out, and then it will be well to see the bees have all the super room they can use, as it is important that every possible ounce of honey should be harvested.—APIS.

From the *Barnet Press*.




***Correspondents desiring an answer in the next issue should send questions to reach this office NOT LATER than the FIRST POST on MONDAY MORNING. Only SPECIALLY URGENT questions will be replied to by post if a STAMPED addressed envelope is enclosed. All questions must be accompanied by the sender's name and address, not necessarily for publication, but as a guarantee of good faith. There is no fee for answering questions.***

J. D. ROBERTS (Denbigh). *Dealing with skeps in the autumn.*—The bees should be "driven" from the skeps, and united to those in the frame hives. If swarms were put in the skeps they will have last year's queens. These should be caught and killed, as they are running out when being driven. It is safer to cage the queen in the frame hives for 12 hours when the bees are united. An illustrated article on driving bees was given in our monthly RECORD for March, 1914.

We do not know of any Association for Denbighshire. The nearest we know is the Cheshire B.K.A. Mr. E. W. Franklin, Moulds-worth, Chester, is the secretary.

E. M. J. (Worcester). *Disinfecting hive.*—It is quite possible to do this satisfactorily. The best method is to scorch the inside with a painter's blow lamp. As an extra precaution, it may afterwards be washed out with disinfectant and water. The outside of the hive should be washed down with disinfectant and water. If you cannot get the painter's lamp, apply a strong solution of disinfectant with a brush. One part

disinfectant to two of water. Expose the hive to the air afterwards until it is dry and the smell has disappeared. Use "Bacterol," Carbolic acid, or "Izal."

C. INGLE (Cardiff).—*Swarm dead in box.*—(1) The single bee was the queen. (2) The cause of death was suffocation. When bees are confined in a box it should be of ample size, and well ventilated. (3) Natives.

G. H. (Beacon).—The bees are natives.

MRS. L. STOREY (Staines).—"The Wonderful City" is not yet published in book form, but will be as soon as possible, and will also be illustrated.

*Honey Samples.*

D. R. D. (Cambs.).—The honey is a poor sample, thin, and of rank flavour, probably Australian, and before the war would have sold at 6d. per lb. or less.

A. E. WEBB (Norwich).—The honey is first quality, and well worth showing.

*Suspected Disease.*

F. S. (Brecon), B. J. SMARTT (Houston). The trouble is "Isle of Wight" disease.

H. B. E. (Govan).—There are symptoms of "Isle of Wight" disease. Treat them with one of the advertised remedies.

S. M. (Freshwater).—There was no disease in the comb. Possibly the dwindling is due to "Isle of Wight" disease.

## Special Prepaid Advertisements.

### One Penny per Word.

**Trade** *advertisement of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at* **1½d.** *per word as* **"Business"** *Announcements,* **immediately under the** *Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of 3s. per ¼in., or 5s. per inch.*

*PRIVATE ADVERTISEMENTS are only intended for readers having* **Surplus Stock** *to dispose of.* **Driven Bees, Nuclei, and Queens that are reared or imported for sale,** *are Trade Advertisements, and can only be accepted under trade terms. A charge of 6d. extra will be made if a box number is used.*

*Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.*

*Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.*

### PRIVATE ADVERTISEMENTS.

WANTED, for cash, Hives and Appliances in good condition.—Full description and prices to ARTS AND CRAFTS, Cromer. g.12

WANTED, immediately, practical instruction in Bee-keeping to end of season.—Particulars, terms, accommodation, number of hives, willing to assist, garden, etc., "C.," Pear Tree Cottage, Sharnbrook, Beds. g.13

WANTED, Bees; state price; must be healthy. Hives for sale.—117, Victoria Avenue, Hull. g.14

A FEW Swarms for sale; active; good workers; 7s. per lb. Not less than 5 or 6 lbs.—E. COOMBER, Haysden, Tonbridge. g.15

£2 REWARD to anyone who can tell me where I can buy a good visible Typewriter. Reward posted immediately purchase is made.—WHITE, 71, St. Giles' Street, Northampton. g.16

SIX new Straw Skeps, 15s. 6d., on rail; two new Bingham Honey Knives, 2s. 6d.; 150 new 1 lb. Parchment Pots, 10s. 100. — FLOWER, Owslebury, Winchester. g.17

FOR SALE, early in August, several Stocks of Bees on 10 frames, guaranteed free from disease, £3 15s., carriage paid. Boxes returnable. Inspection invited.—OBORNE, 25, Guest Road, Bishopstoke, Hants. g.18

"COTTAGE" Extractor for sale, 25s., carriage forward. — NELSON, Great Blakenham, Ipswich. g.19

FATHER and Daughter require Apartments at Bee-keeper for three weeks, from August 15. Willing to help.—MISS WEAVER, Lansdown House, Weston, Bath. g.20

PURE Light Cambridge Honey.—Four 28-lb. tins, 3s. per lb.; sample, 4d. Tins and cases returnable.—YOUNG, 42, James Street, Cambridge. g.21

WANTED, some "Conqueror" Hives, single and double, to take standard frames.—Apply, giving price and full particulars, to MAJOR HENDRIKS, Littlewick Meadow, Knaphill, Surrey. g.22

WANTED, several pounds driven Bees, Stock, or Swarms.—MAJOR ROWAN HENDERSON, Hazelden House, Newton Mearns, Renfrewshire. g.23

TWO excellent 1918 Fertile Queens for sale, 10s each. Wanted, two or three Hives in good condition.—MR. LAMB, 7, Redbourne Avenue, Finchley, N.3. g.24

TO CLEAR STOCK, prices reduced as follows:—10 W.B.C. Hives, 15s. each; 20 single-walled Hives, standard size, 10s. each; 200 Section Racks, 1s. 3d. each; 250 Shallow Frame Boxes, 2s. 6d. each; 2,000 Bar Frames, partly in flat, 12s. per 100; 2,000 Shallow Bar Frames, partly in flat, 10s. per 100; 100 Feeders, 1s. each; 250 Candy Boxes, 6d. each; 1 Wax Press; 40 lbs. shallow bar Foundation Comb, 2s. per lb.; 20 well-ventilated Swarm Carrying Boxes, 3s. each; 24 Straw Skeps, new and partly used, 2s. to 3s. 6d.; Metal Ends, narrow and wide, 2s. per gross. All packing and railway carriage extra. Cash with order.—W. G. ADAMS, Hill Crest Apiary, Hay Street, Elgin. g.25

TWO Stocks on eight standard frames, guaranteed healthy, fertile Queens, £4 10s. each; young large Doe Rabbits, ready for breeding, 20s. each. Stamp reply.—W. WOODS, Normandy, near Guildford. g.26

THE FLAVINE treatment has nothing to do directly with the bowels of the bee. It acts by removing obstructions in the air passages, which prevent flight. The effect of a spraying is similar in action to that of antitoxin in diphtheria, and about as rapid. You may test this by spraying, and marking a number of afflicted bees on the thorax with a fine pencil dipped in white oil paint. Many will fly again.—S. H. SMITH g.27

WANTED, best drawn-out Brood and Shallow Frames; also driven Bees, healthy.—Particulars and price, EDWIN GLOSSOP, Ambergate. g.31

FOR SALE, five Stocks of Bees, guaranteed healthy, Doolittle strain, crossed, all 1918 Queens, 3½ to 5 guineas each; 20 guineas the lot.—GOLDEN, Leire, Leicestershire. g.1

FOR SALE, small Nucleus Hives, several Lee's, Holborn, and W.B.C. Hives; clean, sound, well painted. Few other accessories.—Box 39, BRITISH BEE JOURNAL Office, 23, Bedford Street, W.C.2. g.2

WANTED, at once, few clean Swarms, or Stocks, to restart my 50 hives again Hybrids preferred.—BURGOYNE, Assistant Overseer, Lyoushall, Herefordshire. f.66


## SEASONABLE HINTS.

The correct management of bees during the present unsettled weather will call for all the bee-keeper's powers of observation and judgment. The hints we are able to give will not apply to every locality. In some places honey is still being stored; in others the flow is over, and we have heard of districts where feeding is necessary. If the honey is falling off, do not give too much super room if sections are being used, or the result will be a lot of unfinished and unsaleable sections. On the other hand, the bees must not be crowded too much, or they may swarm. Where clover or sainfoin are relied on for surplus honey, supering may be continued a little longer, but it should be done with discretion. The supers that are already on should be allowed to go a little further than the usual two-thirds full before another super is added. It is just possible that an extra lot of honey may be gathered in these districts from the second crop of flowers if the weather is favourable. This happened two years ago, when our own bees stored quite as much surplus in late July and early August as they did in what is usually the main honey-flow a month earlier.

Sections should be removed as soon as completed. Do not take odd ones out here and there, but as soon as the sections in a rack are nearly all sealed over, take it off. Any unfinished sections may be placed in the new rack. It will be found advantageous to work two racks only on each colony, and as soon as the top one is nearly finished remove it and treat as above.

If there are several stocks, when the racks are finally taken off the unfinished sections may all be put in one rack and given to the strongest colony to be completed.

Shallow combs should be left on the hives as long as possible, and both these and sections should have the bees cleared out by means of a super-clearer. Great care must be taken when removing the honey, and when extracting, not to cause robbing. Do not leave comb or honey exposed, or drop bits of comb and honey about the apiary. Bees should not be allowed to find a road into the extracting room; it is much easier to start an orgy of robbing than it is to stop it.

Extracted honey should be taken from the combs as soon as possible after removal from the hive. If the honey has been allowed to get cold, the combs should be kept in a warm room with a temperature of about 100 deg. Fahr. for an hour or two before extracting. If the honey is cold and thick, much of it will remain in the cells. There is also much more danger of breaking the combs during extracting.

There are just one or two honey shows to be held, and should the bee-keeper intend to compete, the honey should be graded so far as it is possible to do so before extracting. If the combs are held up between the eyes and the light some of them will be seen to be lighter than others. These should be extracted separately. Should the combs contain any unsealed honey it is better to run them through the extractor before using the uncapping knife. The unripe honey should be kept apart from the other and used first. It is excellent for making jam—if one has the fruit—but it should be well boiled; or it may be used for sweetening porridge, puddings, etc.

## A DORSET YARN.

"Man does not live to be worked for, but to work for others." So wrote Tolstoy, the Russian Socialist. I read it some years since, but it is this same spirit that animates the bees just now. They are out and away to the flowers of the limes, a continuous coming and going so many hours each day in the hurry and bustle, gathering the nectar, not for themselves, but for another generation yet unborn. They take a delight in labour; they seem to act as Tolstoy wrote of man: "The happiness of men consists of life, and life is in labour." How much they labour only those who have watched them know, who have noted each day how the sections are drawn out and sealed up for others, for they themselves will be worn out with labour, their wings will be broken and old, their swift flight will be impeded, and they will die; but they have lived for others in the sense of Tolstoy. He was a wonderful Russian, born in luxury, but his life and writings were for others, for the poor, who the Bible says "are always with us."

I watched the bees last Sunday; how fast they flew away, and how they hurried into the hive when they returned. Those that were fanning at the entrance were spaced apart, so that the honey gatherers should not be hindered in getting through them. How they teach us that life's happiness is in labour.

I was eager to see how far advanced the lime trees were at Merly and Canford; I put in the horse and drove my wife and her sister to see these sweet-smelling trees in blossom. We wanted to

see four small fields of corn on the way—have only seen them once since sown—beautiful they are to see just now, for all are in flower; this dry weather will hasten the ripening of corn this year. The huge trees of limes at Merly are wonderful; through the model village of Canford they are delightful; the sweet-smelling flowers are all hanging over the roadway, the air is full of the odorous perfume. What a place for bees! Here is the happy hunting-ground of *Apis mellifica;* just now they must be piling up the dollars for the happy owners of the bar-frame hives that are in that vicinity.

There is a deal of that shiny substance on the leaves called "honey dew," which is said to be owing to a great number of aphis on the trees. 'Tis said that bees collect this and add to the store of surplus honey, but I have not been able to see if it is so; 'tis said to spoil honey. My friends say they like lime honey best; I only hope there is none of this honey dew in my sections, as one likes to think that the honey, at least, is the pure nectar of the flowers. I am not so sure that this honey dew is the work of aphis, because sweet secretions are to be found on leaves of pears just now; I noticed the number of wasps that were on the trees as I worked by them, one felt that food of some kind or other was there but could not see what it was. I mentioned the matter to Mr. Taylor, of the Food Production Branch of the Board of Agriculture, who came to see me last Tuesday. He found beneath the leaves of pears small nodules of matter that the leaves had exuded, and on tasting it we found it sweet; these wasps had found it on the pear. If one deciduous tree gives out from its leaves this sweet-tasting substance, why should not the limes give out from their leaves the same sweet secretions? But the trees are so high up, and time is too precious to waste just now on making quite sure; but since then we have had rain, and the leaves are all washed clean again. Most men in horticulture are somewhat sceptical about these matters, and like to see for themselves that they are so, at least, it has always been so with me and my friends in horticulture. We had read in books that blue was a favourite colour to bees, but our observations did not find it so. True, we found that some plants, like the sage family and the Alkanel, were very attractive; it was not the colour, but the sweet matter that was in them that made them attractive to bees. We may yet find it so with "honey-dew," it may be a secretion from the leaves and not the work of aphis; some other bee-man, who has more time than I have, may have gone into this, and one would be glad if they would give us the result of their observations.

I have repeated many times, "One touch of nature makes the whole world kin." How true it is with us who have bees. When Mr. Taylor (of the Food Production Department) came to see me, though he came from far off British Columbia to take his part in the war, and had borne the hardships and privations of campaigning, he had not lost his love for bees; he told me he had been to see Mr. Claridge, in Essex, had seen his Italians, and was enthusiastic about their quiet ways when shown them, that he himself would get Italians when settled in Dorset. He was interested in the farm generally, but the bees came first. I was glad Mr. Claridge sent him to call on me; one likes to meet others of the craft. Mr. Carter, of Blackheath, came to see me some time in the spring. It is good to see other bee-men in Dorset; we have so little chance of seeing others unless they come here. The hours of daylight are too precious to waste in long journeys. When the fruit season is over my wife and I will take a driving tour through the New Forest for a week, and see the many beautiful and historical places that are quite close to us, but many of which we have never seen. Crowded cities have no attraction for me, unless it is the museums and libraries. Last year we saw the wild coast of Dorset from Weymouth to Lyme Regis, and the apple orchards of Somerset; we "saw all nature in smiling beauty drest, and called on mankind to view her and be blest."—J. J. KETTLE.

## THE BEE GARDEN.

THE OFFICIAL LISTS.—(*Continued.*)

*Nemophila* (Californian Blue-bell).—There are several forms of Nemophila, all hailing from North America. All have a dwarf, trailing and spreading habit, with slender, hairy foliage and little campanulate flowers. Being quite hardy, the best and earliest flowers are obtained from autumn sowings, while from spring sowings blooming may be prolonged throughout the summer. *N. insignis* is by far the best of the family. The flowers are larger than in the other forms, and of the most exquisite sky-blue with small white centre. There are improved strains with larger blooms—a white one and a claret-coloured one. *N. maculata* has large white flowers, blotched and veined with violet. Of this there is also a mauve variety.

The culture of these little plants is simplicity itself. Sow in autumn where they are to flower, just covering the seed; or

in March for summer blooming. Thin out to at least 1 ft. apart. Rich, moist soil in semi-shade is the most appreciated.

*Nigella damascena.*—Probably the best-known of the Nigella group has flowers of pale lavender blue and grows about 1½ to 2 ft. high. The somewhat curious, long-stemmed flowers are surrounded by a green, feathery setting of fennel-like foliage. The plants are branched and erect, the foliage proper being beautifully light and graceful. The flowering season is from July to October. An improved strain of high merit is that named after Miss (Gertrude) Jekyll.

As it transplants badly, sow the seeds ⅛ in. deep in March, where they are to grow. Thin out early to 6 in. apart.

*Papaver somniferum* (the Opium or Pæony Flowered Poppy) has been in cultivation from the earliest times for its product, opium. The plant has large, wavy, glaucous leaves. The Indo-Persian variety has white petals and white seeds, while the Syrian is purple with black seeds. Many coloured varieties are found in English gardens, the blooms being large and showy, not to say gaudy. That known as Dannebrog (Danish Flag) or Victoria Cross is very striking. It has four blotches forming a white cross in the centre on a brilliant scarlet ground. The flower is single. There are double white, double scarlet and double pink forms. Height, 2 to 2½ ft.

The cultivation of all annual poppies is very simple. Merely scatter the seed on well-dug ground in March, where they are to grow, and lightly rake it over. When 1 in. high thin out to 12 in. apart. Slugs are very partial to the seedlings. Put up a barrage of soot and lime round the plot and hand-pick any discovered within the boundary.

*Phacelia.*—The Phacelias are a numerous family of hardy annuals, very useful for edgings or groups, and all are natives of California, Texas or Mexico. The erect, bell-shaped flowers, borne in clusters, are most abundantly produced, and are usually of a bright blue or violet shade. They flower from end of May to October, and form a valuable contribution to the bee-garden.

*Phacelia campanularia* is one of the choicest hardly annuals in cultivation, on account of the rich true-blue colour of the flowers. It is a dwarf, bushy plant, the leaves a grey-green edged with pale claret, above which rise the erect little blossoms in great quantity to the height of 6 in. or 8 in. Without doubt this is one of the best annuals for an edging. *P. c. alba* is pure white with greener foliage.

When I come to write of bee-keeping in Brittany, I shall have something more to say of *P. campanularia*.

*P. congesta* has large tufts of mauve flowers, 1 ft. high, produced from July to September.

*P. tanacetifolia*, which I am growing largely this year, is probably the best bee plant of them all. The large heads of compact, small, bright blue flowers are certainly much beloved by them. 1 to 1½ ft. high.

*P. viscida*, syn. *eutoca viscida*, has blue and violet flowers nearly an inch across, in loose clusters. Innumerable minute hairs cover the foliage and exude a sticky substance, hence the name. Height, 18 in.

*P. grandiflora*, syn. *Whitlavia grandiflora*, came from California in 1902. It has the largest flowers of any of the species, violet and blue, veined in the centre, and hanging in racemes. These open in June and continue in succession till October. 1 ft. high. It is sometimes called Cosmanthus.

*Saponaria calabrica*, Soapwort, the juice making a lather when mixed with water. This is a dwarf, trailing plant, about 6 in. high. Its numerous rose-pink flowers make a carpet of colour from July to September. *S. c. alba* is a white form of the above. Sow seeds in lines or in masses, ⅛ in. deep, in September for early flowering, or in April for later blooming season. Thin seedlings to 3 in. apart; water frequently in hot weather. Hardy annual in ordinary garden soil.

*Schizopetalon Walkeri* is a half-hardy annual from Chile, about 1½ ft. high, with numbers of sweet-scented white fringed flowers on slender stalks, appearing from May to August. Sow in pans, only just lightly covering the seeds; put on a slight hotbed in February and March, prick out and harden off in cold frames, transplanting in May with a ball of soil, as they resent root disturbance. Seeds may be sown outdoors on a warm sunny border in April or May, to flower in July and August. If sown indoors in autumn and the plants grown on during winter, they will flower in May.

*Silene pendula* (Catchfly), a well-known dwarf annual. Useful for spring bedding, borders, or rockwork, and planted closely makes a capital carpet plant, forming a mass of pink bloom. 6 in. high. There is a variety with white flowers.

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He will never enjoy the sweets of Spring, nor will he obtain the honey-combs of Mount Hybla, if he dreads his face being stung, or is annoyed by Briers. The Rose is guarded by its Thorn, the Honey is defended by the Bee.—*From the Latin.*

## THE DOINGS OF DEBORAH.

### I. THE OBSERVATION HIVE.

"Well, Deb., why did not things go right this time? Why did you kill the drones?"

I had taken great pains to choose a frame of comb for that observation hive, which illustrated as many points as possible, and finally found it in the eleventh hive I opened! The comb had honey and brood, and I managed to get on to it a queen, small enough not to be crushed between the comb and the glass, also plenty of workers, and eight or nine drones.

The first day all went well. The second day I found the workers killing the drones.

"Of course we should kill the drones! You bottled us up in that stuffy little hive; we got excited and rushed about eating up all the honey we could find; the drones eat as much as two of us, and they could not get out, and even if they could they were of no use to us, because our queen was busy laying eggs, and would go on laying as long as we could feed her, so our common-sense told us to kill the useless members who ate so much."

"But why, when I gave you syrup in a feeder on the top of the hive did you not let the drones off?"

"Oh, that syrup! It was not a case of taking it, as we wanted it; it dripped upon us, clogging our wings and making everything in a sticky mess. Besides, it was cold, and surely we were cold enough with glass on each side of us, instead of a nice, warm comb of wax covered with bees."

"But why didn't you get some honey from the limes? The window was open and the branches of the limes were almost touching the hive."

"Don't you know, stupid, that flowers only produce nectar in *warm* weather! It was wet and cold and thundery, and there *was* no nectar, although to be fair I must say it was sensible of you to let us have a fly round."

"Well, I hate you to be miserable. What can I do to improve matters?"

"Put us back into our warm hive. If only you will treat us sensibly we will work for you night and day, but you are always upsetting our plans and calculations."

"But you have been out of the hive over a week. Won't the other bees fight you if I put you back?"

"Yes; they are hardly likely to recognise us in this dejected state! You must give them a little time to get used to us. Put us in an upper brood chamber with perforated zinc between, or even newspaper. By the time they have bitten through the paper they will be in a more friendly mood, and we shall once again have the nice, warm scent of the hive."

"But can't I make a success of the observation hive? I do want to use it!"

"We shouldn't mind being in it for a bit if only it was fine weather, and we had plenty of food available, and, above all, if you kept us warm."

DEBORAH'S HOSTESS.

## CORRESPONDENCE.

***The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.***

### LET US BE HONEST.

[9721] I can feel for your correspondent who wrote saying that advertised—or was it purchased?—bees from a distance seldom came up to expectation, for this is generally so. Swarms turn out often to be a handful. Stocks are made up with drawn-out combs on which a queen, possibly a virgin, has been in possession for a few days, with a few frames of brood taken from as many hives—a hotch-potch, truly. A nucleus is similar, but so small as to be near vanishing point. Driven bees are subdivided, and one may, or may not, get the queen with one's division.

It seems to me that there is no hobby, or business, in which so much trickery is rampant as the noble art of keeping bees, or being kept by them, for the handling of the bees when they come to hand is such a delicate job to such a great many of us that dealings are done in Faith, Hope and Charity, the purchaser representing Faith and Hope and the seller sending the goods like Charity.

I hear you say, "Why this heat? Have you been had?" Certainly, several times, more or less—lately much more; but while some may suffer in silence, through natural diffidence, this is not my way, but I try to improve things.

Early this year I spoke for a swarm to come from Cornwall, at stated price. After I had sent travelling box the price was jumped up. I sent the cash, and after delays of some weeks I received offer of what was called a nice lot on four frames, to avoid waiting longer for a swarm. Being fed up, I

wrote for them to be sent on. They came on June 22, and it being very windy I put them in a hive in quick time without critical examination, but noticed that there were a cupful of dead bees in a filthy state left in the box. The following morning (Sunday) I spent in tracing "crawlers" and keeping them from entering other hives. I soaked the cover with "Flavine." During that night another cupful died. On the Monday I opened the hive and examined thoroughly. There was then half a comb of live bees, mostly with distorted wings, one frame partly filled with worker brood, one frame mostly filled with drone brood, and two frames of comb with some stores in, and no queen to be seen anywhere. I wrote the sender. His answer was pure drivel. It amounted to that he was doing me a favour by sending them. He was sorry he sent them, as he could have got more for them at home.

I sent samples to the Editor, to be on the safe side, and he reported in B.B.J. of July 11 that these bees were affected with "Isle of Wight" disease.

Now, these bees had three faults. They had "Isle of Wight" disease, were made up with drone brood, and were queenless. By frequent spraying with "Flavine" I have kept them from extinction, but there are more drones than workers. They nobly try to raise another queen. A friend and I were discussing this, and he said that he understood bees received through an advertisement generally turned out to be affected with "Isle of Wight" disease, and, as it was stated in the B.B.J., the increased price received for bees is an inducement to unscrupulous persons to sell diseased bees rather than have them die on their hands. If this becomes general it is going to stop the buying of bees except from hand to hand. As we are all interested, or may be, in sending or receiving bees, it will be found "honesty is the best policy."—F. B. CHARLTON, Stockton-on-Tees.

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## BEES IN OBSERVATORY HIVE.

[9722] In reply to Mrs. F. Flint's query (9076) in to-day's issue of the JOURNAL, I should like to say that presumably it would be possible to keep a colony of bees in an observatory hive during *all* seasons. This naturally depends on the construction of the hive itself and on the strength of the colony, although I believe that with the aid of *artificial heat*, to guarantee a *minimum* temperature (e.g., 60-80 deg. F.) there is a possibility of even a weak but healthy nucleus wintering in such a hive. I have designed an *incubator observatory hive* to take ten frames for testing on it the effects of both *direct* and *indirect heating* during the cold months, and in order to satisfy myself in a more practical way as to the exact merits and possibilities of artificial heat—e.g., (1) rapid brood rearing, (2) queen rearing, (3) protection of the colony, irrespective of its strength, from the effects of the cold, (4) maintaining the vitality of the bees and aiding their resistance against diseases that declare themselves during cold weather, (5) as an aid in the treatment of a sick colony, etc. This hive was neatly constructed by Mr. Owers, of Messrs. Abbott Bros., Southall, and was inspected by Mr. Smallwood, expert to the Middlesex Beekeepers' Association, on July 6. It answers the purpose of study as well as of rearing bees and storing honey, in addition to being a *permanent* observatory hive. It is also capable of being well ventilated and utilised during hot weather. *Incubator observatory hives* for other purposes could be easily designed and constructed, but the present industrial conditions do not permit of the construction of several patterns, much as I should have liked to do so. Although this particular hive is kept in my study, and the bees allowed to fly through a tunnel in the window-sill, there is no reason whatever for not placing it outdoors, except that I wanted to use the same hive under the same conditions for testing the effects of heat from both sources, direct and indirect. I would have liked to give here both illustrations and full descriptions of this and other hives in contemplation, but I trust I may be pardoned for not doing so, since, although I have no commercial interest whatever in bee-keeping, nevertheless I should like such hive, if favourably thought of by the B.B.K.A., to be patented and the patent to be utilised for the benefit of the Association's fund. Many people criticise the Association for not doing research work, but most of them fail to realise that, in order to fulfil such a duty, liberal donations are highly essential. It would give me, therefore, real pleasure if I could possibly assist the Association financially, in some measure, by one or more patents as referred to.

In this connection it would not be out of place to refer to Mr. W. Herrod-Hempsall's note (in the same issue of the JOURNAL) to Lord Rhondda's incubator hive, which he says proved successful, "but also proved that the expense was too great for its adoption on a commercial basis." The question of applying *artificial heat* in the apiary is by no means new, but the general result so far has been failure, and the methods adopted have been either faulty or unscientific. Lord Rhondda's experiment is the first of its kind that sounds reasonable to me, and it entirely supports my contributions on this subject to the JOURNAL. I often feel that the incubator hive is sure to have a

leading place among beehives in future, and my efforts are directed to make it a success. I shall endeavour also to make the commercial adoption of a certain pattern of it quite possible.

Regarding the care and management of ordinary observatory hives, I leave it to your other correspondents to supply the required information, and I trust at the same time that the foregoing notes will prove interesting to those among your readers who, like myself, believe that there is no limit for progress.—A. Z. Abushady.

## FOUR QUEENS IN A WASP NEST.

[9723] We destroyed a wasp's nest this week, in which we found four perfect queen wasps. I should be glad to know through your paper if this is usual.—T. M. Beadnell.

[We have "taken" scores of wasp nests, but at this time of year never found more than one queen in each nest. We shall be pleased to hear if any one else has found more.—Eds.]

## SENDING STAMPS FOR REPLY.

[9724] For the benefit of the trading portion of your readers it would render a service if you recommended those who asked for favours of any kind through the post to *enclose either stamp or stamped envelope for reply*. If what they require is not worth this they had better not write; anyway, so many write for catalogues, etc., that no return repayment comes, and it will be asking for them in vain unless they do send stamp.—Messrs. Meadows.


*Queries reaching this office not later than FIRST POST on MONDAY MORNING will, if possible, be answered in the "Journal" the following Thursday. Those arriving later will be held over until the following week. Only SPECIALLY URGENT queries will be replied to by post if a STAMPED addressed envelope is enclosed. All queries must be accompanied by the name and address of the sender, not necessarily for publication, but as a guarantee of good faith. Correspondents are requested to write on one side of the paper only.*

## USING CARBOLIC ACID.

[9077] *Re* your reply to "B" (Lewes) in British Bee Journal, July 4, 1918.

No. 5 carbolic will not mix with the water here, but "settles" almost at once.

Twice I have had quite bad burns from No. 5 at 1:10 strength.

Can you suggest anything to avoid this, please? I tried a little bit of soft soap without success. Perhaps "B" got burned from same cause.—H. L.

Reply.—If the instructions on page 101 Guide Book are followed carefully there will be no trouble. It is true No. 5 carbolic acid settles at once, but before it is used the bottle is shaken, so that a mechanical mixture takes place. The cloth is sprinkled (not saturated). Ten to twenty drops are sufficient just to damp it, then roll it up and place it in a tin and keep covered until wanted for use. We have used a cloth in this way for upwards of 30 years, and have never had any trouble about burning. Certainly, if the cloth were saturated it would be injurious.

## VICIOUS BEES.

[9078] When I kept bees nearly twenty years ago a stray swarm of hybrid bees, English and Italian, came to me. The queen was most prolific, and her bees worked when the other bees would not leave the hive. I had nearly 100 lbs. from the hive, but I had to get rid of them, they were so bad-tempered. They were most fierce, stinging animals and humans all round in the gardens near, when they were disturbed.

They bore malice, too, and would not settle down for two or three hours. Is this characteristic of hybrids, because I have started keeping English bees again, and should like to try Italian, but I have many neighbours?—A. R. Calvert.

Reply.—Hybrids are more likely to be vicious than pure-bred varieties, a second cross usually being the worst. Pure Italians are almost invariably very docile, and a first cross between Italian and native are generally good tempered and quiet to handle. Crossing beyond that does often result in exceedingly bad-tempered bees.

## VARIOUS QUERIES.

[9079] 1. I had a strong swarm of bees on May 30; they were hived on 10 frames with the old 1917 queen. This swarm gave me a swarm yesterday, which I returned after removing queen cells; what I should like to know is what queen accompanied the swarm, was it the 1917 or a young 1918 queen?

2. Should honey that is sealed over in comb be bottled after extracting, or left in a ripener for a few days?

3. What reason is there for bees to hang comb between shallow frames when wide metal ends are used? I put it down to bad weather and the bees are anxious to work.

Reply.—(1) The 1917 queen, unless the bees had superseded her. (2) It is better for the honey to stand in the ripener for a day or two. (3) It is impossible to give

a reason for all the vagaries of bees. Your explanation is most likely right. That kind of thing does not often occur during a good honey flow.—WM. BLACK.

### CLARIFYING WAX.

[9080] Having several pounds of old comb and cappings I bought a wax extractor, Gerster's pattern, and melted it down, running it direct into small pots holding about ¼ lb. each. On turning the cold wax out of pots I find the bottoms are wet and sticky, and that quite a lot of water comes through with the wax. I want to turn out attractive-looking blocks with the bottoms as smooth and clean as the tops; how can this be done?

Some time back I wrote that my young queens did not get mated quickly in spite of perfect weather; both queens are now laying, the first after five weeks and one day, and the other three weeks and two days; this, of course, has allowed the stocks to get very weak, and I have only been able to keep them up to strength by adding frames of brood from time to time from my nucleus hives. As the third queen was still not laying last Sunday, and looked very small, I killed her, and replaced her with one from a nucleus hive; this last queen was laying within ten days after hatching, a much more reasonable time.

REPLY.—After the wax has been through the Gerster extractor it should be placed in a tin or enamel vessel, covered with rain water, and the whole heated until the wax melts. Do not allow the water to boil. The best method is to put the vessel into another one containing water. When the wax is all melted take off any scum from the surface, cover the vessel with cloths and allow the wax to cool as slowly as possible. When cold the cake of wax is lifted from the water and the refuse scraped from the bottom.

## Bee Shows to Come.

*A nominal charge of 2s. 6d. is made for notices (not exceeding 7 lines) in this column, 10 lines charged 3s. 6d., up to 15 lines 5s., which covers cost of insertion from order till date of show. Cash should accompany orders for insertion.*

**Monday, August 5, 1918, at Cannock, Staffs.**—Honey Show, in connection with the Horticultural Society's Show. Eight open classes for Honey, Wax, etc. Good prizes. Schedules from J. Bird, F.R.H.S., "Glenmay," Allport Road, Cannock.

**Wednesday, August 14, at South-Eastern Agricultural College, Wye, Kent.** — Kent Honey Show.—Fourteenth Annual Exhibition, the Premier Show in England. Six Silver Cups to be competed for and splendid prizes. Classes to suit all Bee-keepers. Schedules this year will only be sent to those who apply to Mr. Alfred Lepper, Secretary, Kent Honey Show, Wye, Kent.

## Notices to Correspondents

***Correspondents desiring an answer in the next issue should send questions to reach this office NOT LATER than the FIRST POST on MONDAY MORNING. Only SPECIALLY URGENT questions will be replied to by post if a STAMPED addressed envelope is enclosed. All questions must be accompanied by the sender's name and address, not necessarily for publication, but as a guarantee of good faith. There is no fee for answering questions.***

A. B. C. (Lancs.).—*Bees building brace comb in supers.*—The bees will do this at times when frames of foundation are given and spaced the full width of the wide W.B.C. ends. It will not be so likely to occur if, when foundation is given, every other end is drawn back and the frames spaced closer until the comb is partly drawn out. They should be spaced wider before the sealing of the honey commences. There should only be a bee space between the frames in the two supers, but brace comb cannot always be prevented. A Rymer adapting board is useful for the purpose.

X. Y. Z. (Wilts).—*Time for moving bees to the heather.*—Take them as soon as the heather is coming into bloom. There can be no arbitrary date fixed.

R. Wood (Watford).—*Utilising queen cells.*—Make a nucleus from the English stock, and stand just in front of it and about a foot to one side to be out of the flight of the bees. About 12 hours later give them one of the queen cells. When the young queen has mated, and is laying, remove the queen from the old stock, and reunite the nucleus to it, caging the young queen for 12 hours. The Italian queen is evidently failing, and the bees are superseding her. Remove her when one of the other queen cells is "ripe," which may be known by the bees thinning down the wax at the point. The remaining queen cell should be cut out.

R. O. FORDHAM (Biggleswade).—*Feeding bees.*—Candy for this purpose may still be obtained. You can get it through any dealer. Make the candy into syrup, and until the end of August feed slowly if necessary. If the bees are then short of stores feed syrup rapidly during September, until they have about 30 lbs. of stores in each hive. We have received no complaints of the quality of foundation, but a lot as to the quantity obtainable.

W. R. J. (Cornwall).—See reply to R. O. Fordham. Italians are tractable, and generally healthy. Consult our prepaid advt. columns.

### THE BEE-PATH.

There goes a bee-path through the air,
A little road that winds afar,
A narrow road that no one sees.
At even-tide a yellow star
Hangs at one end, and at the other
A wee white house in dimness stands,
And brownie bee and brownie brother
Fare by this path to flower lands.

O, star afar, that dimly shines!
O, honey-star of wandering bees,
Look down this road and light the way
O'er clover isles and clover seas,
That brownie bee and brownie brother,
With pollen baskets sweet with musk,
All red and black and gold a-smother,
May find the wee house in the dusk.

E. S. FLEMING.


## BRITISH BEEKEEPERS' ASSOCIATION.

The monthly meeting of the Council was held at 23, Bedford Street, Strand, London, W.C.2, on Thursday, July 18, 1918.

Mr. W. F. Reid presided, and there were also present Messrs. J. Smallwood, G. Bryden, G. S. Faunch, W. H. Sims, C. L. M. Eales, G. R. Alder, G. J. Flashman, F. W. Watts, J. Herrod-Hempsall (Association representative), Mr. J. Rae.

Owing to illness, the Secretary was unable to be present, and his duties were undertaken by J. Herrod-Hempsall.

Letters of regret at inability to attend were read from Miss Sillar, Messrs. F. W. Harper and W. Sanderson.

The minutes of Council meeting held on June 20, 1918, were read and confirmed.

The Carmarthenshire Bee-keepers' Association applied for affiliation, and the same was granted.

The following new members were elected:—Lady Pearl Stanhope Hanson, Mrs. Enthoven, Mrs. H. D. Bennett, Mrs. M. E. Bangay, Rev. L. Bonch, Messrs. W. E. Dean, G. R. Martin, E. W. D. Madoc, E. C. Rossiter, F. Parkes and H. E. Price.

The report of the Finance Committee was presented by Mr. J. Smallwood, who stated that payments into the bank for June amounted to £15 17s. 6d. The bank balance on July 1 was £123 0s. 3d.

The report on the paper work for the final examination was presented, and it was resolved to ask Mrs. M. A. Saint, Miss O. Stuart Menteth, Miss A. Argall, Messrs. W. H. Simms and W. Jackson to attend for lecture test.

A very hearty vote of thanks was passed to Mr. D. M. Macdonald for undertaking the work of examiner.

Preliminary examinations were sanctioned at Thatcham, Nottingham, Bushey, Haden Hill, and Aberdeenshire.

The Chairman said that many bee-keepers were not aware of the continual activity of the Association in their interests, and he thought it advisable to make the following report to the Council summarising a portion of the work that had been done.

REPORT OF THE CHAIRMAN TO COUNCIL.

In the consequence of the prohibition by the Government against the importation of sections and wood for making hives and appliances, the Council of this Association approached the Ministry of Food in October last, pointing out the serious results that would ensue if materials so essential to honey production were any longer withheld from bee-keepers. Lord Rhondda gave our request sympathetic consideration, and we supplied his Department with full information as to the number and quality of sections required. The agents of the British Government in the United States then purchased the necessary quantity of the sections there, and arranged for their shipment, and they arrived in time for this season's honey harvest, and are being distributed among bee-keepers through the usual trade channels.

At the same time the Council raised the question of the provision of sugar for feeding bees in autumn and winter, and it is hoped that some satisfactory arrangement for doing this may be made. At the time, however, a contract which had been entered into by the Sugar Committee stood in the way of the desired concession being made, and large numbers of stocks were lost by starvation during the past winter in consequence.

Next meeting of the Council, September 19, 1918, at 23, Bedford Street, Strand, London, W.C.2.

## A DORSET YARN.

After such a long spell of good bee weather the rains have come, alternately with high winds, just at the time when bees wanted the finest time to add to the surplus. We have always found that the first three weeks in July were the best of all the season, as most all stocks are at their greatest numbers then.

Ours are so crowded with bees on the tops of sections one can scarcely see through them each day we look to see how they are progressing. Over some of the racks of sections we have whole pieces of glass, and some have three pieces. The bees soon cement them together with propolis. It is best to only have just the bee space between the edges of the racks and the tops of sections; where we have some with more space, they build comb and store honey on the tops of sections up to the glass, which is very interesting to the visitors to the farm. I notice that these cells close to the glass are emptied by the nurses and drones, at night, and in days of unfavourable weather. The hives at night seem to be in as much motion as by day. I have shown them to visitors by night in the busy season; they are lengthening the cells, have noticed this at midnight—they seem never to sleep, as we must do to give us the energy for the next day's exertions. These extra cells on top

show us that they want more room to carry on, more sections beneath, but even then they do not cease adding to them; labour seems to be the aim of all of them, they are not to be daunted, even by an extra rack to be filled beneath the full one. How symmetrically they build these cells; though they make them a great length, the space only allows two at the most above each other. The nectar deposited in them is placed on the glass first, and it remains in the same position as placed by the bees. The next bee does the same, though the heat of the hive is very great, the honey does not run to a level, as one would expect it, but stays just as the bee deposits it.

One is eager for the time when this war shall be over, and more time will be given to these little benefactors to all mankind, for they are worth more attention than they get at the Violet Farm; for now the farm is a hive of fruit pickers, women and girls of all ages, 16 to 60, long lines of currants and raspberries, with heavy crops of gooseberries, and all ripe now in many shades of red, yellow and white. What the fruit grower would do without the bees I cannot conceive, for the great weight of them is due to the perfect pollination by so many bees as each individual plant opens its small but perfect flowers; but the raspberries are the more wonderful—fruit as large as loganberries, and other growths still in flower to carry on the succession till the frosts come.

Bees at our farm are now working the hedgerows of blackberries, the limes are neglected. I assume the heavy rains have washed all the nectar from the flowers. The thousands of flowers opening each day on the hedgerows are a continual feast to them, the huge sweet chestnut trees are at their best, but are so high up one cannot see the bees on them. The white jasmine is still a great attraction. On a neighbouring farmhouse they are delightful just now, and will be for some time; but the clover is not sought after on our farm so much as blackberries. Robert Burns, when in the fields, must have watched these flowers open.

"The bee that through the sunny hour
Sips nectar in the opening flower,"

as the morning sun opens the petals and the seed organs are all exposed. Blackberries have the same form as roses, and now the days are showery I notice thousands of bees on the rambler roses which are close to the hives, particularly the single one like Hiawatha.

"The bees humming round the gay roses
Proclaim the pride of the year."

So wrote Burns, though in his time there were none of the floral beauties we have to-day. He wrote as he saw them—a true lover of Nature. That proves to me that it is well to have the bees close to flowers that have food for them when the weather is not favourable to long-distance flying.

"For birds rejoice in leafy bowers,
The bees hum round the opening flowers."

And these rambler roses have such quantities of flowers at one time, if close to the hives gives them plenty of work when the storms are over; indeed, unless it rain very fast, I see them looking over them as they do in fine weather.

Last week a boy from the gardens of Glendon came running as fast as possible to the farm with the news that there was a swarm of bees in the hedge that they were trimming. I got a skep, and hurried off with him; then he told me that the swarm had built a kind of house over themselves, so one was curious to see these remarkable bees that had built a house in the hedge. It proved to be a large nest of the bush or tree wasp. If memory is correct, Kirby and Spence call it *Vespa sylvestris*. They are the smallest of the *Vespa* family. I have only seen three others during my life among trees and flowers. It is 40 years since I read Kirby and Spence's guide to Entomology, but I think they wrote of this little insect that showed us how to manufacture paper. This boy and man were so afraid of bees that they had not looked sufficiently to see if it was bees or wasps, or else it was the remuneration that he would get for the knowledge of swarms of bees. A little petroleum and a match soon put an end to this very beautiful nest of yellow thieves.

J. J. KETTLE.

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## BEE-KEEPING.

*By W. H. J. Prior.*

*(Continued from page 213.)*

During the winter I assisted my friend in making up frames, and made some for myself. Spring comes, and hopes are revived. No more chance for the dread disease must be given. My friend's bees have survived two winters and done exceedingly well. I am, therefore, confident it would be folly to procure from another source or district. In May I procured four well-covered frames of comb from him.

From this four-frame nucleus two full stocks were wintered, one of which had given me a rack of sections from the lime flow in July.

We read much of the method of wintering bees. Well, I have simply covered mine with an unbleached calico sheet and

two layers of felt (quilts), above which I have a bag made of sacking and filled with autumn leaves dried near the fire. The bag is made to press down comfortably inside the lift. You will notice I used dried leaves; perhaps chaff would be better, but even chaff costs money and the leaves cost the labour of gathering them in the garden. The idea of the bag is not my own, but I think it is very good.

Another point is that of affording passage for the bees above the frames beneath the quilts. Some folks simply place one or two sticks across. A friend of mine suggested that the ideal was a piece of electric wire casing. This I submit may not always be available, whilst bamboo is more readily obtained about the house, even at mother's expense. She generally has an odd curtain pole, and curtains are a secondary consideration. Take a length from joint to joint and split into halves; chamfer off the ends and just lay them on the tops of the frames before covering down. Two to each stock are sufficient, and they are placed just far enough apart to allow of a box of candy being conveniently placed on in the spring if necessary.

Even in my small way the importance of uniformity in hives is dawning upon me. Mine are different in size and shape, and I would not venture to guess whose make they are. Would it not be a great advantage to keep to one particular pattern? The labour and multiplicity of lifts, covers, brood boxes, etc., all of different size, will be an awful inconvenience if I increase my number of stocks. Everything interchangeable must be a boon. This is another reason, perhaps, for purchasing new hives.

I have visited many persons during the last summer, having one to a dozen hives, and have marvelled in not a few instances at the variety of hives each has. It is astonishing, too, the contrivances the individuals have to put up with, due mainly to the fact that nothing is interchangeable.

Should I be right, too, in expressing how grieved I have felt at the state of some hives I came upon: of the state of congestion, the irregularity of the combs and methods of feeding and of covering the frames by any and every conceivable means; dust-cloths and old coats are very popular. How some manage to get honey, or even keep the bees at home, I don't know.

One man, for instance, had a feeder on; it was placed at the corner, where the cloth cover had been turned back to save cutting a hole in the centre of the quilt. The result was undue exposure of the bees and a volley of bees in your face when you lifted the hive cover.

Another had a rapid feeder on; a glass jar with a piece of linen tied over and standing inverted directly upon the frames, and the quilts placed over the jar. Just fancy the inconvenience of replacing the feeder at any time, in the evening, or after you get home in the dark, for instance. Is it to be wondered that interest in bee-keeping wanes in such cases? This particular man's second hive had never seen a coat of paint and the roof and sides were cracked, letting in the weather; probably he will remedy the defect by covering with some more old coats tied on outside. Inside, on top of the frames, an old flannel shirt, an old coat, and two potato sacks were rammed; nice and comfy, no doubt.

Can anything be simpler than a decent calico cover, and one or two felt quilts, each with a hole in the centre, the material being cut so that it may be turned back when feeding may be necessary? As regards the feeder, I swear by a universal feeder. Here we have a block of wood let down upon the hole in the calico cover; the holes in the felt covers are large enough to allow for the block, and do not get smothered with propolis. The block is always in its place, no bees are disturbed, even the novice is not disturbed—no "volleys," no fear, and you can feed in the dark to what speed you like. Everything is clean, simple, and neat.

In conclusion, I cannot help emphasising the advisability of the novice visiting an apiary, or attending a lecture whenever possible. I think I have picked up much information which will serve a useful purpose in the future.

I have to thank the JOURNAL and my County Association for advantages in this direction.

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## JOTTINGS.

*Influence of Temperature on Bees.*—Dr. Abushady (page 87) regrets the apparent lack of interest displayed in the above problem, calculating by the response in thought, as in evidence through "our pages." Might I suggest this may be more apparent than real. I would like to mention that I have apparently saved, I may say, some hundreds of bees in early spring, simply by breathing on them, receiving many a "pointed" appreciation; also by placing them on the hob for a few minutes; but I am bound to admit it was from a humane point of view rather than larger usefulness.

In my attempt with a diseased stock, reported some time ago, I used a warm brick by day, and warm syrup by night,

moving the colony into a shed, but the bees were too far gone, numerically. I had to destroy them. Something may be done by a detention chamber, to revive, strengthen, or even keep alive the starved colonies; but the question of flight is a serious impediment—to my mind—for any very great benefit likely to ensue in fetching along early incubation, for the usual, legitimate, and business reasons. I would point out there is usually a rather long period between the time this would be of use and the time the advantage of it could be felt, in a natural manner, keeping our eyes on *stamina*. At the same time, if such an artificial warmer could be made *cheaply*, no doubt the uses to the large apiculturist would be many and desirable. I am sorry if I have missed any points in previous numbers, as they reach me irregularly, leaving gaps it is rather awkward to follow, much more take part in discussions so necessary for the proper improvement and progress in our useful, yet neglected, craft.

*Methods.*—The conservatory seems outclassed, as more losses would ensue than the result would balance. This is no use to a large keeper. It seems to me more stores are used, and this, with undue confinement, must inevitably result in bowel disarrangement.

*Electricity.*—This is providing wonders in all directions, but the principle is the same. We cannot stimulate or increase stock without due consideration to external conditions of forage, and, before all, cleansing flights, so I'm afraid I must welcome "artificial heating" rather as a "nurse" to the weak and diseased than as an aid to strong colonies.—A. H. HAMSHAR.

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## THE DOINGS OF DEBORAH.

### II.—THE SKEP.

"Oh, my dear Deborah, how you do love a skep! Now can't you tell me how to make a frame hive as attractive to you?"

"No wonder we love that skep! You remember when we swarmed in 1916. You were away because you had lent the house to Belgians, and that nice little man came who handled us so gently and put us into this skep. We knew in a minute all about him. He was a friend. As soon as ever he gave the first shake to the bough we could tell we were in safe hands, and were quite ready to go wherever he wanted. And how hard we worked!"

"Yes; I remember. You filled the skep with comb and nearly filled a rack of sections, too. I was astonished, because 1916 was a bad year for honey, and no surplus came in until the first fortnight in August."

"Ah, but all the rain had brought on the clover, and think what a stretch we had, with that common at our very doors."

"But in 1917 you were so aggravating. I wanted to get you into a bar-frame hive and stood the whole skep on the top of the frames, but I never could catch the queen below. I knew that she had been down, because there was brood in all stages, but I never found her there once."

"Well, what could you expect? You want to find the queen on the frames below, and yet before you open the hive you send clouds of smoke in at the entrance. Of course, she rushed back into the skep for safety. I'll just give you a hint. Next time lift the skep a little bit from the frames and blow smoke *in between* the two. Then if the queen is below she will hesitate before she rushes through a cloud of smoke to get to safety."

"Ah, well, that's certainly an idea. So 1917 slipped by, and you were still in the skep! When April, 1918, came, I was determined to get you out."

"But, you know, you haven't! We're still here!"

"Well, some of you are, I am bound to confess, and that's why I am appealing to you. First, I drove you by a nice, easy method described by Mr. Ion in B.B.J. for June 22, 1916. You all *seemed* to be out of the skep, and I put it over the excluder, but in a few days' time it was as full of bees as ever."

"Then, you know, you lost your temper! And we laughed! The queen *was* below all the time, and if you had left us alone, by now you could have taken off the skep full of honey, and you would have got the best of us."

Oh, dear, and I, in a rage, moved the hive and frames to a new stand and put the skep back on its own floor-board to live or die, as chance would have it."

"And the joke of it was that you were in such a hurry after you had driven us that when you took the frames away we had some larvæ not too old to be fed up for queens, and here we are a fine little colony in the same jolly old skep that was given us by that nice little bee-man."

"Well, I've learnt a thing or two. But what to do now? How would you like it if I drove you by putting the whole skep upside down in water? I should say that would send you all into an upper skep, queen included."

"Umph! That's not a new idea, either. They used to do that when they were taking our honey. Better, of course, than

the sulphur pit; but we were a sorry sight when we were spread out to dry."

"But you were not really any the worse for it."

"No, I can't say that we were; but it was not pleasant. No,

'If at first you don't succeed,
Try, try, try again.'

That's a good lesson, and one of the many that we try to teach to such as you."

DEBORAH'S HOSTESS.

## "ISLE OF WIGHT" DISEASE.

There has been a good deal of talk in the columns of your paper up to now on this very serious scourge. How would it be if we all settled down and came to grips with the subject?

I propose that a fund be opened through the medium of your columns to collect subscriptions for what might be termed "The B.B.K.A. 'Isle of Wight' Research Fund." Such fund to be invested in the British Beekeepers' Association, for them to administer in the work of research of means for combating the disease to the best of their ability.

The good will and courtesy of those above mentioned could, I feel sure, be relied upon.—"BELROYD."

## BUCKS BEEKEEPERS' ASSOCIATION.

On Saturday, June 29, a meeting was held of the Beaconsfield and Gerrards Cross District at the hon. secretary's, Nockhill, Denham, when Mr. J. Neighbour, the local expert, gave a very interesting talk on "The Summer Treatment of Bees" to an appreciative audience. After the talk a long discussion followed, in which several members from other districts took part. There has been a large increase in the membership in this district, and another demonstration will be given on Monday, August 5, at the Gerrards Cross Vegetable and Fruit Show, in Chalfont Park, and prizes will be given for bee products, of which three are only open to members. It is hoped that this will be the beginning of similar "talks" all over the county.—EDWIN FF. BALL, hon. secretary.

## SWARM WISDOM.

When you see the brown bees
Hangin' round the yaller skip,
Thick when the summer nights are warm,
And you hear the old queen
Pipin' in the starlight,
Then you'll know there's goin' to be a swarm.

E. S. FLEMING.

# CORRESPONDENCE.

*The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.*

## EXPERIENCE WITH A NUCLEUS.

[9725] You may like to hear of an interesting experience I have just had with a nucleus of Hybrids. The nucleus was one of four made by breaking up a stock that swarmed in May. Of the four two absconded with the queen on her mating flight, one is doing well, and the fourth is the subject of this note. She seemed a long time coming to lay, and I gave the colony a frame of brood and eggs which they ignored. Shortly after I found she was a drone-layer, though drones have been abundant in my apiary. Two large frames of drones had been filled in worker comb, the middle capped, but of extraordinary irregularity. Next was a series of cells containing one, two, and three larvæ, to accommodate which the walls of the next cell had been broken down in each case. The workers had in several cases given the job up in despair, and had let the group of three larvæ die. Beyond this was a whole series of cells containing one, two, and three eggs, or newly hatched grubs lying as separate little curls at the bottom of one worker cell. The workers had broken a hole through the comb in two places and built a queen cell, into one of which they had transplanted a drone egg in the effort to supersede the faulty queen. I had to pass the whole of the bees twice through an excluder before I found the queen, which would have been passed by anyone as normal but for a slight attenuation which was apparent on close examination. I united the bees to-day with a sister nucleus, and they are now making short work of the drones.—H. E. B.

## BEES AND HONEY DEW.

[9726] In last week's issue Mr. Kettle seems to imply some doubt as to bees collecting and storing "Honey Dew."

Well, as a bee-keeper, he must be considered fortunate indeed not to have been intimately acquainted with its vile properties before now. Most bee-men have,

some time or another, had ample cause to know and remember it, having sometimes the best part of a season's surplus practically spoilt by it.

His contention that it may exude from the leaves will, I am sure, not find favour with practical bee-men. That it is the excrement of the aphis there is very little doubt in my mind.

Of one thing I am certain. In a season with no aphis on fruit and other deciduous trees, you may be quite content that there will be no "Honey Dew" to trouble you in the supers. With regard to the sweet and sticky substance that is sometimes given off by the leaves of various trees (always in very small quantities), it is, I am sure, quite negligible so far as the honey bee and supers are concerned.—FREDK. SAUNDERS, Downend.

## THE SOURCE OF HONEY DEW.

[9727] With reference to the notes by Mr. J. J. Kettle, on page 234 of your Journal for the 18th inst. the following extracts may be interesting:—

"The sticky condition of leaves of trees—e.g., lime—in hot weather is owing to exudations of sugar. In many cases the punctures of Aphides and Coccideæ are shown to be responsible for such exudations, and at least one instance is known where a fungus—Clariceps—causes it.

But it also appears that Honeydew may be excreted by ordinary processes of overturgescence pressing the liquid through water-ports, as in the tropical Cæsalpina Callianira, etc.

That these exudations in leaves should afterwards serve as pabulums for fungi—e.g., Fumago, Antennaria—is not surprising, and the leaves of limes are often black with them." Encyc. Brit. XIth Edition, vol. 21, p. 758.

"Although further or thorough investigation is necessary to establish this fact, this will be the final solution—that the Honeydew is largely the product of the Pulverinia (a notable genus of bark-lice and scale-insects), the sap being by it extracted from the tree, or elaborated by the insect organism into this sweet substance, as is a similar and perhaps identical substance by some of the aphides and honey by the honey-bee."—"Science," III., 737.—A. L.

## BEES BUILDING COMB IN A TREE.

[9728] On the 3rd inst. I noticed some bees flying about a tree (a Wellingtonia) near my house, and on going to look at them I was surprised to find some six or seven combs hanging from a bough about 5 feet from the ground. I removed the combs and put the bees in a hive. There were not many, and they had evidently dwindled very much. I could find no queen, but there were some eggs in patches—apparently laid by a fertile worker.

I think a swarm must have issued from one of my stocks, probably in the hot weather just after Whitsun, and gone to the tree mentioned; but is it not singular that they remained there and started combs?

The combs, beyond being sheltered by branches, were quite exposed. Some honey and pollen had been stored, and the middle comb was 8½ deep and 6½ wide.—T.S., Westcross.

[It is not an uncommon occurrence for a swarm to remain in a tree or bush and build comb; but they do not survive the winter.—EDS.]

## HEIGHT OF HIVES FROM GROUND.

[9729] Referring to R. B. Manley's remarks on Mr. Strang's letter (9700), perhaps it will be interesting to your readers to know that I have to keep my bees on a lead flat over part of our works, and for the past six years I have not been troubled with "Isle of Wight" disease. I had previously lost three stocks which I kept in Bruce Castle Park at that time. I made a fire of the contents and treated the hives to a dose of Chlorine, and after a year's rest started with a swarm from Yorkshire. This year I started with five stocks; have given two double-brood boxes with excluder, have sold one, and given a friend the weakest to strengthen one of his. So far all is well, and the bees are now working the limes for all they are worth.

I should like the opinion of the editors of the B.B.J. on the strength of the carbolic for the cloths, having read in a contemporary that 1 in 20 was the strength most desirable. Now, I have always used 1 in 2, which is slightly different.—F. W. HUNNINGS.

[The strength of carbolic, 1 to 2, is quite correct if used as described on pages 101-102, Guide Book, and all the instructions carefully carried out.—EDS.]

## "ISLE OF WIGHT" DISEASE.

[9730] Mr. J. J. Kettle, in his yarn, and others seem to imply that bees in house roofs are immune from "Isle of Wight" disease, but my experience is to the contrary. Some years ago, before the disease appeared, the hall roof contained several strong stocks, but as soon as the disease appeared they were the first to be attacked, and the roof was cleared out of bees before mine were attacked, when 23 stocks of mine and the rest in the village were lost the first year. Each year since there have been several stray swarms come; those that went in the hall roof always died soon after. One I had

gave 65 sections the first year, but died during winter. Another died off in a fortnight after hiving; another in the village, that came last year, gave 35 lb. extracted honey and stood the winter, swarmed this spring, and the swarm swarmed again and absconded. During the hot weather last year the honey was dripping through the ceiling of the hall staircase, also out of the wall at the bottom of the stairs.—J. R. T.

### LINES FROM A SOLDIER.

[9731] The attached is a copy of some lines I wrote while in hospital at Salonika during May, 1917. At the present time I am stationed in England, having been invalided home. While I was abroad my wife carried on the work of my apiary with very satisfactory results, and at the time of writing I am at home on leave, and have two supers of honey partly capped over and others well on the way, promising a good season.

MY APIARY.

My heart delights when I can be,
At work in my own apiary,
The busy bees both come and go,
And for their need sweet flowers we grow.

From flower to flower we see them go,
And nectar sweet they gather,
The flowers they love, and what's much more,
They love the blooming heather.

From morn till night they're on the wing,
Both coming and returning.
Their lives are short but while life lasts,
They're always busy earning.

They gather honey sweet and pure,
From flowers without number,
But when the winter comes along
They spend their time in slumber.

P. J. N.

May 6, 1917.

## Bee Shows to Come.

*A nominal charge of 2s. 6d. is made for notices (not exceeding 7 lines) in this column, 10 lines charged 5s. 6d., up to 15 lines 5s., which covers cost of insertion from order till date of show. Cash should accompany orders for insertion.*

**Monday, August 5, 1918, at Cannock, Staffs.**—Honey Show, in connection with the Horticultural Society's Show. Eight open classes for Honey, Wax, etc. Good prizes. Schedules from J. Bird, F.R.H.S., "Glenmay," Allport Road, Cannock.

**Wednesday, August 14, at South-Eastern Agricultural College, Wye, Kent.** — Kent Honey Show.—Fourteenth Annual Exhibition, the Premier Show in England. Six Silver Cups to be competed for and splendid prizes. Classes to suit all Bee-keepers. Schedules this year will only be sent to those who apply to Mr. Alfred Lepper, Secretary, Kent Honey Show, Wye, Kent

## Notices to Correspondents

*Correspondents desiring an answer in the next issue should send questions to reach this office NOT LATER than the FIRST POST on MONDAY MORNING. Only SPECIALLY URGENT questions will be replied to by post if a STAMPED addressed envelope is enclosed. All questions must be accompanied by the sender's name and address, not necessarily for publication, but as a guarantee of good faith. There is no fee for answering questions.*

J. E. SEATON (Notts.).—*Transferring from skep to frame hive.*—The skep should have been placed on the frames without a queen excluder under it, so that the queen could have used the new combs. When she had done this, the excluder should have been placed under the skep with the queen on the bottom combs. In 21 days the brood in the skep would have all emerged, and it could have been removed. If the combs in the frames are drawn out and occupied by bees, drive the skep until the queen is secured, put her on the frames of comb, with the excluder over them, and replace the skep, leaving it for three weeks, when it may be removed, and the combs cut out, broken up and the honey strained from them.

M. F. REDDIE (Leigh).—*Stimulative feeding.*—This may be done as soon as the supers have been removed, in order to stimulate brood rearing, thus ensuring plenty of young bees for wintering. Better make the candy into syrup, dissolve a 1-lb. cake in 15 oz. of water, and use as directed in the "Guide Book." Both nectar and pollen.

H. C. RADLEY (Lee Green).—*Bees biting quilts.*—We cannot say why bees bite the quilts away, but they almost invariably do so.

"BORN ON A FRIDAY" (Oxon).—*Pink comb from pink candy.*—(1) The comb will be all right. The colouring matter is quite harmless. We have seen the same thing occur when bees had been visiting a jam factory; both comb and "honey" were a delicate pink colour. (2) We cannot say without seeing it. Possibly it is a little honey dew. (3) Let the queens fight it out. Have you tried shaking the bees off the combs and running them through a queen excluder?

P. B. (Potton).—We are afraid all the colonies will be more or less affected. Try treating with one of the advertised remedies. Sprinkle quicklime freely on the ground round the hives.

R. ERRINGTON (Hants).—It is desirable to use one of the remedies as a preventive. Medicate any food that is given, and you may also spray bees and combs before finally packing down for winter.

L. B. PATY (Ridsdale).—There is no particular variety or strain of bees that is immune from "Isle of Wight" disease. Some resist it better than others. If possible get bees that have remained healthy in a district that has been ravaged by disease, and as near your own locality as possible.

J. FOX (Skegness).—(1) Pure Italians are the quietest. (2) It is a matter of opinion. Our own is in favour of the Natives.

B. THOMAS (Cwmbran).—(1) The queen had not mated. (2) It is very likely.

*Suspected Disease.*

G. A. ATKINSON (Chesterfield).—The trouble is "Isle of Wight" disease.

"TADWORTH" (Surrey).—The bees are native with a little Italian, and suffering from "Isle of Wight" disease. You did quite right in removing racks.

"SENNYBRIDGE" (Brecons).—Bees were natives, and suffering from "Isle of Wight" disease

G. HENLEY (Bishopsteignton).—The bees were affected with "Isle of Wight" disease. It is quite possible for bees to "catch" the disease in two days, but we doubt if the symptoms would be noticeable in that time.

# Special Prepaid Advertisements.

## One Penny per Word.

*Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.*

### PRIVATE ADVERTISEMENTS.

DOUBLE-BARREL Gun, approval. Sell or exchange for bees.—INSKIP, 36, North Street, Walsall. g.57

SURPLUS Stocks, Hybrids, 1918 Queen, just ready for heather, 70s. each. Stamp for reply. —BOWDEN, 167, Ellerton Road, Tolworth, Surbiton. g.58

WANTED, immediately, young fertile Black or Carniolan Queen.—BELL, Davenport Crescent, Stockport. g.59

BEES FOR SALE.—Six-frame Stock, 40s.; one four-frame Nucleus, 25s.; one five-frame, 30s. —FURBANK, 1, Whitefriars Road, King's Lynn. g.60

FINE lot of healthy Bees for Sale. Inspection invited. Stamped envelope for full particulars. — G. VINCENT, 132, Croydon Road, Anerley. g.61

FOR SALE, frame hive, honey extractor, wax extractor, knife, feeder, excluders, separators. Stamp reply.—ARNOLD, 37, Bullar Road, Southampton. g.62

CAN spare few healthy Stocks of Bees. Stamp for price and particulars.—LOUDWELL, "Glenwood," Kingston Road, Ewell, Surrey. g.63

HEALTHY Hybrid Italians, with brood, on 8 to 10 frames, £3 10s. Box free.—NICHOLSON, Birchwood Drive, Leigh-on-Sea. g.64

FOR SALE, Golden Hybrids, thought immune, healthy, very prolific and quiet, 1918 Queens, four lots on 8 and 10 frames, 8s. frame; one Nuclei, 3 frames, 27s., and carriage. Buyers to send boxes. Deposit.—ORCHARD, 70, Walton Road, Woking, Surrey. g.65

ITALIANS.—Swarm off doubled hive, July 14; 8 lbs. bees. Open to inspection. What offers? —MORRIS, Worlingham, Beccles. g.66

EXTRACTOR wanted; must be in good working condition.—Particulars and price to D. W. CRADDOCK, Crofton Hurst, Orpington, Kent. g.67

WANTED, new, or clean Skeps; also bee and insect books.—HERD, 58, High Street, Egham. g.68

FOR SALE, two strong Hives, standard make, double walled, in good condition, one hive for 15½ in. frames. Also the following in almost new condition :—Two "Perfection" glass feeders; a wooden float feeder, glass top; eight Swiss entrances; 16 tin separators; four dummies; one pair rubber gloves with gauntlets; two section clearers, with Porter escapes (home-made); and following, never used : 2 dozen W.B.C. ends, cane bound straw skep (Steele and Brodie), one frame lifter, section foundation cutter, one hanging frame super for six sections; f.o.r. here. What offers, together or separately?—Apply, Box 41, BEE JOURNAL Office, 23, Bedford Street, W.C.2. g.69

WANTED, late Swarm, or Driven Bees.— JONES, 99, Highgate Hill, N. g.70

WANTED, two 7-lb. lots of Driven Bees, guaranteed healthy, 1918 Queens, delivered August 1. Boxes supplied.—NESBIT, Wellington Street, Portobello, Midlothian. g.77

IS honey worth the money asked for it? Yes; if it is good, fresh British honey, and not the remelted foreign kind. Why? Because it contains Vitamines.—S. H. SMITH. g.71

FOR SALE, two 3-frame Nuclei, 1918 laying Queen, 29s. 6d., plus carriage; two Stocks, 8 and 10 combs. Stamp reply. Young Rabbits, 2s.; Breeding Does, 17s. 6d.—W. WOODS, Normandy, near Guildford. g.72

FOR SALE, two 4-frame Nuclei with Simmins' 1918 Queens, 30s. each. Purchaser to send box.—C. S. MORRIS, 13, St. John's Road, S.W.15. g.75

WANTED, clean Shallow and Standard drawn-out Frames.—WYER, New Sawley, Derby. g.36

FOR SALE, surplus Hybrid Italian Queens (virgins), 3s. 6d. each.—HILDRETH, 41, Three Shires Oak Road, Smethwick. g.38

FOR SALE, early in August, several Stocks of Bees on 10 frames, guaranteed free from disease, £3 15s., carriage paid. Boxes returnable. Inspection invited.—OBORNE, 25, Guest Road, Bishopstoke, Hants. g.18

### BUSINESS ADVERTISEMENTS.
### 1½d. per word.

COMFORTABLE APARTMENTS for Brother Bee-keepers visiting Douglas. Terms: Tea, bed, and breakfast, 3s. 6d.; or full board, 6s. per day.—HORSLEY'S, Merridale House, top of Castle Drive, Douglas, Isle of Man.

STRICTLY BUSINESS.—A free sample Flavine and the Circular for a stamped, addressed envelope; six packages, 6d.; "Intensive Bee-keeping," Chapters I.—VI., 6d.; a japanned Sprayer and all the above, 6s.—S. H. SMITH, 30, Maid's Causeway, Cambridge. g.23

QUEENS, 10s. 6d. — PRYOR, Breachwood Green. g.73

"ISLE OF WIGHT" Disease permanently cured. Tested four years. Solution and directions, 2s., post free.—PRESSEY, St. Elmo, Coulsdon. d.73

FOUR healthy, strong lots Driven Bees, first week August, 10s. lot, carriage paid. Boxes returnable.—THOMPSON, Apiary House, Gawdall, Snaith, Yorkshire. g.74

WANTED, Honey, any quantity, 2s. lb; Sections, 2s. 6d. Cash at once.—YEO'S, LIMITED, Paignton, Devon. g.76

### HONEY WANTED.

Wanted, any quantity of guaranteed PURE ENGLISH HONEY extracted this season. Must be clear and of good colour.—Please send samples to JOHN TRICKEY & SON, Produce Specialists, "A.M." Dept., Hillfarrance, Taunton, stating lowest price delivered to Norton Fitzwarren Station, G.W.R

### HONEY AND BEESWAX PURCHASED.

Run Honey in bulk. Sections per gross.

### HONEY FOR SALE.

Cuban, Californian, English, Irish.

Free tins and cases, carriage paid. Cash with order. Samples, 1s., 1s. 3d., 2s. Prices on application.

**A. GORDON ROWE, 28a, Moy Road, Cardiff.**

## WANTED.—HONEY.

**Any quantity. Top price given.**

**KNIGHT'S, Seed Merchants, Wolverhampton.**

# BURTT, Gloucester, FOR BEE APPLIANCES.

*ILLUSTRATED CATALOGUE FREE ON APPLICATION*


## OBITUARY.

MR. HARPER, BARNET.

We have once again the sad duty of chronicling the passing of one of the old brigade of the craft, and to offer our sympathy to our valued contributor, Mr. F. W. Harper, in the loss of his father.

Mr. Harper, senior, like his son, was a keen and enthusiastic bee-keeper, and lived for his bees. We shall miss the smiling face that used to greet us at every lecture given within miles of his home at Barnet. When in that neighbourhood we were always, no matter what the weather, certain of an audience of one. Only as recently as June 22 we were chatting with him after a lecture. On July 4, while attending to his bees, he had a stroke, from which he never recovered, passing quietly away on the 11th. His last work was amongst his beloved bees.

Born 74 years ago, he had kept bees continuously for 40 years, and delighted to talk of his experiences with such men as Cheshire, Neighbour, Abbott, Pettigrew, and Carr. Of his many prize cards for honey, the one he valued most, and always showed with pride, was one given by Mr. Cowan years ago.

He made all his own hives, and they were kept well painted, spotlessly clean, and spick and span in every respect. Foul brood and "Isle of Wight" disease he mastered and kept under. His constant companion was his Welsh terrier, Prince, which was sent to him from the land of his forefathers. He was a life-long abstainer and non-smoker. Thus ends the life of the best of fathers, and a *Man*.

## PRICE OF BEE CANDY.

Messrs. Jas. Pascall, Ltd., send us the following notice:—

The latest audition to the Sugar Tax has been in operation since April 23. No increase in the charges for Bee Candy have yet been made, our bee-keeping customers having had full advantage of the former prices for nearly three months. We are now compelled, however, to amend the charges, in order to cover the extra tax and increased cost of labour and packages. From this date the prices will be as follows:—5 lbs., 4s. 4d.; postage, 9d. 10 lbs., 8s. 8d.; postage, 1s. 15 lbs., 13s.; postage, 1s. 9d. 20 lbs., 17s. 4d.; postage, 2s. 60 lbs., £2 8s. 6d.; case 1s. 9d., carriage forward. 120 lbs., £4 14s.; case, 2s. 9d., carriage forward. Messrs. Pascall do not supply a less quantity than five 1-lb. cakes.

## A DORSET YARN.

Bees are making merry on blackberries and charlock; they are still gathering large quantities of honey, though the weather is not favourable for them. High winds retard their flight with us. (We are on high ground.) Heavy rains keep them in their hives far more than one likes to see in the honey season. This last week, after continuous rain till noon one day, I saw that all the honey in the cells, which had been built between the sections and glass covering, were entirely empty; when the sun shone bright in the afternoon they were all filled again, and the cells were lengthened before teatime. This showery weather has made them cast out many white grubs of drones; they are not going to rear too many of them now the weather is unfavourable. One lot of hybrids I purchased for 10s. on June 20 gave me on July 27 a rack of 24 full sections, 18 of which were perfectly capped. The other six were all filled, but the outer sides not capped; they will be used in the house. They were put in a hive with drawn-out combs, and sections with whole pieces of thin foundation in them. I assume the greater part is lime, but I hope not "honey-dew," for this season in the hot weather it dripped off the leaves of limes on to the asphalte in the school playground. There is a great deal of ragweed on the next farm; one can hear the bees flying overhead in that direction. I do not like the flavour of this at all; expect to get some in the next lot of sections, but the charlock will be mixed with it, as there are acres of it among the roots just now. Labour is very much limited (have had one college young lady offering me her holidays on the farm); the work cannot be done. The roots will be short for stock in winter, but we as bee-keepers will gain from the flowers of charlock if the weather keeps fair. Invitations to go and see other bee-keepers reached us this week. When on our driving tour, this will add to the pleasures of a holiday; "one touch of nature makes the whole world kin." No matter what political or religious faith we embrace, we that love bees pass over that which is controversial and are friends for that alone, which is as it should be—"a man's a man for a' that." "Princes and peers are the breath of kings; an honest man's the noblest work of God." So wrote the Scottish ploughman, who in early manhood had not many real friends.

I hope to see our soldiers who have been, and are, fighting for so nobly and so well all over the world be able to have their small holdings in the good bee areas, they will materially "add to the

siller" when the year's balance-sheet is made up. Our National Association must see this matter brought before the proper authorities; it will be somewhat hard for them when they come home, broken by the war, to see the houses and farms all sold to wealthy outsiders, who have done nothing for their country in the war, but have made money by war material.

We who live in rural England can see this going on in many counties, land being sold at auction for high prices. Why should not the Government buy for the men, not see it go to others who have not fought for their country.

This village now is at its best. The wild part of it covered with heather; shades of red and crimson, of *Erica cinerea*, and the pale five-cleft *Erica tetralix*, with the common ling heather just bursting its flowers. Many of the cornfields have the yellow chrysanthemum in them, and the scarlet poppies; these last will be looked over by the bees, and so help us with the food, but the yellow marguerites are no use to them, though they add to the beauty of the village.—J. J. KETTLE.

## NATIVE *v.* FOREIGN BEES.

Is it not about time that a word or two was said in favour of our old native British bee? (Do not let it be ever again called, as one of your correspondents lately did, the old G——n bee). The craze for foreigners has of late years apparently quite knocked the native out, but, in my opinion, it is, taking one season with another, still the best bee for our variable climate. Judging by nearly all the bee literature one sees, the natives are not in it. The foreigners are puffed up as being lovely tempered, wonderful cappers of their comb, extraordinary honey gatherers, disease resisters, etc., etc., until anyone not in the know, through not having had experience of them, must conclude that the natives are not worth having as a gift, while people are falling over each other in their haste to buy the foreign strains at five pounds a lot. The Dutch were almost guaranteed as being proof against "Isle of Wight" disease, but now one hears of their going down along with the others, and, in addition, that they are just swarming pests.

In the days gone by, when foreign bees were practically unknown, the complaint of the skepmen—and women too—was that the bees would not swarm enough. I have seen the bees "hanging out" week after week in a big cluster, and the owner complaining that he or she was tired of waiting for them to swarm. I have kept from twenty to forty colonies year after year without a swarm from the lot. Just had to pile up the section racks or boxes of frames for extracting, go to business and be away all day, knowing that there would be no trouble with swarming while away, and that if there was any honey to be gathered the bees would store some for me. Now this is all changed, and it is a case, mostly, of almost constant overhauling, trying to prevent swarms coming off—and going off too. It used to be a treat to be able to go and lift three, four, and five racks of sections off a hive at a time, practically all filled and sealed. Now the experience seems to be a rack or two with perhaps a few sealed sections and the rest either not touched or partly filled; and a swarm which has often flown away. Only three seasons ago I took about half a ton of honey from eight colonies—four originals, and four artificial swarms from them. The bees which gathered this were natives from off, or near to, the Yorkshire moors. This season I am having continuous trouble with swarming, or preparation for it, as the queens last season nearly all mated with foreigners. The foreigners, I'll admit, *do* breed more bees than the natives, and are all that bee dealers may require, but the majority of us want *honey* as well as *bees*, and to a man who is away at work all day the bee that will give honey with least trouble is the bee for him. There is no bee that will give a better looking piece of comb honey than the native. They are as good-tempered as most, and, in my experience, as good disease resisters, and if the queens are not quite so prolific as the foreigners, one that will fill solid a dozen combs with brood is quite enough for me. All bees are more or less uncertain in temper. I have known a stock of pure Italians to be perfect demons, and I have known many a stock of hybrids which could be manipulated almost without smoke or veil. I have one such now, the queen of which is a wonder for breeding. Her progeny are good honey gatherers, too, but they have the one fault that just when they get into full swing they must prepare to swarm, although having plenty of storage as well as breeding room.

In forty odd years I have had only two seasons in which my natives did not gather sufficient for their winter stores. One season was in 1879; the other was 1886. One other year I had a good dozen Italian colonies, in addition to a number of natives. The Italians all had to be fed up for winter. They gave me not a pound of honey from the lot. The natives stored sufficient for themselves, and forty pounds each for me. The Italians were dethroned after that as a matter of course.

It seems to be the fashion to re-queen with outsiders so as to avoid inbreeding. Now I cannot see where the fear of inbreeding comes in, for we all know that the strain of bees in any neighbourhood is continually having fresh blood brought in by stray swarms, and the question often arises in my mind, does not Nature provide against this in another way? All old hands know that it is almost impossible to keep any strain of bees pure, for the queens *will* mate with drones from a hive other than their own. Most of us know what a keen sense of smell bees have, and, allowing for this sense alone, is it not very probable that the young queen out for a mate will avoid the drones from her own hive, and by the same rule the drones avoid their sister princess; or, if they do not avoid, prefer those from other colonies. This seems to be Nature's way all through animal and bird life, therefore why not insect life? There are two points more in favour of natives: one is that they are not so given to robbing as are some of the foreign strains, and the other is that they can be shaken off their combs instead of having to be brushed off. If real natives, one or two good jerks will clear a frame of comb, or a section, of every bee.

"ROBIN HOOD."

## THE BEE GARDEN.

### WASPS.

The last paragraph of Mr. Kettle's article in last week's JOURNAL has led me to interrupt my notes on the bee flora in order to say a few words on the war-time aspect of the wasp. In my own native county—where the Anglo-Saxon tongue still prevails over the Germanised Latin generally adopted—"wopses" and "harnuts" are very common, and the larvæ of the former are in great demand for bait for anglers, mostly juvenile, in the Evenlode, Windrush, Cherwell, and Thame. The means commonly recommended for the destruction of their nests—a necessity if one is to have any dessert plums or pears or to bring nuclei or weak stocks of bees through—are (1) cyanide of potassium, (2) tar, and (3) a bonfire over the hole. My principal object in this article is to deprecate the use of any of these three methods.

(1) Cyanide is a very deadly poison, difficult to obtain—now more so than ever—dangerous to the operator by reason of the hydrocyanic acid given off in the presence of moisture, and most risky to have about where there is any possibility of children or unauthorised persons getting possession of it. (2) Tar is a messy substance to use, and very often fails to achieve its purpose. (3) A bonfire in summer is liable to cause the destruction of a whole hedgerow by extending among the dry herbage, and wind-carried sparks may even cause a stack fire or worse. Not only so, but "Dora" forbids, as the flames may attract, glow-worm like, those other wasps, a super variety of *vespa germanica*, the Gothas. There remain, however, at least two safe and efficient means of exterminating these pests. Here I would add that now is the best time to deal with them, as the nests are approaching their maximum size, and their inmates the most destructive stage of their activities. As fruit ripens the wasp begins to become harmful by spoiling the plums, gages, pears, etc., stinging the pickers, and invading the preserving kitchen: then, the fruit over, turns its attention to the apiary and robs out many a promising colony of bees.

If the work of destruction of vespiaries be left too late the young queens will have escaped to hibernate in hive-roofs or in any one of a hundred out-of-the-way places, emerging in spring to found new predatory communities.

Now for my own methods: At Heathrow I offered a penny to the children of the cottagers for every nest they led me to. A further stimulus to search was the offer, in addition, of a rabbit to the one finding the largest number in the season. The last year I was there two boys dead-heated and bore off a rabbit each. Armed with some flowers of sulphur, a smoker, a gallon can of dirty "turps," a funnel, and an Abol measure, I went forth, generally by lantern-light, and, according to the suitability and accessibility of the site, asphyxiated them either by sulphur fumes or those of turpentine, the latter poured into the hole by means of the funnel, two measures being the quantity usually employed, and the hole stopped with earth. Next morning early I would go with spade and pail, dig out the nest whole, lift it into the pail, carry it home to the poultry-yard, immerse it in water to drown any survivors, and then—here is my great point—feed the combs of grubs to the broods of late chicks, who devoured them greedily and throve amazingly on this succulent fare. Don't poison wasps. So destroy them that the larvæ may be turned to account by the poultry keeper for his chicks. The hens will clean up the wasps, dead and living alike.

A. F. HARWOOD.

## THE URGENT TASK.

*By A. Z. Abushâdy.*

The urgent task before the bee-keeping profession is undoubtedly the extermination of the much dreaded "Isle of Wight" disease. No efforts directed to the increase of the number of colonies, to the introduction of more scientific and helpful accessories such as the artificial honey combs, etc., to the betterment of the financial and social conditions of bee-keepers, and to the many other good causes connected with apiculture, would well repay in comparison with a successful effort that would make in future an impossibility the ravages wrought out at present by the malignant dysentery of bees.

I have laid stress, in a previous issue of the JOURNAL, on the importance of the *continuous* administration of a good non-toxic antiseptic to the bees, whether in their water or in the syrup, since much good could not be expected from the occasional spraying of the bees, the frames, and the hives. It is a pure arithmetical and common-sense calculation. We have no control over our bees in their foraging expeditions, and we never know when a source of infection will ever come in their way and transmit itself through them to their homes. Again, even if we disregard the wandering drones from strange hives, we could not detect and prevent the admittance into our hives of stray workers (from infected colonies) that are occasionally accepted. The numerous other sources of infection and its wide-spread nature make it an impossible task to prevent infection merely by excluding the known sources, however much desirable this may be at least for minimising the chances of infection. Hence the value of the *continuous* administration of a suitable antiseptic as suggested. Not only an efficient antiseptic is vital, but one that could be tolerated for so long without any ill-effects. Therefore, in choosing an antiseptic for a *continuous* administration as I recommend, the question of its non-toxicity is most important. I have been in the habit of giving water to my bees principally *inside* the hive, by means of the ordinary bottle feeder (which they empty from one to four days, according to circumstances) and to such water I have repeatedly added at different times such non-toxic antiseptics as "*Bacterol*," "*Flavine*," and "*Yadil*," although I have used the latter more frequently (in a 5 per cent solution). The presence of one or more supers are no hindrance in the way of placing the feeding bottle uppermost.

As regards the possibilities of *vaccine therapy*, of which it would be impossible to make a forecast, since it might equally lead to a total failure as to a complete or a partial success, it would interest me to know whether any information is available as to colonies that once truly suffered from "Isle of Wight" disease and completely recovered without re-queening, and actually did not become re-infected later. In other words one would like to know in a definite way from trustworthy authorities whether (1) in the present absence of "specific" drugs this disease is not always fatal, and (2) whether one attack of it confers immunity against a second attack, or whether re-infection is possible as one is led to understand to be the case. If one attack of the disease could confer immunity against a second one, then there are high prospects for the question of *artificial immunity*, although one recognises the most difficult task of attempting to grow on an artificial medium such a protozoon as the *Nosema Apis* since the behaviour of other protozoa is not at all encouraging, but in any case a repetition of attempting to cultivate it is worth trying.

Regarding experimenting with anti-protozoal drugs on infected nuclei, it should be remembered that most of these preparations are very poisonous, and therefore should not be used except in well diluted solutions. The researchers of the Board of Agriculture are undoubtedly in the best position to investigate this matter, and also to investigate the application of *serum therapy* in treatment and in the production of *passive immunity* in the event of a threatening infection. I shall refer to that briefly in another article.

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## DONCASTER AND DISTRICT B.K.A.

On Thursday, July 18, a meeting of the members of the Association was held at the apiary of the Rev. M. Yate Allen, Vicar of Moss. As the day was showery, with frequent thunderstorms, the number present was naturally rather limited. Mr. J. T. Willson, of Shirebrook, gave a most interesting demonstration on the harvesting of honey, including the removal of combs from the hives, extracting and straining the honey, etc. Mr. Allen has nine perfectly healthy stocks. All the hives were examined and proved to be in excellent condition, and appeared likely to yield some hundreds of pounds more honey before the end of the month. During the storms the time was passed in extracting the honey, and afterwards in examining the varied organs of the bee under the microscope.

# CORRESPONDENCE.

*The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.*

## HONEST DEALING.

[9732] I am quite in agreement with your correspondent (9721, "Let Us Be Honest"), especially the latter part of the letter. I feel convinced that the high price of bees tempts unscrupulous bee-keepers to sell their diseased stocks, to would-be bee-keepers thus spreading that dreadful malady, "Isle of Wight" disease. I could have sold a diseased swarm this summer to a new beginner: but, having experienced disappointment myself, I have no desire to entrap others and blight their future prospects. There is only one remedy for this sort of thing, and that is to make it a criminal offence, as suggested in the *B.B.J.* from time to time. The Government have shelved this important matter, at any rate, for the time being, but I venture to suggest there ought to be branch meetings called in all districts, representing members of the B.B.K.A., to forward an appeal for the Government to pass legislation to deal with this matter at once and punish all offenders.—P. LYTHGOE, Padgate, Warrington, Lancashire.

## THE DIFFICULTIES OF NOVICES.

[9733] I desire to "liberate my soul" on the difficulties of bee-keeping and to commune with the Editor on the absence from the books of information on points which have puzzled, at all events, one novice.

Fired with the desire to keep bees, and filled with the hope of obtaining, in due course, the fruit of their labours, I applied myself to the study of books on the subject, and sought knowledge assiduously and deeply from them, and also from the lips of a friendly bee enthusiast, from the earliest part of the winter, and in February blossomed forth as an owner of two stocks, one Ligurian and the other Brown English, both strong and healthy.

I seemed to have grasped one maxim—that the early provision of room in advance of requirements would stop swarming, and would lead to the production of honey, and, consequently, early in May racks of sections were put on. It will be remembered that early May was warm, and the bees appeared very busy outside, but up to July 15 hardly any entered the supers, or, if they did, carried on any work there. The books belied their promise of honey, and the novice is left lamenting. A search of the books shows no explanation of this state of affairs, nor the steps to be taken to deal with the recalcitrant attitude of these bees.

Perusal of the books led to the belief that swarming, though regrettable to one in search of a honey harvest, was a fair and square performance on the part of the bees, and I was prepared to feel the due enthusiasm at the event and to take the necessary steps to deal with it. The books certainly hinted that if the queen did not join the swarm the latter returned to the hive, but nothing was said of the strange happenings which befell me, on which the books were silent, and for which they did not legislate and prepare a novice.

A swarm was hived safely in a pleasant, clean hive, the queen was seen to enter, to emerge and re-enter, and the swarm followed her—a straightforward performance. But in half an hour they swarmed again, in the same place, and were again hived. My book knowledge was deficient on this head; but my bee-keeping friend informed me that he had known this happen five times before the bees accepted the hive or the queen, or whatever it was that made them restless. It struck me as not a fair and square procedure, and I was unprepared for the trick.

Another hive followed the book on one occasion by swarming in an adjacent apple tree and returning straight to the hive. You may conceive my joy when I put my finger on the passage in the book explaining it, and said "That's that!" A few days later they came tumbling out and clustered over the legs and porch of their own hive. A search in one of my books revealed nothing of this artifice, and what a novice should do on this occasion, except that "the ingenuity of the bee-keeper will be called into play to effect the capture." My ingenuity was galvanised into the greatest activity; but there was no occasion to show the fruits of it, as the bees quietly went home. They repeated the performance three times at intervals, and I remained a puzzled spectator in the front row on each occasion. My bees could hardly have set themselves to work out a new box of tricks; but no book seems to mention these antics.

The "glorious first" was a regular

field day. The same antic-displaying stock swarmed, was hived, swarmed again, was hived again, and then returned to its original stock. My friend the beekeeper decided that this hive would repay a closer inspection, and this, to my ignorance, it seemed to do. He found a dead queen on the ground outside, a live queen, which evaded capture running about outside, a live queen inside, and fifteen queen cells on the combs. As the cells were found he pinched them out and placed them on a handy brick. During the process three queens emerged from their cells on the bricks under our noses, and five more cells contained queens whose time had not yet come to hatch out. What is the custom of war in like cases? The books tell me that if I wish to preserve a queen she must be found and secured; but I was in the dark as to what measures to take to keep alive and to house the three of which I was the proud possessor. Such a plethora of queens threatened the stock with extinction from constant swarms and esoteric quarrels, so they were all happily despatched; but will the Editor tell me, am I out of pocket 10s. apiece for eight queens, or may I consider myself extremely fortunate to have found them so handily placed for destruction before they did more mischief and reduced the stock to zero? And, also, will the Editor be so kind as to indicate the procedure a novice should adopt when he is in the happy position of securing young virgin queens at the rate of three a minute?

Bee-keeping has proved so fascinating that it is a great regret to me that my lines have been cast in such places as to preclude the following of the pursuit, and though I may pretend to cavil at what the books do not tell me, it is a task beyond my powers to describe the help which the books, in what they do say, have brought. Without them, not only would my blindness have been darker, but many, many hours would have passed without the alleviation of not particularly enjoyed poor health by the interested perusal of the delightful pages of bee books.

Another experience may interest readers: the English stock swarmed; this swarm showed every symptom of May disease, and at last disappeared. This swarm stood 18 yards from its stock, with two Ligurian hives between. You may judge of my horror when the stock also showed signs of the same disease and the march of affected bees to their cemetery—I am speaking literally—began, and they began to die by hundreds. As a chance of curing them, it was resolved to feed them with bacterolised syrup and to spray the porch, entrance, and alighting board, the ground near the hive and the knots of bees on the grass and the road to the cemetery with a mixture of 1½ tablespoonfuls of bacterol to a quart of water four times a day. The treatment with syrup began on June 28 and the spraying on July 1; by the 8th the crawlers and dead march to the cemetery were stopped. When the treatment was started the bees had been reduced from a strong stock on all frames to very docile bees on four frames, and these did little work and were heavy on the wing. From the 8th to the 15th they began to work with vigour outside, and on the latter date were at work also in the sections, which had been put on the former. What may happen, or what the change is really due to I cannot tell, but the fact remains that they are different bees and have sat up and begun to take notice.—NOVICE.

## THE CAUSE AND CURE OF "ISLE OF WIGHT" DISEASE.

[9734] Having had to join his Majesty's Forces since writing the article in the B.B.J. of June 6, I have not been able to see the criticisms of it until now. This question of the cause and cure of "Isle of Wight" disease should not be allowed to rest until the disease has ceased to cause serious trouble. I am glad three writers in your issue of June 20 have given their opinions. I should be further glad if I could give way somewhat to their criticisms, for it is only by such ready and unbiassed agreement with others, in accordance with experience and scientific deduction, that we can come to the necessary correct conclusion upon which action can be taken. Thus I am sorry in a sense that the criticism of Messrs. Strong and Manley and A. H. B. have not caused me to modify any of the opinions expressed in the article. If you, Messrs. Editors, can allow space, I should like to reply to some of the criticisms and re-state my case in unmistakable form.

Two of your correspondents have taken me up for using the term "hybrid" for crosses between different varieties of the bee, and one of them concludes that my argument, for this reason, must fall to the ground. It never occurred to me that anyone would object to the use of the term "hybrid," which is so universally used by bee-keepers both here and in America, though recognised to be biologically incorrect. But to avoid the objection we can use the expression variety-hybrid, and the argument will stand just the same. I may say I wrote from the biological point of view.

It is necessary to recognise that most, if not all, species of plants and animals

under natural conditions are more or less fixed. That is to say, they reproduce themselves true to type, and the variations are so minute that they can scarcely be recognised. Of course, I recognise that cross-fertilisation, which is so predominant in plant and animal life, is a provision of nature to maintain the welfare of both the individual and the species; but such crosses are not radical ones. This fixity of the reproductive constitution of any species is apparently necessary for the welfare of the species also, for we find several which have acquired means of preventing cross-fertilisation. It is mainly when man interferes with natural reproduction that we get radical variations due to unusual crosses.

Now, what I maintain as the primary cause of "Isle of Wight" disease is that crosses of the different varieties of bees cause abnormal unfixity of the reproductive constitution. When we have thus unfixed the reproductive constitution it requires years of normal breeding to fix it again. While the unfixity remains we get offspring which vary very greatly among themselves, and, as I have said in my article, some few of which may have single qualities superior to their parents, but most of which will have qualities altogether inferior, considered from the point of view of all the conditions under which they have to exist. The inability to resist "Isle of Wight" disease, and the bad temper of such bees, are, I contend, some of the qualities which have thus been disorganised. Such unfixed bees, if left to Nature, would be quickly eliminated by the universal competition of life. As I pointed out in my article, there is more than one way in which we may overcome this trouble, but I argued that through the circumstances of bee-keeping it would be best on the whole to fix and improve by slow Nature-like methods the dominant bee of the country. By the term "dominant" bee, I mean that variety which, if the different varieties were left to natural competition, would dominate, and become more or less fixed. In Great Britain this would undoubtedly be the black bee. In parts of Italy it might be the yellow bee. Will some biologists kindly give their opinions as to this theory of causation of "Isle of Wight" disease?

Mr. G. R. Strong, in the B.B.J. of June 20, appears to have concluded that I have "raised the old question of a return to more natural conditions," by which he apparently means skeps. That is incorrect. It is not more natural ways of *keeping* bees, but more natural ways of *breeding* bees, that I am urging. Mr. R. B. Manley, in the same issue, says the crossing of two varieties in plant or animal life tends to strengthen the vitality of the issue. I agree, if he means the inter-crossing of the more or less fixed individuals of a species or variety, but not if he means the inter-crossing of different varieties. Again, Mr. Manley says foreign bees have done wonders in making ours immune. I don't see how he can prove this. The fact that Italian and Cyprian bees and some of their crosses are all that remain in his district does not disprove my theory of disease causation, but, to an extent, tends to support it, for pure-bred bees are more likely to withstand disease. A. H. B.'s experiences when he decided to give "the very best strain of blacks" a trial simply confirms my theory, for, as his words imply, they were variety-hybrids or mongrels.—T. T. TAYLOR, Beverley.

## Bee Shows to Come.

*A nominal charge of 2s. 6d. is made for notices (not exceeding 7 lines) in this column, 10 lines charged 3s. 6d., up to 15 lines 5s., which covers cost of insertion from order till date of show. Cash should accompany orders for insertion.*

**Monday, August 5, 1918, at Cannock, Staffs.**—Honey Show, in connection with the Horticultural Society's Show. Eight open classes for Honey, Wax, etc. Good prizes. Schedules from J. Bird, F.R.H.S., "Glenmay," Allport Road, Cannock.

**Wednesday, August 14, at South-Eastern Agricultural College, Wye, Kent.** — Kent Honey Show.—Fourteenth Annual Exhibition, the Premier Show in England. Six Silver Cups to be competed for and splendid prizes. Classes to suit all Bee-keepers. Schedules this year will only be sent to those who apply to Mr. Alfred Lepper, Secretary, Kent Honey Show, Wye, Kent

**Wednesday, September 4, 1918, at Salisbury.**—Honey Show, in connection with the Commercial Travellers' Food Production Exhibition. Fourteen Open Classes for Honey, to embrace the three Counties of Wilts, Hants and Dorset only. Schedules from J. H. Topham, Melrose, Albany Road, Salisbury.

## Notices to Correspondents

MRS. M. L CHAMER (Brentwood).—*Dealing with a late swarm.*—Can you not fix up some kind of a makeshift hive, that will hold half a dozen standard frames fitted with foundation? Any box that can be made bee- and rain-proof will do. Bees and combs could then be transferred to the new hive when it comes. If you cannot do that, it will be better to let the bees stay in the skep until spring. In any case, they will need feeding.

MRS. A. JAYS (Hants).—*Bees collecting moisture from coal.*—We do not think the bees will get anything but water from the coal. Probably it will be *warmer* than that you provide for them.

W. G. S. (Birkenhead).—*When to purchase stocks.*—It is possible to get stocks of bees cheaper at this season, but against that there is the risk of wintering, and unless you are near heather, or can take the bees to the moors, there is little prospect of securing any profit before next year, and possibly there will be the expense of feeding. We cannot answer the first

part of your query in this column, for obvious reasons. If you send stamp we will reply by post.

E. F. B. (Harold Wood).—*Disinfecting hive and comb.*—The best method of disinfecting a hive is to scorch it out with a painter's lamp. Boiling for twenty minutes (if you have a copper large enough) and treating with a strong solution of disinfectant afterwards should be effective. It is much safer to have new combs, but probably the shallow combs will be safe if soaked for an hour or two in disinfectant, instead of spraying them. The wax would be safe for making foundation if the "Weed" process was used.

"Ashby" (Leicester).—*Honey granulating.*—We cannot say why some honeys granulate sooner than others. We have seen charlock honey granulate in the comb before it was sealed over; possibly yours contained some from that source, or has been exposed to daylight. It will become more solid in time. To keep honey from granulating, an equable temperature is more important than any particular degree of heat. It will not granulate so quickly if kept in a temperature of about 70 deg. Fahr., or a little over, and if in glass jars should be kept in the dark.

"Edwards" (Camborne). — *When breeding ceases.*—(1) We prefer all in one chamber. (2) It depends on how long food is coming in, and on the weather. We have known breeding cease early in August, and have seen brood and eggs at the end of September. Feeding with syrup will cause breeding to continue late in the year.

Two miles is too far for the bees to bring in much honey from the heather.

R. O. Fordham (Beds.).—*Bees carrying honey down from the super.*—If the queen excluder is left on the bees will carry down any unsealed honey, but it is doubtful if they will the sealed honey, but they will use it as required. It will be better to take the racks off, and feed the bees. If you bruise the cappings of the honey they may carry it down into the brood chamber.

C. W. Kent (Molesey).—*What to do with a swarm in a storm.*—Put a shelter of some kind over them as quickly as possible, a skep, box, umbrella, or tarpaulin, and deal with them after the storm is over. It is impossible to give directions to suit every case; so much depends on circumstances.

*Missing queen.*—If the stock is queenless, though late, it is not too late for them to rear another queen. The difficulty lies in getting the young queen mated. It is safer to purchase a laying queen, but do not be in too great a hurry. There is probably a young queen in the hive.

*Ripening honey.*—Keep it in a ripener in a warm room for a few days. It should be covered with a piece of muslin, or other material that will keep out dust and insects, but allow the moisture to escape. A large flat tin is even better than a honey ripener, as a larger surface of honey is exposed.

If bad weather looks likely to continue remove the supers.

The price of honey does not vary much from week to week, but often varies a great deal in different localities. If readers will send us the prices ruling in their locality we are always pleased to publish them. We have several times lately given them so far as we know, viz., run honey 2s. 6d. to 3s. per 1 lb. jar, sections from 3s. each; wholesale prices from £10 per cwt., and from 30s. per dozen for sections. With regard to your other suggestion, if this "corner" is not one for "Bee Problems," what is it?

B. T. (Cwmbran).—(1) The queen had not mated. (2) Quite probable.

I. N. A. (Galway).—(1) We cannot say. (2) There is no nectar to be found. If there was they would be working.

A. McCabe.—See page 249, "Price of Candy."

A. Stratton (Marlboro').—The queen was aged, and a drone breeder. It is unusual for a young queen and the old one both to come out with a swarm.

*Honey Samples.*

J. T. (Tony Vale).—The honey is a very good sample, and has granulated with a nice grain. It will probably make 2s. 9d. to 3s. per lb. jar, and about £11 per cwt.

H. T. Wilkin (Walton).—The honey is a very nice sample of lime and clover. We cannot say whether it was taken off too soon. It is somewhat thin, but that is not unusual for lime honey, and it will quite likely keep all right. We have had a thinner sample than yours in our office for over a year and it is still sound.

C. W. Dutton (Packington).—The bottle was smashed. A thin cardboard box is *not* sufficient protection for a medicated tablet bottle. It was dropped into our letter box still leaking, and a nice mess it made. We had over 50 letters and cards to sponge both sides before we could open them, every one having more or less honey on it.

*Suspected Disease.*

W. Kearton (Kent).—There is a little odourless foul brood in the comb. Keep the hive supplied with Apicure and naphthaline.

J. Strong (Bathgate).—Natives. So far as we can tell there is nothing wrong with them.

C. M. H. (Sutton).—The trouble is "Isle of Wight" disease. Under the circumstances we think it will be wise to destroy them.

E. J. George (Wales).—The bees were affected with "Isle of Wight" disease. It will be better to re-queen.


## SEASONABLE HINTS.

In all but heather districts the honey harvest is practically over. Should the weather be favourable a little more honey may be stored from the blackberry and second crop of clover and sainfoin. Supers should be removed, but one may be left on strong colonies on the chance of securing a little more honey from a late flow. Late swarms, and possibly some older colonies, will need feeding. Re-queening should be attended to as soon as the supers are removed. If brood rearing has ceased, or nearly so, in any colony, slow feeding will set it going again, and ensure that best of all winter packing —a hive full of young bees.

Great care must be taken when removing honey from the hive and extracting it from the comb, not to leave any where bees can get to it, or robbing will result and the whole apiary may be in an uproar. After things have quietened down, the bee-keeper will have to mourn hundreds or thousands of dead bees, and the weakening, or extinction, of colonies. On no account should a bit of comb be thrown on the ground among the hives, and a super cleaner should be used for getting the bees away from the honey-comb.

Wax is a valuable article, and none of it should be wasted. All the bits of brace and burr comb should be saved, also the scrapings from frames, sections, etc. As an old proverb has it, "Many a mickle maks a muckle," and it is surprising what a quantity of beeswax may be obtained by having a pail or other receptacle into which all the scraps may be put until there are plenty to be worth melting down.

After the sections are removed, sort them over, and any that are only partly finished, or are not good enough for sale, should be extracted and saved for use as "bait" in section racks next year.

The extracting room should be bee proof, and it is better to do the extracting in the evening when the bees are not flying. The empty combs may be returned to the bees to be cleaned up. It is a good plan, if all the stocks are healthy, to allow one colony to do all the "mopping up," choosing one that is short of stores. A super clearer having a hole that may be opened or closed by a tin slide should be left on the hive. One or two lots of shallow combs may be placed on it in the late evening, and the hole opened. The combs will be clean by morning, the hole is closed, the escape again comes into action, and at evening the supers may be removed and others take their place, and so on until all are cleaned.

No doubt most of our readers would peruse the letter (9733, p. 253) in our last week's issue with very sympathetic understanding. What troubles and puzzles we had in our early days of beekeeping when some situation arose that had not been provided for in any book or writing. One of the first things a beginner at beekeeping should learn is that good old maxim, "Bees do nothing invariably." No matter how much was written on the tricks of bees, sooner or later a situation would arise that was not provided for, or the bees would do something that violated all the usually accepted rules and regulations, to the bewilderment of their owner. Nor is it possible to explain why bees will or will not do certain things, and, like that veteran beekeeper Dr. Miller, one has often, when confronted with some problem, the first word of which is that small one of three letters "Why?" to confess "I don't know." "Why" will bees refuse to enter supers, or, if they enter, "Why" is no work done? "Why" do some bees work hard, filling super after super with honey, and never attempting to swarm, and others persist in swarming before even all the combs in the brood chamber are drawn out? And "Why," Oh! "Why" will swarms at times persist in leaving the beautiful new hive, and to the beekeeper's olfactory organs—sweet honey-scented foundation, time after time to cluster in some more or less awkward position? We have known them do this seven times, but "why" we don't know. At times they will apparently settle down and work for a day or two, and then decamp. A comb containing brood put into the hive which the beekeeper hopes will be the future home of the swarm, is by most beekeepers supposed to make the tenure of the hive secure; but is it? All we can say is that during the last week in July a swarm in our own apiary decamped under just those conditions, leaving barely enough bees to cover the brood; but "Why"? We only know of one method of dealing with a swarm that, up to the present, has made certain of it remaining, and that is to remove the parent colony, and place the swarm on the old stand; but we would not like to guarantee that there are no exceptions to even that rule.

It is said of that good old English game, cricket, that the charm of it lies in its "glorious uncertainty." The same may be said of beekeeping. We know that under certain conditions bees will most likely behave in a certain manner.

For instance, if a queen is taken away they at once prepare to rear another; but not always. Sometimes they will destroy every egg, and make no attempt to rear another queen. That happened to one of our own colonies some years ago. (Queen cells are almost invariably built mouth downwards). We have seen them built horizontally, and looking like an extra large drone cell, and an old beekeeper told us a few weeks ago he once found one mouth upwards. There can be no doubt, however, that in swarming there is no limit to the vagaries of the bees, when and where they may swarm no one can tell, and, as in the case of our correspondent, when this is in progress, or an accomplished fact, it will often exercise the ingenuity of the beekeeper to the utmost, either to keep track of the swarm or capture it when the bees have clustered.

With regard to those 10s. (?) queens. At the swarming season beekeepers are in much the same position as the Irishman with his hens. They always laid a large number of eggs when they were cheap, and gave over when they were dear. The young queens might have been put in a cage, or even a match-box, with a few worker bees and some food—candy, or a moist lump of sugar—and kept for a few days, until they could perhaps have been sold as virgins—but not at 10s. each; or nuclei might have been made up, and a young queen given to each. When mated and laying, they could have been sold at once, or kept for a week or two, when they might have made even a better price. After the queens were removed, the nuclei could have been united either to other stocks, or together with one of the queens. If neither of these plans are feasible, the only thing is to do as "Novice" did, and give them a "happy despatch." A virgin will not live long if kept entirely alone—not much over half an hour. Under the circumstances, "Novice" may consider himself lucky to have found the virgins in time to prevent further swarming.

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## A DORSET YARN.

This last week has been a wonderful week for the bees. With the exception of one wet morning, they have worked their hardest; then at noon, as soon as the rain had ceased, bees were on the lavender and rambler roses. Close to the hives, on the rows of privet that had been untrimmed they were soon in countless numbers. In the hedgerows of blackberries was soon the glad hum of content. Overhead, to ragweed and charlock, the continuous hum of thousands of bees seemed to exhilarate the tiller of the soil. Their music, as they fly away to fields of flowers, gives energy to the muscles for still further exertions; it tells of the glorious promise "Seed time and harvest shall not cease as long as the sun and moon endureth." The flowers must be fertilised when the organs of fructification are perfect, or seed will not be ready for harvest. The music of bees seems to shame one from the very thought of stopping work—the aching back, the tired muscles are forgotten, and hour after hour goes on among the crops till close of day, and night comes on apace, and one soon thinks of sleep.

Many of your readers may think that this is only an animal existence. Well, we are happy and content; simple living gives us good health and strength for labour; we take a pleasure in it. All day the bees are around us; we show the visitors the work they do; how they build the city; how they "increase and multiply"; how they store away food for days when no food can be collected; how they kill or starve out the drones that will not work—poor, heavy, noisy units, after a short life of pleasure and the best of food they are destroyed by the workers who reared them: they have the principle, or, as Maeterlinck wrote, "The spirit of the hive." All must work; no work, no food. All this gives us happiness. As Tolstoy wrote, "Every man lives only for his own happiness, for his well-being; we get our happiness in toil, and toil is the law." Many must go away from the farm with mixed opinions of the farmer. As each sees the bees they get an object-lesson in communism, where all must work for the good of the community, and some of them never work; at least they do no productive work, when now everyone should be doing something for the production of food. As so many thousands are working on munitions and armaments, the need for foodstuffs was never greater than now, and prices are most encouraging. In our local markets, ending June, marrows reached 1s. each and runner beans 1s. 3d. per dozen. All are food for the bees; all shows that the farmer who keeps bees has an extra source of profit and that beekeepers should be working their own land and growing food for bees as well as man. Our country is now becoming the storehouse of the nation, and not the pleasure-ground of the rich. The man who toils is the nation's greatest asset; he who does nothing is only a parasite or a drone, and should not feed on the choicest; those that labour must have the best, and if they have their lands to work, they can then grow the best for their own consumption. We who keep bees know that certain plants give the best honey; we like to keep the sections from those for our own consumption. We know that certain

sorts of potatoes have a better flavour than have others; we grow those varieties mostly and, as they are heavy croppers, they are also most remunerative to us. This is most noticeable with "Golden Wonder." But this is digressing: I must keep to bees not potatoes, or I shall be pulled up sharp by some reader that loves bees and thinks them of more interest than "spuds."—J. J. KETTLE.


MARKETING HONEY.

With very many bee-keepers in our islands the end of July will mark the end of the season of ingathering. Now comes the crucial period of selling the fruits of our and the bees' labours. For many this is a time of anxiety, although at present there should be no difficulty in disposing of the heaviest crops, and that, too, at a price never obtained for a period of 40 or 50 years, when a florin or half-a-crown was secured for every section sold. For this season, therefore, the packing of the crop will be the chief care, and I propose to give at least half-a-dozen ways in which this can be done.

1. When one or two up to half-a-dozen sections are sold, they are often wrapped up in any old piece of brown paper, or in an old newspaper, and in this form handed or sent to the purchaser. I would like to point out a more excellent way. Honey in comb is such a taking dainty that it deserves better treatment when consigned to the consumer. Neat corrugated cardboard cartons are on the market, holding from one to a dozen pound sections. They cost a little, but their neatness, and the safety in transit they secure, is worth it. All that has to be done is to push in the section, close down the flap, tie on a piece of twine, and there is a parcel which is presentable anywhere. With regular customers these may be made "returnable," and so the cost may be almost eliminated.

2. An alternative plan is to lay in a supply of small light boards 4¼ in. square, with the margin cut half through to allow them to slip *inside* the wood at each end of the parcel, so as to make a box of the number of sections sold. This, if tied lengthwise, makes a neat, tidy parcel, easily carried, if the sale numbers up to half-a-dozen. This as a package can be considerably strengthened by placing a thin board below, cut the exact length and breadth of the number sold.

3. Another neat, clean, and efficient style of packing, easily carried out by even the merest novice, may be described as the use of a box within a box. Decide on a few sizes, according to the number of sections generally asked for, and get a box of thin wood made to exact size, so that the space will just accommodate the dozen or other number ordered. Simply place them in position, tack or tie on the lid, and deposit your box over a thick layer of hay or straw in a grocer's empty a little longer and wider than your receptacle, but several inches deeper. Resting on the resilient bed of straw, the action, in case of concussion, will be about the same as if it lay on a set of springs. For small and medium orders this plan works very well, the honey arriving at the end of the journey, be it long or short, in excellent condition. If the inner box is slightly too large, a sheet of corrugated packing, placed below, above, at one end or one side, will remedy matters.

4. One of the simplest plans of packing I know is that practised by a friend who lives within two miles of a town. He merely removes sections from the rack to grade and clean them, and then re-packs them in the same receptacle, pushing home the follower and wedge to hold them tight. A "Scotsman" fixed round the case, with the twine running lengthwise, finishes the package. As his trap goes to the town about every second day, the honey is easily delivered. Sections are dumped down on the counter of the grocer, and the empty racks returned, to be again refilled by the bees.

5. The spring crates, so familiar in appliance dealers' catalogues and in the illustrations in several bee-books, are excellent means to an end. Clean, easily handled, easily packed, and as easily cleared at the end of the journey, they serve admirably as a means of safe transit from the producer to the middleman or the consumer direct. Those to accommodate a dozen are very neat and suitable, and are packed with a minimum of time and trouble. Others, constructed for the carriage of three dozen, eighteen in a second tier, above the first, are handy and efficient. Larger ones are not so easily handled, and the springs, because of the roughness necessary to secure strength, are not generally so yielding as to guarantee safety. I think the space internally is best when it affords room all round for a sheet of corrugated paper. Good handles should be provided, and a safer means of closing-up than is generally used should be provided.

6. Simple boxes of various sizes and shapes can be purchased from appliance dealers, but perhaps the all but universal means of despatching sections to the market is by the use of grocers' empties. With these a new system of preparing the

sections before consigning them to the packing-case is necessary, and this implies some labour and care, requiring time and patience. Select a box a little larger than is actually necessary for the size of the order, so as to afford room for packing material, not only above and below, but also at the ends and sides of the case. Either hay or straw placed below in a good thick layer is required, to secure a springy bed for the first row to rest on. To carry out this operation efficiently several requisites are necessary. A table or bench of considerable size facilitates operations. Premising that all sections have been scraped and graded, we lay down a sheet of brown paper at a convenient point, and on this place sections to the number of six, first wrapping each one of these in waxed paper to exclude dust and save drip. These six sections are then parcelled up neatly and compactly in the brown paper, and fastened firmly by a piece of twine laid round lengthwise. In this form they become a solid brick. Lay each of these down in the case, resting on the layer of hay or straw, pressing them close together into a compact mass. Any space at the sides and ends must be filled up with packing. Wads of the material, wrapped up in old newspaper, is at the same time cleaner and more efficient than in a loose condition, and the whole lower deposit must be packed tightly into one solid mass, the constituent parts unable to move or shift with any rough handling in transit. Over this place another tier, resting on a thin layer of hay. Place sheets of newspaper between top and bottom of this packing to keep things cleaner. Three or four tiers may be placed in the box if necessary. Finish all up with plenty of material to cause the lid to make a rather tight fit before nailing or screwing it on. Smaller cases should be bound round with thin cord, and larger ones with thicker rope, for hand-holds; but for the largest size good stout rope handles should be inserted at each end, near the centre of the height, for two porters to grasp when placing the heavy box in van. Add a prominent address label, and a smaller one bearing "Comb honey. With great care. This side up."

## SPACING FRAMES.

Mr. F. W. Watts, of Dulwich, the inventor of the Crystal Queen cage, supercleaner, etc., has kindly handed us a suggestion for overcoming the existing difficulty of obtaining the metal spacing ends for standard combs. Take a strip of tin, the length of the inside of the brood chamber and 1 in. in width. Mark off a strip from end to end and $\frac{3}{8}$ in. from one edge. Then cut slits from the edge to the mark, making the first $\frac{3}{8}$ in. from one end of the tin and the next one $\frac{7}{8}$ in. from the first. The third slit must be 1 7-16 in. from the second, and the next one again $\frac{7}{8}$ in., and so on, so that the spaces between the slits are alternately $\frac{7}{8}$ and 1 7-16 in. The $\frac{7}{8}$-in. tabs are all bent down on one side to form a series of hooks that will rest on the side of the hive. The ends of the frames will fit into the gaps thus formed, and the upright tabs will keep the frames properly spaced and prevent the escape of bees. The weight of the combs would keep the tin quite rigid whilst in use. This suggestion may be of help to those who are unable to obtain metal ends. The same contrivance may be used for shallow frame boxes, making the first slit $\frac{1}{2}$ in. from end of tin and the distances $\frac{7}{8}$ in. and 1 13-16 in. alternately.

## THE MAKING OF A BEEMAN.

(*Continued from page* 204.)

The family had decided for BEES, no longer were bees to be merely suffered. Bees must be kept, and kept properly, understanding must dispel fear, the Golden Rod and the Sun Flower no longer shunned. Stings there would be, of course, but what of that? Are they not good for rheumatism and what not? "Besides," said Peter, "it is father who will do everything, and stings are nothing to him." This was enough to put any man on his mettle, and the "'Phone" directory was searched under "B" with no result. But when the Beeman arrived home that evening he was a proud man. The Post Office Directory had revealed the existence of the B.B.K.A., and he was the happy possessor of a membership card and the red-covered "Guide Book." Lislie remarked, "Why call themselves the *British* Bee-keepers? Of course they are British. Bee-keepers' Association would be so much easier to find."

A busy and delightful time followed. Even the "Times" was neglected in the daily, hour-long journey to town. The "Guide Book" was read and re-read from cover to cover for a whole fortnight. Now let beginners, and rule-of-thumb bee-keepers, mark this—those who have kept bees for years but have never thought it worth while to study the accumulated knowledge of others—that little book was read through and through *three times* before any attempt was made to tackle the bees. The Beeman now felt up to clearing the mess in No. 2 colony, a smoker was borrowed, and the job tackled and put through successfully. The broken comb with brood was cleared out of the back part of No. 2, and for the lack of

frames, cut up and fitted into sections and placed in the super of No. 1, to hatch out; quilts had been made, and old carpets cut up into squares for warmth. No. 3 was rid of a large ants' nest, which was found between the covering mat and the plank, and a water-tight roof was contrived. Plans were also made for driving No. 3 colony as soon as a brood chamber and frames could be secured.

Teddy proved a useful help in all this. Attired in veil and gloves, he manipulated the smoker and soon proved himself an accurate recorder of hive conditions. Pencil in hand, and note-book on knee, he would sit at a distance and write down the dictated estimates of the number of square inches of brood, sealed and unsealed honey, and pollen in each comb, for the Beeman felt that an accurate record of the condition of each hive at different dates would to some extent compensate his lack of experience.

Meanwhile sellers of bee appliances were visited, and were written to. Their catalogues were studied. The difficult question of selecting a type of hive was tackled methodically, and a comparative statement made of prices, parts, and particulars. This led to the conclusion that the excess cost of a hive which is double throughout, over the simpler hive, works out to very little indeed when spread over the life-time of a hive, and is a very small price to pay for the greatly increased adaptability to all manner of manipulation. The sequel proved the wisdom of this decision, which later permitted the tiering of brood bodies, a system fruitful of brood and honey, and a deterrent of swarming.

The need of a plentiful supply of appliances was soon recognised, and the orders ended by mounting up to three complete W.B.C. hives, each with shallow frame and section supers, besides extras such as a brood body, shallow frame, and section super for each hive, sixty extra standard, and thirty extra shallow frames, all with full sheets of foundation. The programme contemplated limiting the apiary to three colonies in the W.B.C. hives, keeping the old cottage hives for nuclei and for the temporary reception of swarms.

Of course the makers were not able to supply promptly, and a whole month passed before the arrival of a brood body with frames and one roof.

Plans were now laid for driving No. 3 colony out of their sugar-box, and the Beeman declared that if this proved successful he would try his hand on the colony in the western cornice of the roof, and would take honey from the old colony in the east cornice.

*(To be continued.)*

## CORRESPONDENCE.

*The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.*

### SEEING QUEEN LAY.

[9735] I had an experience on Wednesday evening, July 3, which, I think, must be somewhat unusual. I moved a small lot of bees on five combs from a nucleus box, where they had been for two days, into their permanent quarters. It was about nine o'clock in the evening. I used nothing to subdue them, doing everything very quietly and smoothly, and only two bees rose. The queen was on the last comb. I put this frame 3 in. from the others, and watched the bees interestedly for a few minutes, while they manned the top bar, as they do when quiet, and then turned to see whether I could "spot" the queen easily. She was a Simmins's queen, with mostly black bees, and, as they are beautiful golden creatures, I saw her quite easily. Watching for a moment, she emerged from under some bees and appeared to help herself from a cell. I thought that her attendants had abandoned her owing to the disturbance and that she was feeding herself, but to my astonishment she laid an egg in the cell, right under my nose. I thereupon gently tilted the frame in my fingers to about 60 degrees, so that I could the more easily see. She laid five eggs while I watched, and I was struck by the great deliberation of the act. I called my wife, who was in the garden, so that I might take the exact time. Only two eggs were laid after that, as there was little space left. She took exactly eighteen seconds each time, from the moment she commenced to thrust her abdomen into the cell till the moment she commenced to withdraw it.

I also had a similar experience on the 13th, when putting in another comb. This time I lifted the comb out without vibration and held it above the hive, and the queen laid two eggs while I looked on. She did not appear to be disturbed by the light, though for the most part I turned her side away from the sun. I

noticed this time, as I could look straight down on her, as she thrust her abdomen into the cell that the posterior half was quite considerably protruded in the effort to deposit the egg. She certainly looked a very odd figure as she sat in the cell. She also appeared to be laying a little faster, though seconds are hard to reckon.

I was struck by two other things. First, that she was not, as some books say, surrounded by a group of bees steering her about, so to speak, where they wanted her to lay, but she wandered about by herself under the monotonous obsession of egg-laying: and second, that it appeared to be anybody's business to give her a lick or a sip of food as she passed.—C. S. MORRIS.

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REPAIRING SMOKER BELLOWS.

[9736] In these days of economy and substitution the following may be of some service to those who, like myself, have been unable to purchase the old style smoker with the leather bellows, and have to be content with the various substitutes now on the market.

My smoker has only been in use a few weeks, and the bellows are perforated at the corners already. I was puzzled as to how I should replace or repair it.

Having an old inner tube belonging to my cycle, I cut out the sound part, and, after carefully removing the tacks and tape from the bellows of the smoker, I have covered the old bellows with the piece of inner tub, carefully replacing the tape again.

I verily believe the smoker to be better now than when I first bought it, as the rubber bellows are much more pliable.—G. E. WEEDS.

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LITTLE THINGS THAT MATTER.

[9737] For the benefit of readers of the "B.B.J." I should like to give an easy method of removing supers, etc.

We are taught that to remove supers, either for the purpose of placing another one under or final clearing up, to first break the joint between the two with a strong knife, or, better still, a hive tool, then give the top box a twist to break the brace combs, which are nearly always built between a super box and the one under it. Now, I find that the result of this is that, unless your frames in both boxes are tightly wedged up with metal ends, etc., the twisting of the top box disturbs the combs of both boxes, brings them together, crushes the bees between, breaks the capping, and causes honey to run. It also leaves pieces of brace comb projecting below the level of the underside of the top box and above the level of the top side of bottom box, which all has to be scraped off (this causes a lot of honey to be exposed and run) before you can proceed with your work. Nearly everyone has seen the grocer use his wire cheese cutter, namely, a piece of copper wire about 20 gauge, *not stronger*.

The method I suggest is to obtain a piece of this wire, say 3 ft. long, fix a piece of wood at each end as a handle, break the joint between the two supers, apply a little smoke, then insert your wire in the joint between the two boxes on the front side, and with a gentle sawing motion draw it towards you at the back until it is well past the middle (where the brace combs are generally built).

The result is a clean cut between the two boxes without disturbing the combs, even if no metal ends are used, no crushing of bees, and the least possible amount of running honey. The top box, having a level underside, may be stood anywhere with ease, and the bottom box, having a level top side, one can with equal ease stand another box on the top of it. I don't know if this method is new, but have not seen it recommended. It works very well, being simple and easy.—W. IOX.

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HEIGHT OF HIVES FROM THE GROUND.

[9738] I have noticed the correspondence on height of hives from the ground. Now, our local policeman, a keen bee-keeper, told me in the spring all the bees in the trees were dead. I know of one such lot, and also one in a thatched roof, that have died out. The same policeman also told me the bees in a church tower were dying (five or six separate lots), and that the churchyard was strewn with dead and dying bees. There were quite a number of skeps in this parish a few years ago, and I only know of one that survived last winter. Per contra, I have now six flourishing stocks, all in Conqueror hives, and therefore near the ground, and, so far, there has been no sign of disease. I used Bacterol candy in the spring, and now spray with Flavine as opportunity offers. Height from the ground has not conferred immunity in this district.—D. D. BENNETT.

[9739] In reply to Mr. G. R. Strong's letter [9717] *re* height of hives from the ground, no doubt there is something in it, as about 1909 or 1910 I lost a good swarm (natives), which went straight to a large oak tree and established themselves therein, about 30 ft. from the ground and about 12 ft. over a pond, where they have lived and thrived ever since, although in the meantime that fell destroyer, "Isle of Wight" disease, has

laid a heavy hand on this locality and its bees. Now, what Mr. Strong proposes to do is hardly a fair test of the theory. To begin with, on June 30 he has a stray swarm 1¼ lbs., then later another 1 lb.—2¼ lbs. altogether—most likely both having virgin queens. He hives them on four drawn-out combs, a possible source of infection, unites the two together, perhaps another source; then in August re-queens with an Italian—it may be a further source of infection. Why depose a young queen to introduce an Italian? And, if in a thriving condition next year, to what will he attribute the success—the elevation or the Italian queen?—W. J. MARTIN.

## A CORRECTION.

[9740] I cannot refrain from venturing to correct the admired writer of the "Dorset Yarns" when he takes to quoting Burns. Our friend is "aw wrang" when he says "Princes and Peers," etc., the quotation should read "Princes and Lords are but the breath of Kings."

Many people seem to think that Burns wrote, "an honest man's the noblest work of God," but, as a matter of fact, Burns merely quotes these words from Pope's "Essay on Man."—R. D. GALBRAITH.

## BEES AND WATER.

[9741] In a recent article in the B.B.J. on "Bees' Food and Drink" (page 226) we read that: "It is estimated that at certain seasons of the year, during part of the day, 75 per cent. of the bees leaving the hive are bent on water carrying." Another extract from the same excellent article says: "No less is water a necessary constituent of this bee food on which the young are cherished."

Special attention is drawn to this because, wherever I have gone among bees—and I seek them out on every opportunity—I have not as yet seen any of these bees suitably supplied with water by their owners. Last year, on cycling through Salop, I found out and called upon a gentleman bee-keeper, who modestly informed me that his daughter looked after the bees. There were a good number of stocks in a field by the house (a vicarage), but no water was to be seen. Their attention was drawn to this, and it was found the bees had quite a long way to go for water. It was pointed out how much better the bees would do if they were provided with water nearer home, and so save an enormous amount of time and labour. There was no hesitation in seeing the real need for this, as the "Lady of the Bees" said, "Well, we had never thought of that."

There is no doubt that a great many of these valuable insects shorten—or lose—their lives in their attempts to get supplies from unsuitable places, such as water-butts, which often contain nothing but stagnant and putrid water.

Some few years ago, before providing my stocks with water, I was constantly finding dead bees in my garden water-tub, which collects the rain-water from the roof of a cabin. I have paid the penalty for my ignorance. They are now supplied with an earthenware vessel, of a kind mostly used as a water fountain for poultry, which, with a few well-selected stones placed in the well, provides them with all the safeguards against drowning.

It is a sight worth seeing to stand by on a warm day and see the quantity of bees eagerly drinking and hastening back to the hive with water for the nursing bees to use in preparing the food for the young. It at least shows the need for a good supply of water near home.

It is a common thing for bee-keepers to provide a bee garden, so that there may be a quick supply of nectar and pollen for their stocks, but how often is a thought given to that requisite "75 per cent. of water" needed to dilute these in order to provide the young bees with a digestible food?

Is it possible that the lack of the necessary water wherewith to mix the food for the young bees has anything to do with their consequent impaired digestion, making them an easy prey, later in life, to that common malady "Isle of Wight" disease?—S. MILTON, Derby.

## PRESS CUTTINGS.

Honey is one of the products of the Canadian farm that is playing an important part just now. It is taking the place of syrup in baking and confectionery establishments. Its economic value is becoming more generally recognised every year, and the increasing demand is attracting the attention of residents of Canadian rural districts who are so situated that bee-keeping offers them a sure and reasonably easy means of revenue. Bees owned by a farmer and operated on his own farm will yield him, in addition to the honey crop, the benefit of increased fertilisation of some of his most important crops. No fruit grower who is in any considerable way of business should be without a few colonies of bees for the sake of the benefit to his orchards at blossom time. Another good reason is that no one is better situated to effect a satisfactory distribution of the products of the bee than the man who has had experience in disposing of a crop of fruit.—From the *Empire Review*.

# Bee Shows to Come.

*A nominal charge of 2s. 6d. is made for notices (not exceeding 7 lines) in this column, 10 lines charged 3s. 6d., up to 15 lines 5s., which covers cost of insertion from order till date of show. Cash should accompany orders for insertion.*

**Wednesday, August 14, at South-Eastern Agricultural College, Wye, Kent.** — Kent Honey Show.—Fourteenth Annual Exhibition, the Premier Show in England. Six Silver Cups to be competed for and splendid prizes. Classes to suit all Bee-keepers. Schedules this year will only be sent to those who apply to Mr. Alfred Lepper, Secretary, Kent Honey Show, Wye, Kent

**On August 16 & 17, at the Technical Schools, Gillingham.**—The Rochester, Chatham and Gillingham Branch of the Kent Bee-keepers' Association will hold a Honey Show in connection with the Allotment Holders' Association, open to members of the Kent Bee-keepers' Association. Schedules and entry forms may be obtained from Mr. G. Bryden, 46, Star Hill, Rochester. Entries close August 10.

**Wednesday, September 4, 1918, at Salisbury.**—Honey Show, in connection with the Commercial Travellers' Food Production Exhibition. Fourteen Open Classes for Honey, to embrace the three Counties of Wilts, Hants and Dorset only. Schedules from J. H. Topham, Melrose, Albany Road, Salisbury.

## Notices to Correspondents

E. W. C. (Amwell).—*Removing bees from a tree.*—The method of attempting this will depend on circumstances. We cannot advise as to the best without seeing the tree. Giving the bees a few puffs of smoke to quieten them, and then cutting the wood away until the combs can be cut out and the bees brushed off, would probably answer.

R. Geard (Bury St. Edmunds).—*Utilising driven bees.* (1 and 2) You can unite them to weak colonies on frame hives. It is better to take away one queen, and cage the others for twelve hours, and the same thing should be done when uniting two weak colonies. (3) Take away the surplus combs, as you suggest, if they have no brood in them, a couple of hours or more before uniting. If there are too many combs containing brood to allow of this, put the extra combs over the full box, with a queen excluder between, and remove when all the brood has emerged.

M. F. Reddie (Leigh).—*Bees cast out.*—The immature bee was a worker. The other two workers were a cross between natives and Italian. The drone had apparently mated. We cannot say, without having seen the hive, whether it had swarmed. If it had there would be a great decrease in the number of bees. Quite likely it was a stray cast.

F. Shepherd (Mellor).—*Queen Queries.*—(1) When looking for the queen use as little smoke or other subjugator as possible. Take out a couple of combs and place in a box outside the hive, so that you have a space between the comb last examined and the next one. The queen is then not so likely to run back. Before putting back, and after lifting out, another comb, examine the floor and sides of the hive, the queen may often be seen there. (2) It is a matter of opinion. We prefer to always use an excluder. (3) The queen reared early this year will be quite good for next year. It is not advisable to requeen *twice* a year, unless a queen is faulty, but the best time for requeening is just after the honey flow.

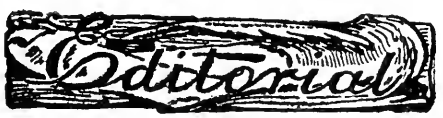
F. E. Bennett (Hants.).—You did quite right in cutting out all queen cells.

*Suspected Disease.*

E. F. George (Oswestry).—Natives. We do not find any disease.

M. Tooley (Essex).—The comb contained foul brood.

E. Rigby (Penwortham).—We could not find any disease. We do not think you would have any remedy. It would be impossible to prove that bees were affected with disease when bought if it did not appear for fourteen days afterwards. You cannot insure bees against disease.




## A COMMITTEE TO INVESTIGATE BEE DISEASES.

Our readers will be pleased to hear that at last the Government have made a move to assist the bee-keeping industry. It is something, after years of apathy, to have a Committee appointed. We hope it will lead to still further action, and that much good will result from the Committee's investigation. There is still much to be done before the cause of "Isle of Wight" disease is definitely known. Once that is settled there should be little difficulty in finding some method of dealing with, and eradicating it. The following notice has been sent to us:—

"The Board of Agriculture and Fisheries have appointed a Committee to study the life habits of the honey bee with the object of improving the conditions under which bee-keeping is carried on in England and Wales, and to investigate the epidemic diseases of the bee, more especially the disease or group of diseases which pass under the name of 'Isle of Wight' disease.

"It is proposed to undertake the study of healthy bees at Cambridge, and the investigations on 'Isle of Wight' disease at Oxford. The Committee would be glad to receive specimens of bees suspected of suffering from 'Isle of Wight' disease for examination and experiment. Communications on this subject should be addressed to Mr. Rogers at 4, Whitehall Place, London, S.W.1."

## OBITUARY.

### G. M. Doolittle.

We regret to hear of the death of Mr. G. M. Doolittle, of Borodino, New York. His loss will be felt not only in the United States, but by bee-keepers the world over. Not only was he one of the foremost beekeepers, but a teacher of authority, the soundness of whose doctrines was undisputed, and whose writings were looked forward to with pleasurable anticipation by thousands of bee-keepers in both hemispheres. We are indebted to *Gleanings in Bee Culture* for the following appreciation:—

"Gilbert M. Doolittle died at his home near Borodino, N.Y., on June 3, 1918, aged 72 years, 1 month and 19 days. Although Mr. Doolittle had suffered from serious ill health for a long time, his final illness was of the duration of only two days, death resulting from prostration due to the extreme heat of June 1 complicated with the results of contracting a severe cold. His whole long and useful life was spent on a farm in the immediate neighbourhood of his birthplace. He was born the son of a farmer and bee-keeper, and from his very infancy he was himself a bee-keeper.

"By the death of G. M. Doolittle, the voice of a great bee-keeper-teacher has been stilled. For almost half a century he unceasingly taught the principles and details of good bee-keeping through the apicultural journals to a great audience of both bee-keeper learners and bee-keeper experts. Among all the correspondents of the bee journals no writer, perhaps, has been more closely followed than Mr. Doolittle. The readers of *Gleanings* through many years have expressed in thousands of letters their appreciation of him as a teacher. So universally was his opinion sought that *Gleanings* Editor, early in 1900, asked him to conduct a department in *Gleanings* entitled 'Conversations with Doolittle.' In that capacity Mr. Doolittle has been a continuous instructor to the American bee-keeping public for more than 18 years. He has been a regular contributor to this journal from the first year of its publication, 1873.

"From his earliest years, Mr. Doolittle was a very close observer, and his statements as to the actual operations that take place within the hive (or what we now technically call bee behaviour) can be regarded as authentic. He came to be generally accepted as an authority on all manner of domestic economy of the bees.

"Mr. Doolittle was a large man in every way, of magnificent physique and commanding presence, the possessor of a fine voice, a ready and witty speaker, a good story-teller, and an excellent writer. In the telling of witty stories that illustrated valuable points in bee-keeping, he surpassed any bee-keeper we have ever known. At the great Buffalo bee-keepers convention, in 1897, we recall that he was frequently called on, and each time he brought down the house with roar upon roar of laughter and applause. His stories always had a good point.

"One of Mr. Doolittle's most emphatic teachings was that the bee-keeper must follow nature—that no bee-keeper could succeed if he did not follow nature's rules. One of his chief theorems was that good queen-cells must be reared in strong colonies built up to the swarming pitch, and, as a corollary of this, he often said that good cells could not be built unless honey or sealed stores were supplied daily. He rightly and stoutly held that no queen-breeder could succeed unless he

observed these two rules. He was first to prove that good cells could be built under only two impulses—the swarming impulse and the supersedure impulse. Good queen-breeders now recognise these two propositions as fundamental.

"Although Doolittle did not invent artificial queen-cups, he was the first man to develop the process. His method of making artificial cell-cups started a new era in queen-rearing. While cell-cups are now made in a wholesale way by machinery, the basic principle is Doolittle's. He was also the first man to demonstrate that queens can be reared in an upper story with a laying queen below. All in all, Doolittle's method of rearing queens is essentially those of all modern methods now in vogue, and this one contribution to bee-keeping has done more to make better queens and consequently better colonies, than any other one thing in bee-keeping practice. His book on 'Scientific Queen Rearing' is acknowledged to-day as containing the best of modern methods of queen-rearing.

"Years ago Doolittle originated the slogan 'rich in stores.' He talked it first, last, and all the time. He insisted that unless a colony at the beginning of the season had a great abundance of stores it would not build up as will a colony that has plenty of stores. Here, again, he was absolutely right, and was ever preaching this fundamental doctrine of good bee-keeping. He developed a unique system of swarm control for the production of comb honey. This system is fully outlined in his book published under the title of 'The Management of Outapiaries.'

"Mr. Doolittle, while not original in the idea of melting wax by means of solar heat, was one of the first in this country to exploit the principle, and for years there has been on the market what was known as the Doolittle solar wax-extractor. He was one of the pioneers in the treatment of American foul brood. His ideas, away back in the early days, were entirely in harmony with those of Quinby, both of whom were absolutely right. During those days there were many false teachers and false teachings; but Doolittle's teaching and practice on the subject of foul brood during all that time were such as stand the test of present-day knowledge.

"In the early days of the A B C of Bee Culture, Mr. Doolittle prepared, at A. I. Root's suggestion, a series of comments showing wherein he differed from Mr. Root. The fact that the two men saw things so nearly alike was remarkable. That they differed in details was only natural. The fact that he was so nearly always right was because he spent hours and days studying his bees—because he learned at the hive.

"One outstanding feature of Mr. Doolittle's bee-keeping was that he was not only a good instructor, but he put his teachings into successful practice. Some men, like Langstroth, the peer of all instructors, never could make money from their bees. Others, like Quinby, one of the best authorities in his day, have made money, even with box hives. Doolittle always profited from his bees, and always succeeded in getting crops.

"Mr. Doolittle was more than a successful bee-keeper and natural-history student. He was a big-hearted friend, a good citizen, and a Christian gentleman.

"Long will the good live after him that he has done. Peace to him!"

## A DORSET YARN.

Bees at the Violet Farm have found the ling heather; they are flying high and swift over the fields of charlock to the heather-clad moors, their song is as Harry Lauder's, "The Bonnie Bonnie Heather." The fields of swedes and mangel, yellow with charlock, are almost entirely forsaken; the men told me bees had been a nuisance to them, as they pulled out the tall charlock flowers from among the mangels in a neighbouring farmer's field. The honey taken out now which has been collected this last two weeks has a fine flavour. I assume it is largely blackberry and charlock.

The early part of the week I had a visit from a member of the Dartford Branch of the Kent Association; on Tuesday one from Ringwood; Thursday brought me one from Highgate, just as we were leaving the farm for a short holiday through the New Forest. It was very thoughtful of them to come and see the farm when they took their holiday in the sunny south; it broadens one's mind to meet such intelligent bee-keepers.

The drive through the New Forest at any time, to the lover of Nature, is a pleasurable one (unless it rains), but in summer, when Nature has put on its very best adornment it is most entrancing. When one has seen for weeks together the long, straight lines of fruits and vegetables, where all is kept as trim and free from weeds as possible, to see the leafy lanes and byways of the Forest, just as Nature planned them, is very beautiful.

On Friday we called at Thorny Hill, a rising in the Forest, thickly clad with holly trees and bramble. Here for generations the tent-dwellers have lived; they are mostly women and children now, the men, I suppose, are gone to the Army; they know where to get out of the cold

winds of winter. The holly trees are a great shelter for their low tents, consisting of bent rods pointed each end and pressed into the soil, with thin canvass stretched over the top; they crawl in one end to sleep.

One's visit there was to see Miss Hay, who has turned her beautiful house into a military hospital for the New Zealand soldiers, who have suffered the hardships of campaigning in France. It is on high ground overlooking the sea; the men were playing tennis and croquet, some were carving wood; one had made a most perfect bee hive, and ornamented it with the New Zealand arms. I was able to take off some very closely filled sections from her English blacks. Her bees are doing well, for the house stands on a heather-clad hill, and on the lawns the eucalyptus flowers were open, with the bees all over them, some of the finest I have ever seen in bloom; the men must be pleased to see trees from their homeland growing in the Motherland. The men are enthusiastic about the kindness of the Commandant, and the pleasures they have during their convalescence. Miss Hay's immense house was designed by herself, as were the pleasure grounds which she has laid out in the Italian style. After a liberal lunch we went on through the silent Forest—in some places many miles without a house—but where there were a few houses one saw some hives of bees, in one place three newly-painted bar-frame hives, and in others skeps and boxes. We stayed the night with some delightful people in the centre of the Forest, three miles from Brockenhurst. As one walked beneath the oaks and admired the silent grandeur of forest sylvan beauties, no man to be seen, now and then a rabbit or deer (we saw one fox who was after the chickens of our host), one felt this was the ideal spot to live out the remainder of one's days in peace and quiet; here in the open glades were the beautiful fritilary butterflies. Bees were everywhere on the ling heather, which seems to be the most abundant of the three native heaths. My host had one stock of blacks, but the greater numbers must be from hollow trees in the Forest, as there were no houses anywhere near, so many could not have all been domesticated bees. Yet my host told me he lost three lots last year from disease, even in this sylvan paradise.

We came through one long drive in the Forest planted with all kinds of coniferous trees, I should think about 100 years ago, but all were planted too thickly, and they are growing into each other and spoiling the beauty of many of them. One was particularly interested in the large trees round Burley, and the numbers of bees and all insect life in that area; it must be a fine place for the man who collects all kinds of insects; there must be a lot of bees in that area, too, if only one knew where to look for them.—J. J. KETTLE.

## THE DOINGS OF DEBORAH.

### III.—THE ARTIFICIAL SWARM.

"No, Deborah, not another day of it. I really cannot bear it! When I come down here I do expect a little peace, and this is the third day that you have met me with that terrible sharp-noted buzz, and flown just in front of my nose until I went inside the honey house, and even then you have gone round every crack of the window and door. The first day there were five of you at it; the second day, three; and to-day, just you!

"Well, what can you expect when you treat us so badly?"

"But if you don't swarm, and I have undertaken to sell a swarm, what can I do but make an artificial one?"

"Well, you need not set about it in that stupid way!"

"Why, what have I done wrong now?"

"To begin with, think how you got us off the combs. You dabbed at us this way and that, with that great quill you are so proud of, bending our wings, and hurting our antennæ! Why could you not gently sweep it down the comb, giving us time to retreat in front of it?"

"I own I was rather flustered, but then you see, although I knew that the queen was safely in the swarm box, yet as fast as I brushed you into it out you flew again."

"Yes, we flew back to the hive because we knew where it was. If you had moved the hive and put the box in its place we should have joined the queen in the box."

"Of course you would! I never thought of that! But why did you not stay in the box when the queen was there?"

"Really, I have no patience with you! Haven't you noticed that we always crawl upwards? Then why on earth did you have the opening of the box at the top? Why didn't you turn it upside down?"

"Because I don't believe you would any of you have gone into it if I had shaken you off in front of it!"

"Yes, we should, especially if it had been in the place of our own hive and if the queen was inside."

"Well, just tell me what I ought to have done, and I'll make a note of it for next time, for I really do not want that high note of yours in my ears for another three days."

"First move the hive and put the box in its place upside down; then find the comb with the queen on it, and gently brush her, and the bees with her, in front of, or into the box. After that *gently* brush the bees off as many combs as you like in front of the box, and let them run in. Then be sure that the hive has a ripe queen cell, and put it back in its old place and send off your swarm. And next time, if *you* use your wits, you won't have to complain that my buzz gets on your nerves, and I shan't have to give you a lesson in bee-keeping.—DEBORAH'S HOSTESS.

## THE URGENT TASK.

(2.)

By A. Z. ABUSHADY.

*Serum therapy* affords another line of research for a means of preventing and treating "Isle of Wight" disease. This, if successful at all, would mean creating a *passive*, not an active immunity. I am not in a position at present to undertake such a task, as I anticipate that the investigation in connection with the merits of *vaccine therapy* in prophylaxis (and possibly in treatment) would take a very long time.

*Serum therapy* might possibly be of value in treatment, but, of course, not in prophylaxis, except for a short period. Although such a suggestion is based merely on theory, there is nothing to indicate that it is not sound, and, therefore, it is not unworthy of an experimental effort. Experiments should be undertaken on suitable animals with suspensions of *Nosema spores* and with cultures of the important ancillary organisms, in order to stimulate the production of *anti-bodies* in their sera. Should that be realised, the sera of such treated animals, after the addition of a suitable percentage of a non-toxic antiseptic, could be administered to the bees mixed with the syrup, both as a medicament and a protein food. It should be remembered, in this connection that Mr. A. D. Imms, in his report on "Isle of Wight" disease, presented to the Board of Agriculture eleven years ago, laid great stress on the factor of *alimentary toxæmia*, from the bad effects of unsuitable food. He wrote as follows:—"The demand for a nitrogenous food seems to be one of the most marked characters of the disease, but why the demand should arise is a question which it is not possible at present to answer. As an experiment, it might be worth while to supply liquid nitrogenous food and to remove the greater part of the pollen from the combs in winter." In the section of his report dealing with suggested remedial measures, he again says:—"The tendency of the bees to distend themselves with pollen should be prevented as far as possible by removing the greater bulk of the stored pollen, and such nourishment as is obtained from the latter should be supplied to them in a liquid form mixed with the artificial food. The bee-keepers are advised to experiment with beef jelly or a meat extract of a similar nature."

I have shortly outlined here my additional views regarding the prevention and treatment of "Isle of Wight" disease in order to stimulate thoughtful discussions on the questions therein involved, and in order to induce the early commencement of further research on the subject. It is immaterial to me to find, or not to find, supporters of my views, since I like always to have an open mind, and to base my deductions and theories on observations and thoughtful considerations, not on blind beliefs and wild dreams. Therefore, the question that matters is whether after over ten years of a devastating epidemic of this plague, and after all the losses that the craft has endured, and is still enduring from it, our policy in attempting to eradicate it should take a new scientific course with some effort (both individual and combined) on the part of every bee-keepers' association worthy of the name, or whether we shall merely continue to discuss secondary questions, such as the shortening or lengthening of the alighting board, and the partisanship to one "cure" or the other. Clearly it is the duty of the Board of Agriculture in addition—more so in the present emergency—to continue the early useful research that was carried out by their competent investigators.

## CONCERNING THE OLDEST CIVILISATION IN THE WORLD.

Of all the fables of ancient mythology, that dealing with the origin of the honey-bee is, perhaps, one of the oldest and prettiest. On the birth of Jupiter, his mother, Ops, entrusted him to the two daughters of the King of Greece, Melissa and Amalthea, in order that the young god might escape the fate which awaited him—that of providing a repast for his father Saturn. To smother the cries of the unfortunate baby-god, the sisters continually beat upon brazen pans, and this attracted the neighbouring wild bees, who forthwith took the responsibility for his nourishment, bringing daily supplies of honey until their attentions were no longer needed. In acknowledgment of their services, Jupiter endowed these wild bees with the power of parthenogenesis, so waiving the ordinary male-and-female principle, and entrusted their descendants

with the work of gathering honey for the food of man.

The honey-bee finds a place in the earliest records of mankind, and her wonderful commonwealth was established centuries before human civilisation. Primitive man must have noted the haunts of the wild bees, driven off their enemies and appropriated their honey, thus taking the first step on the road which has led his descendants into the mysteries of that marvellous Utopia on which mere man can do little more than gaze in wonderment. Bees' wax was used in the casting of weapons in the Bronze Age. The queen bee (or, as the Egyptians considered her, the king-bee) was symbolical of a king in Egyptian hieroglyphics, and proof is not wanting that bee-keeping was an established craft thousands of years before the Great Pyramid was built. It is on record that 300 years before Cæsar's advent in Britain the inhabitants brewed a drink of wheat and honey, and in many ancient folk-songs Britain is called "The Isle of Honey." In Anglo-Saxon times bee-keeping was common in this island, and, indeed, the industry supplied food, drink, and light. It is difficult to realise that until the 17th century honey was the chief sweetening agent of the English middle and lower classes, yet such was the case.

"The chastest poet and most royalest that to the memory of man is known" shows all through his Fourth Book of the Georgics his great knowledge of, and wonderful love for, his bees. Although his book was considered a practical guide to bee-keeping until about 100 years ago, its chief fascination and value lies in its wealth of poetry and romance, its fund of ancient myth and quaint bee-lore. Virgil writes of "Heaven-born honey, the gift of air," showing the belief, which he shared with Pliny and other ancients, that honey was an exhalation from the air. Indeed, Pliny carries this idea much farther. He says: "Honey is engendered from the air, mostly at the rising of the constellations. Whether it is that this liquid is the sweat of the heavens, or whether a saliva emanating from the stars, or a juice exuding from the air while purifying itself . . . still it affords us a most exquisite pleasure, the result, no doubt, of its aetherial nature and origin." He goes on to explain at what seasons honey is inferior, or charged with marvellous healing properties—according to the state of the heavens! Most ancient bee-men had a profound faith in the healing powers of certain wonderful mixtures compounded of honey, wax, dead bees, powdered bees' heads, and so on—potions more wonderful than pleasant. Virgil also tells us that "From leaves and sweet-scented herbage they gather their children in their mouths." This refers to the belief in the divine origin of bees, a belief prevalent among the ancients, who were baffled as to the manner of the insects' propagation. Even more incredible still, however, is the theory of spontaneous generation of swarms from the decaying carcase of an ox—or bull-calf, as Virgil quaintly expresses it. The idea, evidently taken from the Egyptians, persisted even as late as the 17th century. The methods employed in producing these mythical swarms were extremely unpleasant, and it is difficult to understand how they could in any way be associated with the honey-bee, who has a perfect passion for cleanliness. (It is interesting in this connection to recall Samson's riddle about the lion and the bees.) Modern scientists tell us that a certain insect called a drone-fly, and resembling the honey-bee, can certainly be generated on decaying carcases, and this fact may explain the origin of this astonishing myth.

A. I. S.

*(To be continued.)*

## CORRESPONDENCE.

*The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.*

### LET US BE HONEST.

[9742] The article in your issue of July 18, under the heading "Let us be Honest," appeals to me. There is, it is said, only one test for an honest man, and that is a patch of hair growing on the palm of the hand. I have dealt with horse dealers, cattle dealers, and pig dealers, and have "been had" by some of each of them, but I have never been so "had" as I have this year by a big bee merchant.

Allow me to tell my little distressing story. Last January I found one of my stocks starved, and, fearing many of the others might go under, and not wishing to be without bees this season, I wrote to a well-known bee merchant asking his

price for stocks for delivery in April or May.

I got the reply, £4. Though the price was high, I made no demur, and ordered three stocks. April came and went, but no bees arrived, and fourteen days of May passed and no bees arrived. I wrote and inquired when I might expect them, and had a reply that the weather was then too bad. In a week I wrote again, and in three days I had a postcard to say the bees had been sent the night before. I live 2½ miles from a station, and though it was a blowing and pouring wet day I went and fetched them; they had arrived the day previously. However, I had my bees, and felt more or less content; but my disappointment was very great, for upon examination I found two stocks contained only a double handful of bees each, and the other one two double handfuls—not enough in all to make one good stock. One stock was queenless. They were on old and mouldy combs, some of the combs containing dead larvæ as hard as marble. I at once wrote complaining of delivery, and got in reply an invoice, "To three strong stocks, early delivery," and this was May 24! I need hardly say the queenless stock went under. The apparently strongest stock had evidently a very old queen, for though they only covered three of the ten combs, they built innumerable queen cells and eventually threw out a small swarm, which went away, and though I have added frames of brood the stock is a very poor one.

For my £12 I have one fairly good stock. It is only fair to state that on complaining again to the seller I got a wire, "Return bees at my expense"; but had I done so he would have had both bees and money, and I could not trust one who dealt as he was dealing.

We Christians often amuse ourselves by taunting the Jew. There are good and bad Jews; there are also good and bad Christians. These latter I avoid as I would a pestilence.

I am in future taking the advice of a successful bee-keeper—to never buy bees without first seeing them. Cannot we bee-men give private information to each other of the men who have robbed us, so that in our future dealings in bees and appliances we know the corn from the chaff?

What a pity that these rogues are in the bee business! To paraphrase a well-known saying, "The more I know of men the more I like bees."—R. Oswald Fordham.

## QUEENS IN WASP NESTS.

[9743] I read the note (9723) about wasps' nests with interest. As I was walking out with my son and his mate last night they showed me a wasp nest hanging from the bottom rail of a fence. There were no wasps flying, only some crawling on the ground, and unable to get up to the nest. I broke it off, carried it to the other side of the road, and opened it. There were plenty of wasps inside, including several queens, but no flyers. Now, how was it the wasps were all "crawlers"? Was it "Isle of Wight" disease? I have only found two nests this year, so far. I thought from the number of queens flying in the spring we should have had a plague of them by this time. I am sending you the bottom comb out of the nest.—S. M. S.

[It is possible for wasps to be infected with "Isle of Wight" disease, and probably those you found were suffering from that malady, but we could not find any spores of *Nosema apis* in the young ones just emerging from the cells. These were nearly all queens or drones.—Eds.]

## CORRECTED QUOTATION.

[9744] Mr. R. D. Galbraith [9740] will, I am sure, forgive me if I point out that Burns, in quoting the celebrated line from Pope, varied it, and originally wrote, "An honest man's the noble work of God," possibly intending a subtle improvement. It so appears in the early MSS., and in the Kilmarnock edition, though the word "noble" was altered to "noblest" in later editions.—J. L. Bishop.

## THE CAUSE AND CURE OF "ISLE OF WIGHT" DISEASE.

[9745] At the risk of unduly trespassing on your space, I should like to reply briefly to Mr. T. T. Taylor [9734]. I did not take any exception, nor, I think, did anyone else, to his use of the term hybrid, which is sanctioned by general usage. What I criticised was the fact that he used the term in its special "bee-sense," and then calmly proceeded to argue as if it were used in the true sense. Therefore, I submit that your other correspondent was quite correct in his contention that Mr. Taylor's argument fell to the ground. Again, I must repeat that the crossing of two varieties give increased hardiness and stamina. Take, as an instance, domestic fowls. Cross two varities—for example, Leghorn and Indian Game—and the progeny will certainly be hardier and less liable to disease than either pure race. The value of first cross fowls is generally recognised. What Mr. Taylor means by "radical crosses" I do not know. Neither does the phase "abnormal unfixity of the reproductive constitution" convey any meaning to my mind. Perhaps that is because I do not remember my biology sufficiently.

What does Mr. Taylor mean by more natural ways of breeding bees? Presumably he refers to increase by natural swarming and leaving the bees to raise young queens as they will. But surely it is better to control breeding, and, as far as possible, mating, by selection from best stocks, with bees as with all other stock?

If Mr. Taylor prefers native bees, by all means let him keep them: but let him not seek to prevent those who prefer other races from enjoying a similar freedom. Mr. Taylor does not adduce a single fact in support of his contentions. Neither do I: but I am chiefly concerned with destructive criticism of his methods of reasoning. But all this speculating as to the cause of "Isle of Wight" disease is of little avail. What is wanted is research to discover *facts*.—G. R. KING.

## QUERIES AND REPLIES.

*Queries reaching this office not later than FIRST POST on MONDAY MORNING will, if possible, be answered in the "Journal" the following Thursday. Those arriving later will be held over until the following week. Only SPECIALLY URGENT queries will be replied to by post if a STAMPED addressed envelope is enclosed. All queries must be accompanied by the name and address of the sender, not necessarily for publication, but as a guarantee of good faith. Correspondents are requested to write on one side of the paper only.*

### LEGAL OWNERSHIP OF SWARMS.

[9081] As a beginner in bee-keeping I should be very glad to know how the ownership of swarming bees is established.

Last June a swarm settled on my potato patch, when a neighbouring bee-keeper came on my premises without permission and claimed them. He was very insolent, and I ordered him off. I got the bees into a box and left them in it until the evening, but in my temporary absence at tea time, the man slipped into my garden and stole the box and its contents. I learned that several people in this and the adjacent parishes had lost swarms of bees. My neighbour claims all that are found in the vicinity, despite the fact that my hives were nearer to the swarm than his own.

How can ownership properly be established? It would seldom be by showing that a hive had become empty. This man has lately taken possession of two swarms on my freehold, and two from other neighbours' gardens, which are adjacent to mine. I certainly would not accept his word that these swarms issued from his hives. Whenever a swarm is found hovering about he tinkles a bell, either to announce that he is about to attempt a capture, or to try and "charm" the wandering insects.

Our village policeman, when I reported the theft from my garden, seemed quite unable to decide the question of ownership.

If one person can thus trespass at will and obtain a monopoly in swarms for a considerable radius it is well that amateur bee-keepers should know their position and thereby save the cost of hives, etc., etc. To me it savours too much of the "heads I win, tails you lose" business.

If you would kindly refer me through the columns of the JOURNAL to the reports of any decided cases bearing on this point I should be greatly obliged.—A BEGINNER.

REPLY.—The law with regard to a swarm is that when it issues the owner must follow without losing sight of it. If he loses sight then he loses ownership. The fact of a stock having swarmed does not give the right to claim swarms in the neighbourhood, unless the above conditions prevail.

It is advisable to ask permission to hive a swarm on other people's property, but when following one in flight it is impossible to find the owner or occupier. The law of trespass does not apply, but the owner of the swarm must pay for any damage done while in pursuit of, or in hiving, the swarm. At the same time, should the owner of the property refuse all access to it he can be sued in the county court for its value.

In litigation much depends on the judge, and an amicable arrangement is preferable to a law suit.

From what you say you have a good case against the person who filched your swarm.

## Bee Shows to Come.

*A nominal charge of 2s. 6d. is made for notices (not exceeding 7 lines) in this column, 10 lines charged 3s. 6d., up to 15 lines 5s., which covers cost of insertion from order till date of show. Cash should accompany orders for insertion.*

**On August 16 & 17, at the Technical Schools, Gillingham.**—The Rochester, Chatham and Gillingham Branch of the Kent Bee-keepers' Association will hold a Honey Show in connection with the Allotment Holders' Association, open to members of the Kent Bee-keepers' Association. Schedules and entry forms may be obtained from Mr. G. Bryden, 46, Star Hill, Rochester. Entries close August 10.

**Wednesday, September 4, 1918, at Salisbury.**—Honey Show, in connection with the Commercial Travellers' Food Production Exhibition. Fourteen Open Classes for Honey, to embrace the three Counties of Wilts, Hants and Dorset only. Schedules from J. H. Topham, Melrose, Albany Road, Salisbury.

**Sepember 4 and 5, 1918, at St. Andrew's Halls, Glasgow.**—Glasgow and West of Scotland Horticultural Society. For Bee Schedule apply to Hugh M. Mackie, C.A., 124, St. Vincent Street Glasgow, Secretary.


*Correspondents desiring an answer in the next issue should send questions to reach this office NOT LATER than the FIRST POST on MONDAY MORNING. Only SPECIALLY URGENT questions will be replied to by post if a STAMPED addressed envelope is enclosed. All questions must be accompanied by the sender's name and address, not necessarily for publication, but as a guarantee of good faith. There is no fee for answering questions.*

E. TURNER (Winchmore Hill).—*Glucose for feeding bees.*—Instead of being an ideal food for bees, glucose is quite unsuitable for the purpose. There are only two substances suitable for bee food; pure honey gathered by the bees from the various flowers—not honey dew, and pure cane sugar. Honey is the best food of all, but it is not advisable to buy it for feeding bees, as there is a danger that it may contain the germs of disease. If the bees need feeding, us the only suitable substitute for honey, pure cane sugar.

H. J. WASBROUGH (Harrow).—*Feeding bees.*—See reply to E. Turner. Up to the present you can only get sugar in the form of candy, made by Messrs. Jas. Pascall. During this month, if feeding is necessary, make a syrup of 15 oz. (by measure) of water to 1 lb. of sugar, or candy, and feed slowly, not more than ¼ pint of syrup each night. If breeding is going on satisfactorily, and the weather keeps warm, it will not be necessary to feed during the next fortnight. If at the end of the month the bees have not enough stores for winter—25 to 30 lbs. for an average colony—give syrup as fast as the bees will take it down and store it, using only 10 oz. (half a pint) of water to 1 lb. of sugar, or candy. If bees need food during the winter use the candy, placing one or two cakes over the cluster, but it is far better to have an abundance of winter food stored in the combs.

MISS P. CONROY (Lancs.).—*Age of queen.*—The queen was not very old, probably reared late last season, or early this.

"TOGO" (Easingwold). — *Disinfecting sections fitted with foundation.*—Fumigate them with "Bacterol" vapourising fluid, or Formaldehyde.

W. HALLAM (Anglesey).—The large bee is a drone, the small one a worker; both appear to be Natives. There is no trace of Ligurian.

J. W. B. (Kent).—The bee was a hybrid Italian worker.

"BEGINNER" (Carshalton).—It was the commencement of a queen cell. Putting on another rack would check swarming. Are you certain the bees are Natives, or are they partly Dutch? There is no difference in their appearance.

G. A. C. (Surrey).—We can assign no particular cause; perhaps the honey was used for feeding purposes. The unsealed honey may be taken down into the brood nest, but the bees are not likely to remove the sealed honey, unless you bruise the cappings, when they may do so, but it is not at all certain. You cannot do anything to induce bees to lay in a good store for winter beyond feeding them. If there is any nectar to be secured from the flowers they will not need encouraging to get it. If the bees are killing off the drones do not add another super. That is probably the sound.

*Suspected Disease.*

W. M. (Wales).—(1) The bees are affected with "Isle of Wight" disease. (2) We have not yet proved it for ourselves.


## A ROLL OF HONOUR.

**Although bee-keeping is considered a minor pursuit, we venture to say that it has provided more fighting men than the usual average of any industry. To place on record the part the members of our craft have played in the present war we propose to make a "Roll of Honour," and shall be pleased if our readers will forward us the NAMES and ADDRESSES, together with the REGIMENT and RANK, of any bee-keeper serving his King and Country at home or abroad; also if killed or wounded.**

We print an additional name to those previously sent in, and shall be pleased to have other names as soon as possible.

Pte. J. E. Saunders, 3, Well Lane, Willerby, E. Yorks.—A.S.C.

## A DORSET YARN.

On the way from Romsey to Salisbury we called to see the Consfield Nurseries of Mr. T. Giles. We found him a veteran of 70, working on his own land among his fruit-trees and his beloved bees, and they were a sight to see. Most of his hives were new, and what was better he has never had a sign of disease. (He had so many letters and telegrams for bees in reply to his advertisement in the JOURNAL that he could not reply to them; he says he sold some of his best swarms.) They were all on the lee side of a laurel hedge, and all looked wonderfully strong. How much he loved them was apparent to all who heard him. He told me he used to be at the local shows with Mr. Bellairs with the bee bent in the rosy times of bee-keeping, before disease came and wiped out so many stocks.

We went to see the beautiful cathedral at Salisbury, where we had sung in the festivals of amalgamated choirs in other days, and then through Downton into the Forest districts called "No Man's Land." Only one house for many miles; yet when we halted for lunch and to rest the horse we were not away from bees. There they were in numbers on the ling heather; I see that they also look over the five-cleft *Erica Tetralix* as well as ling, as did many of the smaller bumble-bees (I cannot place them for fear of making a mistake in the name, and should be pulled up and corrected). It shows how far bees will go for ling heather. There were no houses in the near neighbourhood, and the large trees were some distance away; miles of heather and small scrubby trees. Bees must have come long distances. When we came to the homes of man, geese, pigs, and cows, besides the forest ponies, were all round the dwellings; camps of soldiers and boy scouts round Lydhurst, where the men said the pigs used to raid the rations unless they mounted guard over them.

On returning to the farm after a pleasant holiday, we began unloading the section racks. One pure Italian (a second swarm) gave me two racks of 21 each, all perfect. These are very strong, and fearing they might swarm, as weather was hot, I gave them another rack, with whole sheets of foundation in them, as I lifted off the two full ones. I had laid some glass over the top; it was soon full of bees, but the next day they were hanging in chains round the outer case, as if they were making a start with comb. I have never seen so many bees in a hive before; the queen must be a good one for building up population. I remember once before, when in August I had taken off the racks and left them with nothing to fill but the brood chamber, that they swarmed twice, one good one and one small. The latter kept moving each day along a line of black currants; then I hived them and put them back in the hive they came from. Have always given them another rack since, even if they do not finish them they draw out the comb, and that is a gain for another year. They always go into drawn-out sections in May, where, if not drawn out, they are a long time before they start them.

From another hive of blacks (a migrant swarm) the two racks gave me 24 perfect sections. The others were fastened on the dividers; they were all full. I left them out until the bees had cleaned off all the honey round them, and it does not take long to do that (they always clear up the exposed honey before they uncap any). Then these are packed away for use in the house. There is a great difference in the appearance of the finished article. The blacks' were much the whitest and looked far the nicest. They all went to one dairy in Bournemouth, with a high price attached. There was no demur at the price. "Send it all on; never mind the price"; that was the order the boy brought back.

In taking off these racks I do not use the Porter escape, though I have several of them (to my mind they make an unnecessary disturbance of the bees), but give a little smoke at the entrance and the sides of the brood chamber, lift off the case and lever the two racks together (see that bars do not lift with them), a little more smoke under the racks—it is easily done by holding smoker with one

hand and lifting the racks with the other—then set the smoker down and take both hands and lift off the two racks on to an empty box; a little more smoke to keep bees down; set on the spare rack, place on glass cover and then the lifts and roof. I then carry the full racks up close to the barn, have spare boxes ready in barn to take the sections, and run the lever along the sides of rack (I use a wood chisel). Lever out each line of sections carefully, take hold of each section when free, give each a sharp jerk, and all the bees will be sent off into the air. Take one in each hand into the box inside; one soon gets them free of bees, as they will not go into the building after the sections again. There is no trouble if the sections are full, but if not capped over, which is often the case with the last three at each end, they will have their heads in some of the cells, and do not jerk off so easily, and if you jerk them much you would lose some of the honey.

Besides the heather, there is no lack of food for bees—lines of runner beans, marrows, raspberries, strawberries, many pear and apple trees have thrown another lot of flowers, golden rod, asters, and wild borage and thyme.—J. J. KETTLE.

## THE MAKING OF A BEEMAN.

(*Continued from page* 261.)

Failing a skep, a cardboard hat-box was to receive the driven bees from No. 3. Screws were driven into the upper edges of the sugar-box, and the hat-box fastened to these, opening downwards and propped up with an arrangement of laths, carbolic ointment was smeared along the upper edges of the sugar-box, and this having been achieved without attack by swarms of bees, the Beeman began to feel quite equal to the wonderful business of driving the colony out of their complicated maze of tortuous comb which the bees had built round the five frames in the sugar-box.

Full of secret fear, and a horrid certainty that no self-respecting bee could stand the thumping of its house, but would turn on him in righteous and virulent wrath, the Beeman screwed up his courage, injected smoke, and began to thump. Everyone held his, or her, breath in awed terror, but the seconds fled and nothing happened, and with increasing confidence the thumping became more and more vigorous. Before many minutes had elapsed, urged by smoke the first few forerunners of the great trek began to search about the cavernous blackness of the hat-box, passed the word back, and—wondrous sight—the great trek had begun.

Into the deep cavern slowly crawled a thick stream of golden bees, and went on crawling for full ninety minutes. The last few crawlers were in, the hat-box dexterously removed, and wrapped in a cloth, was weighed, six good pounds of lovely golden bees; and now for the hiving. The top of a packing-case, supported by bricks, was well enough for a floor board, the brood body having had laths nailed to three sides to raise it a quarter of an inch and thus provide an entrance, the width of the fourth side. The edges of a large linen sheet were caught under the two sides of the entrance, and the sheet spread on the ground. The hat-box was now unwrapped, lifted, and the bottom smartly rapped, down came a mountain of bees, and by 10 p.m. all but a few clinging to the front of the brood chamber were safely hived. They proved excellent workers, and though hived late in August and the heather honey crop almost a failure, they pulled through the winter, with the assistance of only ten pounds of Pascall's candy.

The Beeman's next adventure was the taking of honey from the roof colony. He had never been either steeplejack or housebreaker, nor even a bricklayer, nor painter, and the adventure, a contest with bees on the extreme edge of a steep roof 40 ft. from the ground, was not without terrors.

A forty-rung ladder was borrowed, also a rope. With Teddy and Peter hauling at the rope from the schoolroom window on the first floor, the raising of the long ladder was not difficult, but the colony was not directly over the window, it was tucked away in the corner formed by a projecting part of the roof, and, for safety's sake, the middle of the rope was fastened to the ladder, and whilst Peter manned one end with a turn round the sashes, Teddy hauled at the other end, which he had pulled up with a long string let down from the nursery window. Finally everything was fast and tolerably safe, and the tools were taken up in a bucket and stowed away in the gutter. The tiles were next tackled and lowered to the ground in the bucket by fives and sixes, the children keeping well away on account of the falling pieces of mortar and tile scales. This was not the first time honey had been taken, the boards below the tiles were found cut and were easily prized up. Oh! what a lovely lot of honey and what beautiful long combs hanging down as far as the arm could reach, and more.

Now make haste, oh, Beeman! The robbers are out! But quickness is difficult, and single fights grow into a pitched battle of squadrons before everything can be replaced and the roof closed up. Result, seven or eight stings, ten pounds

of excellent honeycomb, and some hundreds of dead bees scattered about the room. Again the family verdict goes forth. "Something went wrong; we must do better next time."

## THE URGENT TASK.

By A. Z. Abushady.

The official announcement regarding the appointment by the Board of Agriculture and Fisheries of a Committee with the double object of improving the methods of bee-keeping in this country, as well as of investigating the epidemic diseases of bees, should be most gratifying to all bee-keepers, especially to those who do not come to the biassed conclusion that our methods of bee-culture are "superior" to American methods, and to the many members of the craft who have been discouraged by the severe losses caused by "Isle of Wight" disease. Let us hope that the efforts of the Committee will be crowned with success—a final success that will help in extingaishing "Isle of Wight" disease within a reasonably short time, and in making the future of British bee-keeping governed by scientific principles and not by the influences of traditions or superstitions. Meanwhile, we should not drop our interest in creating a "*B.B.K.A. Research Fund*," irrespective of the presence or not of a desire to carry out an independent investigation on bee diseases by a committee of the Association. Under all circumstances, such a fund is really a *necessity*, for it is a mistake to imagine that research work is needed only in connection with bee diseases. The advancement of bee-culture necessitates *continuous* research, and it is only fitting that the B.B.K.A. should be *always* active in that direction. Depending on voluntary workers, the Association would, in my opinion, need *at least* a reserve fund of £100; otherwise from five to ten times this amount would be required. I feel sure bee-keepers would not hesitate to liberally support such a necessary fund, if an impressive scheme is brought forward and influentially endorsed. There is no personal consideration whatever for the writer in repeating this suggestion, since I have never cared to undertake any research on bees except as a voluntary worker, and in this capacity alone I would be glad to serve the B.B.K.A. should my services be required, one realising then that one's efforts and money would not be wasted if backed and aided by a disciplined organisation. I repeat the suggestion, therefore, merely as a passionate bee-lover who cares much for the welfare of the bee and the bee-keeper alike.

It would be out of place here to give technical details in connection with the subject of *the artificial immunisation of the bee against "Isle of Wight" disease*, whether by the use of a *vaccine* or an *anti-toxic serum*, or by the direct use of toxic but non-infectious preparations from diseased bees, the aim in all cases being principally directed to the immunisation of the queen bees of the colonies. Preliminary experiments will decide the merits of artificial immunisation, and, should they be encouraging, additional investigations would be justified for determining the nature, duration, etc., of such an immunity, in order to apply it in a practical way. Should it be successful, we may then witness a period in which advanced queen breeders would have to guarantee that their queens are not only healthy, but also immunised against "Isle of Wight" disease. Beyond these remarks, further comments here on this question are unnecessary, unless in reply to some helpful criticisms. I trust that the Committee of the Board of Agriculture and Fisheries will give this question their serious consideration. I hope also they will be fortunate in discovering one or more "specific" drugs for "Isle of Wight" disease, as such a discovery would be of capital importance, since it is not by any means true that once the cause of a disease is discovered its prevention and treatment are easy matters; no few opposite instances are met with in the domains of medicine.

Presumably the Committee will also consider the question of creating suitable strains of "hardy" bees. I have already drawn attention in the RECORD and other bee publications to the advisability of experimenting with the *Egyptian bee*, whose faults have been much exaggerated in England without sufficient trial or analysis of their avoidable causes. The Egyptian-Italian "hybrids" are generally favourably thought of, and would be worth experimenting with. Dr. Lewis Gough, Director of the Entomological Section, the Egyptian Ministry of Agriculture, is not in favour of pure Egyptians, although he speaks favourably of the "hybrids." He informs me, nevertheless, that Egyptian bees "ought to be favourable subjects for research for disease resistance, as bee diseases are not known to occur here." The weather in Egypt is, of course, favourable to the bees, but, on the other hand, the sanitary conditions are most unfavourable. I should like to say in this connection that we could not possibly follow as our guide, with real profit, the biological views advanced in the JOURNAL against the importation of foreign bees, no matter how desirable their qualities may be. With the advance in therapeutics and sanitation, and with the general advance in science, we do not think for a moment of applying such principles even in veter-

inary medicine, so why should we apply them to our precious insects? Our salvation clearly lies in more research for further determining the true causes of "Isle of Wight" disease and for discovering a "specific" remedy in the real sense of the word.

I should like to think that, without waiting for the report of their Committee, the Board of Agriculture, depending on the accumulative evidence of the infective character of certain bee diseases, would not hesitate to introduce the much-desired legal supervision of apiaries. I should like also to think that, in view of the great stimulus which bee-keeping has received during the war, and in view of the great educational value of the JOURNAL to hundreds of bee-keepers, you would not hesitate to gradually increase the scope in your columns of contributions on scientific bee-culture, calculated to help in combating bee diseases and in establishing a much sounder basis for the industry. An increase in the size of the JOURNAL, with a corresponding advance in price, commencing next year, would be highly justified. Being a useful publication for food production, industrial conditions should not prevent its merited expansion. I do not doubt that the overwhelming majority of your readers will heartily endorse this suggestion.

## CHANCE OR INSTINCT.

Something has happened in my out-apiary that transcends any previous experience in my limited and comparatively short practice of bee-keeping. The relation of it may reveal that it is not unique, and may provoke an explanation. Here it is :—

In this out-apiary are nine peopled hives, in two rows, one of five, the other of four, all facing south. The rear row alone comes directly into the incident.

For clarity I will letter the hives of this row, from east to west, A, B, C, D, E.

A contained a stocked skep working down on to frames, the frames being crowded with both bees and brood, the skep was removed to B, there to continue or repeat the same process. The queen went with the skep I saw to that—so A was now queenless and clearly showed it.

Now, E had swarmed, the swarm going off towards Osterley Park. I broke up the stock, putting nearly all the combs in a divisional hive in the front row, and leaving one with a sealed queen-cell to re-queen.

The young queen that issued failed to return from her honeymoon, so E, as well as A, was queenless. Still, I had queens coming along in the divisional hive, and intended to use one of them to repair the loss in E. This leaving me one less for other requirements, I wrote to Mr. Simmins asking him to let me have, as a matter of urgency, one or two White Star queens I had on order, to re-queen hive A. Mr. S. promptly complied, enclosing a word of caution to make sure the original queen was not in the hive before introducing his. As I had seen her in the skep when separating, I was sure on this point, and accordingly introduced the W.S. queen by the direct (Simmins's) method.

Two days later I looked through the stock to see whether she had been accepted, but could find no trace of either queen or eggs. Concluded my introduction had failed and queen been killed.

Four days later A swarmed. The swarm was taken in a skep, and while they were settling in I went through the hive from which they had issued. Depleted of bees as it now was, it was easy to find two queen-cells that had escaped observation before owing to their position and to the crowded state of the hive, and the presence of which had spoiled the introduction of the W.S. queen. Both had hatched out, one of the occupants having gone out with the swarm and the other being in possession. This one I caged and removed, returning the swarm with the other princess to the hive. The sequel to this operation is quite normal; she was mated and is now regnant. The one caged seemed a finely developed young lady, and I determined to use her for hive E, where the young queen's misadventure had left them queenless.

Caging her on a frame of stores in E, I released her 24 hours later. The reception accorded her was distinctly unfriendly, and she was promptly re-caged, to be again liberated 48 hours later. This time the hostility was even more marked than before, a fact which struck me as strange, seeing that she had now been an inmate for three days feeding on their stores.

Lifting the frame, on which I had again confined her, on one side, I began to go through the stock, and had examined six combs, when on the seventh I saw a patch of eggs. Proceeding, the eighth showed a much larger patch, the ninth a larger yet, and, in matronly dignity and sway, my White Star queen. No possible shadow of doubt of her identity. I had isolated her under glass prior to introduction to A, had gazed at and studied her minutely. She was very unlike any of mine, and I recognised her instantly.

My theory is that the bees of A, having two ripe queen-cells, had driven her forth, and she, by chance or instinct, had made her way past three intervening queen-right hives, to E at the other end

of the row, where they, being queenless, had received her gladly. I am naturally pleased at having my Star still visibly in the ascendant, instead of her being driven comet-like out of the system and permanently occulted by Virgo; but I'd like to know was it chance or instinct that diverted her to a safe orbit?—A. F. Harwood.

SOUTH STAFFORDSHIRE AND DISTRICT BEE-KEEPERS' ASSOCIATION.

A meeting of the above Association took place on Saturday, August 10, in Haden Hill Park by kind permission of G. H. Best, Esq.

There was a large attendance of members, the ladies being well represented.

Mr. Emery (late head gardener) conducted the party through the greenhouses, the members being highly delighted with all they saw.

Mr. Joseph Price, Stafford County Council's expert, then gave a lecture on bee-keeping, being ably assisted by Mr. A. Cheshire (assistant secretary), who carried out the manipulations.

Other items of interest were a model W.B.C. hive, the component parts of which were thoroughly explained; also a very handy swarm-box, the advantages of its construction being: lightness, adjustable means of ventilation according to the atmospheric condition at the time of use, and the locking-up arrangements, the whole being opened or closed in a few seconds by the simple pressure of finger and thumb.

Not the least interesting part of the programme was the tea, of which over fifty members partook. Their appreciation was shown by a hearty vote of thanks to Mrs. Price, Miss Price, and Mrs. Cheshire, who were responsible for the arrangements.

Mr. Price then conducted the party round the Park, all being delighted with its beauty and the splendid views of the surrounding country.

Before parting, Mr. Price said he felt sure they would like to convey to G. H. Best, Esq., through Mr. A. H. Bassano, who welcomed the members on behalf of his uncle, their very best thanks for his kindness in allowing the use of the park.

This was carried unanimously.

Mr. Bassano thanked the members on behalf of his uncle. He himself highly appreciated the work the Association was doing, and regretted the prevalence of the "Isle of Wight" disease, which proved so devastating: especially was this deplored at the present time, when, owing to the shortage of sugar, every effort should be made to obtain as large a supply of honey as possible. He was not in touch with what the Associations were doing in the matter, but he thought every Association should pass resolutions, and forward them to the proper quarter, so that the disease should be made notifiable, the same as potato disease, etc.

Mr. Bassano said he would see that the resolution was conveyed to his uncle.

This brought a very pleasant afternoon to a close.—A. E. Taylor, Hon. Sec.

DONCASTER AND DISTRICT B.K.A.

A meeting of the members was held at Marr Vicarage on Wednesday, August 7. The weather was perfect, and there was a very good attendance. Mrs. Hewison provided tea for the visitors on their arrival. After tea the hives in the apiary were manipulated by Mr. J. A. Claxton, M.A., of Doncaster. Mr. Claxton has had a great deal of experience in bee-keeping, and his demonstration was most helpful and was much appreciated. Afterwards, the honorary secretary of the Association, the Rev. G. H. Hewison, explained the making of hives and appliances, and the use to which the various appliances are put. A good deal of healthy discussion followed. Mr. Hewison's stocks unfortunately "went down" last season with "Isle of Wight" disease. He decided to destroy the whole of his eleven stocks and start again. He purchased two skeps of bees in the spring of 1918, and two swarms, and he has harvested 388lbs. of surplus honey. He now feels that he has been rewarded for his efforts to stamp out the disease.—*Communicated.*

## CORRESPONDENCE.

*The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.*

### DESTROYING WASP NESTS.

[9746] We must all be grateful to Mr. A. F. Harwood for his instructions *re* wasps, in No. 1884, but it was a pity he did not give us more details *re* the sulphur and smoker method. It was probably so simple to him that he never thought it necessary. How does he get the sulphur to burn? I tried rag soaked in oil without success. Rolling the sulphur in corrugated paper (now difficult to get) was a great success as regards burning, but not so good as regards wasps. How long does he blow smoke into the

hole? The turps was very deadly, but the price is dreadful, even if it can be got.

I have destroyed many nests in my time, so I hope my queries will not be regarded as foolish. Six nests have fallen to turps, but wasps are still very bad. I find a bottle near each hive, with a little beer, water and old honey, accounts for large numbers of wasps, and the bees are not attracted (at present they can still get plenty of honey).—G. M. E.

We asked Mr. Harwood to reply to the above, and he has kindly done so as follows:—

I have much pleasure in subjoining details of the method I have used in sulphuring wasps' nests.

Take flowers of sulphur, make a paste by moistening with water; spread the paste on thick brown paper cut into strips smoker-cartridge width, roll up tightly, dry in oven. Light at bottom edge as with the ordinary corrugated straw-carton, and use in smoker. Puff into hole vigorously until it is estimated that one-half to two-thirds of the cartridge is burned, then unload and push the stump into the hole as far as possible and plug. Dig out next day.

It should be remembered that sulphur will not ignite or continue burning in the presence of fatty oils or grease of any kind, therefore not even a wax vesta should be used to light it. *Re* "dirty" turps. This is the turpentine which has been used by painters to clean their brushes, etc., hence is spoiled for ordinary purposes, and consequently cheaper. May I add that since my supply of this has failed I have been using creosote in a similar way with complete success, doubling the quantity used, *i.e.*, half a pint instead of a gill of "turps." Wasps will not gnaw wood treated with any creosote preparation: this suggested to me its uses as a destroying agent, especially where the nest is in a gate-post, as is frequently the case.—A. F. Harwood.

## HONEY-DEW.

[9747] *Re* our old friend Mr. J. J. Kettle's remarks in his contribution to your valuable little paper, I might say that I have had ample opportunities of observing the honey-dew, and, so far as I can see, it is the secretion of the Aphis fly, or a branch of that detestable family, that is responsible for the sticky, shiny appearance on the upper side of the leaves, and is caused by the Aphis adhering to the under side of the leaves above and the secretion falling on the leaves underneath, and on a warm summer evening, when the sun is shining through and underneath the infested trees, the minute particles can be seen falling to the ground. In this locality I have seen the pavements black with it, and the dust which collects with it as it falls from leaf to leaf, until it reaches the lower ones, when there is so much that it falls to the ground in big drops. The recent high winds and heavy rain storms have been a blessing in disguise to the bee-keepers in washing away this counterfeit honey and destroying millions of its producers, as it has a very deleterious effect on honey, causing it to look muddy and giving it a dusty, smoky flavour, and it is no doubt a very bad food for bees in winter, and possibly is answerable for dysentery and backwardness in the spring. Among trees I have seen affected most with it are lime, sycamore, oak, maple, apple, and others in less degree. Now, as regards trees that do secrete a liquid that the bees collect, on the laurel—especially clipped laurel hedges — looking under the young leaves two reddish-brown spots may be found near the stalk, one on each side of the midrib, on which there is a clear liquid substance, and this bees and wasps gather, usually in the morning, and no doubt store in their hives; but what effect a large quantity of this would have on the bees I cannot say. Perhaps these remarks would interest friend Kettle or others.—W. J. Martin.

## "LET US BE HONEST."

[9748] *Re* the letter of complaint of Mr. R. Oswald Fordham (9742). This gentleman appears to have been badly treated, but surely this sort of dealing could be easily put a stop to, if only the victims would make a point of publishing the name and address of the vendor, together with their tale of woe. Under these conditions, vendors would soon find that fair dealing was, and is, best. As the matter now stands, all dealers are under a shadow of suspicion, cast by Mr. Fordham's complaint. This state of things cannot be good for the "Craft," and must have a deterrent effect on re-stocking, etc.

I may add that I am not a dealer, am in no way connected with dealers, but am in the market for bees, and as a prospective buyer, am interested in the letter of complaint.—T. W. Turnill.

[Our correspondent above, and others also, overlook the fact that were we to publish names, as suggested, we should lay ourselves open to an action for libel. It is obvious we are unable to guarantee the *bona-fides* of all our advertisers, and we shall be pleased if anyone who is not treated fairly by persons using our advertisement pages will let us know the circumstances. This will be treated confi-

dentially, and if we consider it desirable in the interests of would-be purchasers we shall refuse to insert further advertisements from the parties complained of.—Eds.]

## HIVING A SWARM UNDER DIFFICULTIES.

[9749] Many accounts have appeared in the B.B.J. of mistakes and unexpected difficulties on the part of novices. The following describes what I think all will agree is a triumph of achievement on the part of a novice. One evening a few days ago a worker employed at the docks in a town ten miles from here came and told me there was a swarm of bees at the docks. He estimated the weight of the swarm as 28 lbs.! As soon as possible I set out with him, armed with skep and other impedimenta. We reached the dock gates at 9.30 p.m. Then ensued a parley with the police, ending in a refusal to allow me on the dock. My friend had never had anything to do with bees in his life, so I gave him a few brief instructions, and with much trepidation saw him depart alone to try and capture a swarm in the dark. I then went back into the town to attend to some business, and returned to the dock gate, where I waited until 10.45. I then concluded that the bees must have gone, and that the novice had returned to our conveyance while I was away. I therefore went back. I had to walk about two miles, as the trams had stopped. The novice was nowhere to be seen. It was now 11.45, so I drove slowly into the town at record speed. Presently I saw a glimmer of white; it was my friend with the skep under his arm and a sheet tied over it. "What!" said I. "Have you got them?" "Oh, I've got 'em all right! I wasn't coming back without the bees after all that trouble. But I never worked so hard in my life." This I readily believed. Enquiry as to details elicited the following:—"Well, I got one of my mates to hold a light; then I picked up the board that most of them were on and dumped them into the skep like you told me. Yes, I spread the sheet on the ground first. But there were a lot left outside. I tried the smoker and these rags" (*i.e.*, carbolic cloths), "but they seemed so sleepy; they didn't take any notice of 'em. So at last I got my hand underneath and shovelled 'em in. No, I didn't get any, but the bloke holding the lamp got a couple."

So I have a 3-lb. swarm of fine Italians. My friend is the richer by an experience which will stand him in good stead when he has bees of his own, which, in view of his first dealings with them, I have strongly advised him to do next year.

G. R. Strong.

## WEATHER REPORT.

Westbourne, July, 1918.

Rainfall, 3·37 in.
Heaviest fall, ·61 in on 22nd.
Rain fell on 17 days.
Above average, 1·06in.
Sunshine, 236 hours.
Brightest day, 13th 13·4 hours.
Sunless days, 1.
Above average, 8·5 hours.
Maximum temperature, 79 on 6th.
Minimum temperature, 45 on 4th.
Minimum on grass, 41 on 4th.
Frosty nights, 0.
Mean maximum, 68·7.
Mean minimum, 53·4.
Mean temperature, 61·0.
Above average, ·6.
Maximum barometer, 30·432 on 4th.
Minimum barometer, 29·475 on 23rd.

L. B. Birkett.


S. S. Clear (Royston).—*Green caterpillars in comb.*—The comb was broken into little bits and the grubs dead. The explanation is that the cells had been appropriated by one of the Fossors or Diggers, which had laid its eggs and provided the cells with green caterpillars as food for the young larvæ. The cells were then covered with dry earth worked into a cement. The grey grub is the larva of the wasp-like insect you saw, which probably removed the caterpillars for the purpose of furnishing other cells with food. The other cells were being prepared for nurseries for other larvæ of the species of Fossor which you mention. We do not think it has anything to do with "Isle of Wight" disease. If you could send a specimen of the wasp-like insect we might be able to identify it.

R. Heggie (Workworth).—*Dead humble and hive bees under lime trees.*—It is not unusual to find numbers of humble bees under lime trees when they are in full bloom and nectar flowing abundantly. Such bees are not necessarily affected by disease, but seem to become intoxicated during the heavy flow of nectar and succumb to the cold of night. There is nothing poisonous in the nectar from lime blossoms, and the honey is of very fine flavour.

W. Crisp (Colchester).—*Lime tree flowers standing upright.*—The blossoms of lime trees are pendulous, and as no sample of the flowers has been sent we cannot identify it.

M. Taylor (Enfield). *Need of feeding.*—We cannot say whether your bees will need feeding without seeing them. It will be quite early enough to feed for the winter if you commence the second week in September. During this warm weather the bees will probably be breeding all right; as you are not at home they will have to take their chance. If, on your return, they have not stored from 25 to 30 lbs. of honey in the combs, feed them to make up that amount. A standard comb when quite full of honey holds about 5 lbs. The candy may be made into syrup by dissolving in water. Allow ½ pint of water to each 1 lb. cake.

A. M. Skeaggs (Cheshire).—The brownish-yellow segments on the bees are caused by crossing with leather-coloured Italians.

J. W. Roberts (Denbigh). The bees are Natives. It is just possible to keep two queens in one hive during the winter with a queen excluder between them, but in the spring you will probably find one has disappeared.

W. I. H. (Penge).—(1) Yes. (2) End of September, or early October. If the bees appear too crowded put a box of empty shallow combs under the brood box. (3) Yes.

J. PEARMAN (Derby).—The price of candy was advanced on July 15. It was an oversight this was not put in the notice in the JOURNAL. We quite agree with the latter part of your letter, and hope the matter may soon be remedied.

*Honey Samples.*

CAPT. GORDON (Pevensey).—The honey is eucalyptus. Our opinion coincides with your own, that it is "filthy stuff." The aroma and flavour are both rank.

P. DORMER (Englefield).—Very good honey, but needs straining, as it contains a lot of bits of wax; from clover and lime, the latter flavour predominating; 2s. 9d. per lb.

S. GUYTHER (Berks.).—The section was all right. The reason sections have not been fully drawn out and filled is the poor honey flow due to unfavourable weather.

"BILLY BAGS" (Warwick).—Honey from clover, and a very good sample. The bee was a native.

"BURNT OAK" (Herne Hill).—A very nice sample of lime honey. It should fetch at least £11 per cwt.

*Suspected Disease.*

A. MESSER (Dorset).—The bees are suffering from "Isle of Wight" disease.

# Bee Shows to Come.

*A nominal charge of 2s. 6d. is made for notices (not exceeding 7 lines) in this column, 10 lines charged 3s. 6d., up to 15 lines 5s., which covers cost of insertion from order till date of show. Cash should accompany orders for insertion.*

**Wednesday, September 4, 1918, at Salisbury.**—Honey Show, in connection with the Commercial Travellers' Food Production Exhibition. Fourteen Open Classes for Honey, to embrace the three Counties of Wilts, Hants and Dorset only. Schedules from J. H. Topham, Melrose, Albany Road, Salisbury.

**Sepember 4 and 5, 1918, at St. Andrew's Halls, Glasgow.**—Glasgow and West of Scotland Horticultural Society. For Bee Schedule apply to Hugh M. Mackie, C.A., 124, St. Vincent Street, Glasgow, Secretary.

# Special Prepaid Advertisements.

## One Penny per Word.

*Will advertisers please read these Rules carefully in order to save trouble, as they will be strictly adhered to.*

**Trade** *advertisements of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at* **1½d.** *per word as* **"Business"** *Announcements, immediately under the Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of 3s. per ½in., or 5s. per inch.*

*PRIVATE ADVERTISEMENTS are only intended for readers having* **Surplus Stock** *to dispose of.* **Driven Bees, Nuclei,** *and* **Queens that are reared or imported for sale,** *are Trade Advertisements, and can only be accepted under trade terms. A charge of 6d. extra will be made if a box number is used.*

*Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.*

*Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.*

### PRIVATE ADVERTISEMENTS.

WANTED, W.B.C. Hives.—BUTLER, Oaktree House, Claygate. h.43

HONEY.—700 to 1,000 Sections for Sale.—Apply stating price, REV. H. A. OSWALD, Castle Ellis Glebe, Enniscorthy, Co. Wexford h.46

WANTED, W.B.C. Hives and parts, Kentish Hive, Extractor, new condition; certified healthy Carniolan Nuclei.—NEILSON, Gaia Fields, Lichfield. h.26.

WANTED, 12 swarms Driven Bees; weight not under 4/5 lbs. each. State date of delivery and price. Boxes sent.—GARDEN, Ardgathnil, Elgin, N.B. h.53

WANTED, three lots of Driven Bees.—Particulars and price to CHARLTON, Starkey Street, Stockton-on-Tees. h.57

THREE Strong Stocks, eight frames each, 1918 Queen, £2 15s. each.—J. BOWDEN, 167, Ellerton Road, Tolworth, Surbiton. h.58

OFFERS wanted for 1 cwt. pure light coloured English Honey in 28-lb. tins.—VINCENT, 132, Croydon Road, Anerley. h.59

HEALTHY Driven Bees wanted.—Price to A. BROWN, 20, Temple Street, Wolverhampton. h.60

MUST SELL.—Several stocks healthy Bees, with or without W.B.C. Hives.—Particulars from BEE-KEEPER, 1, Thorpe Terrace, Bourne's Green, Southend. h.61

1918 PURE Fertile Italian Queens surplus, arrives soon, 10s. 6d. — ATWELL, R.H.G., Albany Street, N.W.1. h.62

WANTED, copy Root's "A B C and X Y Z Bee Culture," also recent publications by U.S.A. Department Agriculture on bees and bee diseases.—DENYS MILLWOOD, Fairby, Longfield, Kent. h.63

WANTED, Driven Bees, immediately.—Write, MORRIS, Stationmaster, Shoeburyness. h.64

FOR IMMEDIATE DISPOSAL.—Seven strong Hives of Bees, imported Italians, Hybrids and English Blacks, complete with two supers each. No disease. What offers?—STALLINGTON APIARY, Blythe Bridge, Staffs. h.65

FERTILE QUEENS.—Surplus Italian Hybrid, 5s. each.—CRISP, Fordham, Colchester. h.66

FOR SALE Extractors, 25s., 30s., 35s.; good condition. Wanted, Driven Bees, Honey, Hives and Appliances.—GWYNN, Conningsley, Malvern. h.67

ITALIAN Hybrids, six frames, 1918 Queen, 50s.; box returned.—HAGUE, Kirkham, Lancs. h.68

WANTED, W.B.C. Hives containing healthy, strong stocks, or empty; "Rapid" Feeder. 45, Bell Street, N.W.1. h.69

FOR SALE, owing to disposal of property, Bee Appliances necessary to start bee-keeping. Seven Hives, with lifts, section racks, excluder, smoker, extractor, new. Will be sold cheap.—For particulars apply GEO. STEDMAN, Langstone, Newport, Mon. There has been no bee disease here. h.70

WANTED, three W.B.C. Hives, complete. State price and full particulars.—J. DYAS, Palace Road, Llandaff. h.71

FOR SALE, Bee Appliances, very cheap to clear. Send stamped envelope for list.—CALVERT, 5, Field Place, Marston Road, Stafford. h.72

### BUSINESS ADVERTISEMENTS.

**1½d. per word.**

COMFORTABLE APARTMENTS for Brother Bee-keepers visiting Douglas. Terms: Tea, bed, and breakfast, 3s. 6d.; or full board, 6s. per day.—HORSLEY'S, Merridale House, top of Castle Drive, Douglas, Isle of Man.


## SEASONABLE HINTS.

The honey season is now over, except in the heather districts. Judging from the reports to hand, the harvest from clover and sainfoin, etc., has been poor. Limes have yielded better, and we trust the bees at the heather will secure a good surplus. Feeding will be necessary in many cases, and there is a great demand for candy.

Removing and extracting the honey should be completed as soon as possible. More care than ever is necessary now to prevent robbing. Re-queening should also be done at the earliest opportunity. Weak stocks should be united. The spare queens, if young ones, may be utilised for re-queening, or may be sold. Instead of uniting, weak colonies may be strengthened by adding "driven" bees to them. If this is done, drawn-out combs should be available for their accommodation. There may, however, be a difficulty in obtaining driven bees, as they are not so plentiful as they used to be, and the possibility of introducing disease by their means should not be overlooked.

Those who wish to increase the number of their colonies may at this season obtain them at a much cheaper rate, but no profit will be obtained from them until next year, and there are the risks of wintering to be faced. Those who purchase colonies of bees should take great care to have all reasonable assurances that the bees are healthy, and have been for the past season. There are unscrupulous people in all occupations, and unfortunately bee-keeping is not exempt. Some there are who will foist off on the unwary, bees that are suffering from disease. We heard from one of our correspondents a short time ago of one such at a well-known town on the borders of the Midland and Eastern counties. The Government authorities should take some action to prevent the indiscriminate sale of infected bees and appliances, and we hope that before long they will do so.

Much disappointment and worry would be saved if our deposit system was insisted on, and no honest person would be likely to demur to this, if the intending purchaser agreed to pay the small fee and expenses—the latter rarely amounting to more than 5d. To prevent mistakes, our rules should be carefully read.

Those who are intending to commence bee-keeping should not purchase bees now, unless they are prepared to take the risk of losing them during the winter, which, in view of their inexperience, will be greater in their case, but should place their order for appliances and bees ready for the spring, and read up all they can about the subject during the winter. If possible to do so, it is a great advantage to get a few practical hints or lessons from an experienced bee-keeper. They will then be able to make a beginning with the bees next season with a good prospect of success.

## OBITUARY.

THE LATE MR. T. W. JONES, OF ETWALL.

The funeral of the late Mr. T. W. Jones, of Etwall, took place recently. The service, which was choral, was conducted by the vicar, the Rev. J. W. A. Melville, There was a large congregation, and the children of both the church and chapel schools attended to testify their respect. The Vicar gave an address in which he paid a warm tribute to the deceased's useful life. Deceased's favourite hymns, "Peace, perfect peace" and "Abide with me," were sung, the Nunc Dimittis being sung as the cortege left the church.

The deceased gentleman, who was born in the historic town of Conway, came to Derby as schoolmaster of St. Paul's, and after staying there five years came to Etwall in 1876. Here he was schoolmaster for 40 years. He was very widely known, having interested himself in many things. He was a life member of the Derbyshire Bee-keepers' Association and a first-class expert of the British Bee-keepers' Association. For several years he lectured on bee-keeping for the Derbyshire County Council. For many years he was secretary of the Mickleover and Etwall Gas Co., until it was taken over by the Derby Gas Co., and auditor to the Egginton Dairy Co. from their commencement until this year. Sergeant for many years in the old Derbyshire Volunteers, he was a member of the local Volunteers until his health failed. For a long time he acted as clerk to the Etwall Parish Council and hon. secretary to the local War Committee and Belgian Relief Committee. For many years, too, he was organist at Etwall Church. He was a teacher for over half a century. His wife predeceased him. He leaves two sons and two daughters to mourn their loss.

## A DORSET YARN.

From all parts of Dorset one has good reports of the honey flow this last few weeks. The extra fine weather has been grand for us at the Violet Farm. One stock of Italians have finished a rack in ten days. My friend Squire Tomlinson

came and saw them on August 19. He saw so many hanging round the entrance and all round the inside of case, he sent me up a rack of shallow bars (drawn out); they all moved into them the same night. On Saturday some were capped. It is remarkable how fast they collect so much; it is mostly from the heather. When loading corn close to the heather on Friday one could hear the loud hum of thousands of bees. I was helping another farmer get in his barley before the rain came or I should not have been in the field so close to the heather. It was one continual song till quite late. Mr. Tomlinson advises me to break up the comb from shallow bars and run out the honey, as being all heather he will not be able to extract it. All this from a second swarm of Italians. They have already done me two racks. The parent stock has been robbed out by the two swarms that left it. Mr. Tomlinson says the rainy July was against the honey flow for him, but since the nice weather he has a good lot. The Rev. G. Stalworthy informs me the Italians are still adding to stores. Mr. Warren Davis is enthusiastic about his, and the lot of stores they are piling up. It all shows how much fine food is wasted when there are no bees to collect it.

"Nature never did betray the heart that loved her," wrote Wordsworth, when seeing the flowers of rural England. It is the same with production: if one has the energy to follow up the many different crops that are grown for human consumption, as well as stock, to study their requirements, and add to the soil at the right time, then Nature responds at once and adds to the weight of crops. One sees the potatoes giving one and two tons more to the acre by the expenditure of 15s. to 30s. One gains many hundredweights to the crop and a larger cheque for each acre. I find it the same with the bees. Many, to save expense, only put in a small piece of foundation to start the sections, but with the whole section filled, the bees have not nearly so much labour on them as they have on the small starters. The section is filled so much quicker, and if late in the season you get them complete, when those with the small starters would not be finished. If you love your bees as we do at the Violet Farm, you would spend a bit more on them, and they will give you a greater return for the extra small expense, just as we find the soil returns us greater crops for the extra expenditure in tillage and manures. It makes Wordsworth's words a concrete truth, for Nature will not betray those that love her.—J. J. Kettle.

## THE BEE GARDEN.

*By A. F. Harwood.*

The Official Lists.—(*Continued.*)

| | Values. Honey. | Pollen. |
|---|---|---|
| *Ajuga reptans* ... ... | 3 | — |
| *Alyssum saxatile* ... ... | 1 | — |
| *Aquilegia* ... ... ... | 1 | — |
| *Arabis alpina* ... ... ... | 2 | 1 |
| *Asclepias syriaca* ... ... | 3 | 3 |
| *Aubrietia græca* ... ... | 1 | — |
| *Cheiranthus alboni* ... ... | ? | ? |
| *Corydalis cava* ... ... | 2 | — |
| *Cynoglossum* ... ... ... | ? | ? |
| *Deutzia crenata* ... ... | 2 | — |
| ,, *gracilis* ... ... | 2 | — |
| *Echinops ritro* ... ... | 2 | ? |
| *Erica carnea* ... ... ... | 3 | — |
| ,, *vulgaris* ... ... | 3 | — |
| *Helleborus niger* ... ... | 2 | 3 |
| *Mulva moschata* ... ... | 1 | 3 |
| ,, ,, *alba* ... | 1 | 3 |
| *Melianthus major* ... ... | 1 | — |
| *Polygonum sachalineuse* ... | 2 | — |
| *Polemonium cæruleum* ... | 3 | 3 |
| *Primula veris* ... ... ... | 2 | 1 |
| ,, *vulgaris* ... ... | 1 | 1 |
| *Scrophularia nodosa* ... ... | 3 | — |
| *Sedum acre* ... ... ... | 1 | — |
| ,, *anglicum* ... ... | 2 | — |
| ,, *major* ... ... ... | 3 | — |
| ,, *telephium* ... ... | 3 | — |
| *Spiræa aruncus* ... ... | — | 2 |
| ,, *ulmaria* ... ... | — | 2 |
| *Stachys lanata* ... ... | 1 | — |
| *Teucrium italicum* ... ... | 3 | — |
| *Tussilago alba* ... ... ... | 3 | — |
| *Verbascum phœnicium* ... | 2 | — |
| ,, *thapsus* ... ... | — | 2 |
| *Veronica latifolia* ... ... | 3 | 1 |
| *Vinca minor* ... ... ... | 2 | — |
| *Viola odorata* ... ... ... | 3 | — |
| ,, *tricolor* ... ... ... | 2 | — |

[Readers who are interested in stocking their gardens with flowers useful to the bees will do well to preserve the list given above, which gives the honey and pollen value of the different varieties. This, with the cultural notes on them to be given by Mr. Harwood, should enable the bee-keeper-gardener to provide welcome forage for the bees especially early in the year before the main honey flow comes. The example of Mr. Harwood in presenting the neighbours with the spare plants may also be followed with advantage.—Eds.]

*Ajuga reptans* (Common Bugle) is a hardy herbaceous perennial; bears its numerous flowers, normally blue or purple, in May, in whorls. There are rose and white varieties. Height, 6-12ins. It is considerably used in rock-gardens and for border planting. Can be grown from seed, but is usually propagated by division in spring, creeping, as it does, by stolons.

In habit the type is a low, dense, fast-spreading creeper, excellent for covering shady slopes. It and the white flowering form are less cultivated than the following varieties, *a.r. atropurpurea*, *a.r. rubra* and *a.r. fol. var.*, purplish, red and blue respectively, the last with variegated foliage. Some forms, e.g. *a.r. rubra*, have dark purple leaves, while one, *a. metallica crispa*, has deep-blue flowers and crinkled leaves. *A. genevensis* is the Alpine variety; *a. pyramidalis*, a beautiful plant, is a native of (North) Britain. Of the two annual varieties, both of which are yellow, one, *a. chamæpitys*, is an English native, 1ft. high, flowering in July.

## JOTTINGS.

*The Suburban Bee Garden* (page 111).—Mr. Richards, in his introductory notes of location, recalled some early and enjoyable days as a "Suburban Volunteer." Somehow, we generally turn towards London when speaking of the "suburbs," however we are open to correction. At any rate, I can no doubt thank the many hours of "spare-time" training among scenery so beautiful and energising that I am still able to be of some use to-day, and I should be very sorry indeed to find, when visiting the "Sutton Jerusalem," that the acres of lavender plants had given place to yet another scene of London's human hives.

*Robbers—the Wet Pack* (page 122).—Surely Mr. Atkinson's methods are rather strenuous, if not misleading to the new hand, with robbing. Generally with an attack of "queue," such as described, it is hardly safe to "lay to" quite so strongly, unless possessing something stronger than water, which can generally be used much more quietly and effectively with little or no loss. The mat, too, although cooling, would seem to be of a very suffocating nature. Surely the price of peace, though sweet, is dearly bought. The "Guide Book" method of a weak solution of carbolic, or Izal, I use, is quite easy, and quite as effective, and so three days' imprisonment is unnecessary. A sprinkling of flour will assist in tracing the maranders. This should not prove a "perennial" if honey, and jobs, are taken in the orthodox manner.

*Matter for the Journal* (page 128).—Without wishing to differ to any great extent with Mr. White, surely most of us will agree that not many subjects or branches of the business fail to get their day, and explanations, from time to time. A careful perusal of the "Notices and Answers" column is both instructive and useful enough to show that advice is given freely and broadly to all. Personally, I have enjoyed the cultural articles, and there is no doubt of their actual relation to our craft. To succeed we must cultivate this taste, and even woo this class of business men, if we are to receive our due recognition and help, to say nothing "of reaping where we have not sown."—A. H. Hamshar.

## CONCERNING THE OLDEST CIVILISATION IN THE WORLD.

(*Continued from page* 269.)

The country folk of Scotland and Ireland, who seem to live in such close touch with Nature and have such a wonderful affinity with her, still cling to the old custom of "telling the bees." This is a relic of the time when the honey-bees were looked upon as guardians of the household, or domestic gods, and every important event in the family life was told to them as a mark of courtesy and consideration:—

Bees! Bees! Haste to your bees—
"Hide from your neighbours as much as you please;
But all that has happened to us you must tell,
Or else we will give you no honey to sell."

A maiden in her glory,
Upon her wedding-day,
Must tell her bees the story,
Or else they'll fly away.
Fly away—die away—
Dwindle down and leave you;
But if you don't deceive your bees,
Your bees will not deceive you.

Marriage, birth, or buryin',
News across the seas,
All you're sad or merry in,
You must tell the bees.
Tell 'em going in and out
Where the Fanners fan,
'Cos the bees are just about
As curious as a man!

It is a well-known and old-established fact that the honey-bee is possessed of marvellous—one might almost call it psychic—perception, and is extremely sensitive to conditions, not merely material and physical, but mental and even moral, which we less finely tuned mortals cannot often appreciate. Numerous cases are known of bees attacking people who, to all appearances, treated these relentless judges of mankind with due respect and consideration, but who have gone to their bees in anger, or in a state of nervous excitement or exhaustion. Pliny solemnly cautions malefactors and thieves against approaching hives at any time, and Butler, a devoted student of bee-life, living in the reign of Queen Anne, gives most elaborate advice as to the necessary qualities of the good bee-master.

—"Thou must not be unchaste or uncleanly: for impurity and sluttishness they utterly abhore; thou must not come puffing or blowing unto them, nor violently defend thyselfe when they seem to threaten thee. . . . In a word, thou must be chaste, eleanly, sweet, sober, quiet, and familiar; so will they love thee and know thee from all other." In short, one must be an epitome of all the virtues!

Don't you wait where trees are,
When the lightnings play,
Nor don't you *hate* where bees are,
Or else they'll fly away.
Pine away—dwine away—
Anything to leave you.
But if you never grieve your bees,
Your bees'll never grieve you.

The greatest scientists and most devoted students of the wonderful Bee-commonwealth all agree, with Maeterlinck, that "Beyond the appreciable facts of their life, we know but little of the bees, and the closer our acquaintance with them the nearer is the appreciation of our ignorance brought to us of the depths of their real existence." This great bee-lover, after 20 years of bee-keeping, says: "You will find we shall often halt before the unknown," and we most certainly do, Yet what stimulating and inspiring glimpses into that Land of Promise we have already gained! The old bee-fathers used to raise their hats to the honey-bee —let us do the same. A. I. S.

## KENT HONEY SHOW.

The annual exhibition of honey and bee products was held in the Gymnasium of the S.E. Agricultural College, Wye, on Wednesday, when there was a good attendance. Among the visitors was the Right Hon. L. Hardy, M.P. (president), who gave a cup valued at two guineas in the trophy class. The judge was Mr. J. Smallwood, of the British Bee-keepers' Association. In addition to the show the Wye Women's Institute had stalls containing exhibits of their home toy industry, cookery and needlework. Teas were provided by Mrs. Dunstan, assisted by the members of the Women's Institute. The awards were :—

OPEN TO KENT.

Six sections of comb honey and six glasses of run or extracted honey—1 (cup presented by Sir Robert Filmer), G. Bryden, Rochester.

Six sections of comb honey 1 (cup presented by Sir Marcus Samuel), C. Bishop, Upchurch; 2, G. Bryden.

Two standard frames of comb honey for extracting—1, G. Bryden.

Six glasses of light run or extracted honey 1 (silver cup presented by the Earl of Guilford), G. Bryden; 2, E. Gristwood; 3, McCowan Hall; 4, W. Getting.

Six glasses of medium run honey—1, A. Lepper, Wye; 2, J. T. Head; 3, T. Head, Canterbury; 4, G. Bryden.

Six glasses of dark honey—1, G. Bryden; 2, T. Head.

Three sections of comb honey and three glasses of run honey—1, C. Bishop; 2, S. Blaskett.

Three glasses of run honey—1, Miss E. Earl; 2, Master H. Lepper.

Three 4-lb. sections—1, W. Getting.

OPEN CLASSES.

Beeswax—1, G. Bryden; 2, F. Harris; 3, T. Head.

Mead—1, G. Bryden; 2, S.E.A. College, Wye.

Glass of granulated honey—1, G. Bryden; 2, S.E.A. College, Wye; 3, T. Head.

Cake sweetened with honey—1, Miss A. Dockeray; 2, Mrs. A. Lepper; 3, Miss E. Earl.

Best display of bee products—1 (the President's cup), G. Bryden; 2, T. Head.

Twelve glasses of light run honey—1 (cup presented by Sir Mark Collett), E. Gristwood; 2, C. Bishop; 3, A. Lepper.

Six glasses of medium or dark honey—1, F. Harris; 2, A. Lepper; 3, T. Head.

Three sections of comb honey—1, A. H. S. Page; 2, T. Head; 3, G. Bishop.

Glass of light honey—1, E. Gristwood; 2, F. Harris; 3, A. Lepper.

Section of comb honey—1, G. Bryden; 2, A. H. S. Page; 3, Mrs. Scott.

Six bottles of run honey—1, A. Lepper; 2, Masters; 3, H. Lepper.

In connection with the Honey Show an exhibition of garden produce was held in the Botanical Laboratory of the College by the Wye Gardeners' Society, Mr. A. Linkins being the chief organiser. Two very fine baskets of vegetables grown at the S.E.A. College were exhibited, and were subsequently sent to the Dover Mine Sweepers.

## CARDIGANSHIRE AND WEST CARMARTHENSHIRE BEE-KEEPERS' ASSOCIATION.

AN APPEAL.

The above Association is endeavouring to raise £150 for the purpose of starting apiaries for persons interested in bee-keeping who have served in His Majesty's Forces. Of this sum £70 has already been subscribed by members of the Association. Will any bee-keeper who can spare from £1 up to £80 kindly lend same to the Association. The interest is 5 per rent. per annum, and cash to be repaid at the end of two years. I shall be personally responsible for the payment of interest and the repayment of principal. I appeal to bee-keepers to help us to raise the amount by lending what they have to

spare, and help to brighten the lives of these gallant fellows who have willingly suffered for us.—R. DANIELS, Secretary, Pantycerwys, Rhydcwmerau, Llandilo, Carm.

## AYR AND DISTRICT BEE-KEEPERS' ASSOCIATION.

A VISIT TO HOLMES FARM APIARY.

The members of the Ayr and District Bee-keepers' Association on Saturday last visited the model apiary of the West of Scotland Agricultural College at Holmes Farm, Kilmarnock. On arrival at the farm, the party was met by Mr. Joseph Tinsley, B.B.K.A., who has been the means of bringing the apiary to its present position. On all hands it is regarded as one of the finest apiaries in Britain, and students of the college and visitors find it interesting in the highest degree.

Mr. Tinsley pointed out and explained the work done by the students, and showed the visitors how to subdue and manipulate the bees, etc.

The race of bees in the apiary consists largely of crosses between Dutch and Italian. These are considered the best disease-resisting strains, and it is acknowledged they are a beautiful class of bee, with mild tempers. Occasionally a stray swarm finds its way to the apiary, and in some cases joins with other swarms. In almost every case the bees of the stray swarm are more or less affected with "Isle of Wight" disease, and have to be destroyed. The college has done much during the year in restocking various parts of Scotland, having been able to send out over sixty stocks of bees, and leaving in the apiary about eighty-five stocks, which will be trebled by another year. In this department alone the college has done much to justify its existence.

A vote of thanks to the lecturer and his students was very warmly responded to, and the members on leaving the apiary were invited to pay it another visit at no distant date. The excursion was in every way of an interesting and educative character, and all voted it an unqualified success.

## WANTED. A VOL. OF B.B.J.

A Lonely Bee-keeper, a soldier, who is in hospital, writes:—"Would some kind bee-keeper who has an unbound vol. of B.B.J. for 1913, and does not require it, send it on to me, as I cannot get anything here to read on bees, and should be much obliged if anyone could do me a good turn." If any of our readers would like to send this on, we will send address on receipt of a postcard.


*The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.*

## THE CAUSE AND CURE OF "ISLE OF WIGHT" DISEASE.

[9750] I did not take M. Taylor up (No. 9734) for the use of the term "hybrid," but for comparing the hybridisation of animals and plants with "hybridisation," so called, of bees. I merely pointed out his error in this, as he will see if he reads my letter. The idea of using the expression "variety-hybrid" is more ingenious than sensible, as there is no such thing, and cannot be. A hybrid is a cross between species. A cross between varieties of a species is a "cross" simply.

*All* species reproduce themselves true to type, and so do most varieties. The Apidæ family have many species which do so and do not cross-mate, one of which is *Mellifica*. This species is divided into many varieties, all reproducing themselves true to type, and capable of inter-mating. The issue of this cross-mating is a bee following more or less the type of both parents, but I see no reason why its "reproductive constitution" should be unfixed, still less why it should cause disease—especially one caused by a specific bacillus or micrococcus.

As to the dominant British bee, I see no reason, based on analogy, why the yellow bee should not thrive as well as the black bee in this country. Look at our domestic sheep. We have the finest sheep in the world in England (I'm the possessor of 400-odd myself). Now, the natural, or dominant, sheep would be a very different animal from our domestic varieties, as everyone knows; but who wants to go back to a small mountain sheep. Again, we are constantly crossing our varieties because we find that the issue is always strong, healthy and growing. Of course, there is a great difference in the cases, and I do not press this; but it makes one think.

I nowhere have said, as stated by Mr. Taylor, that foreign bees have made ours immune. I don't know what he means by "ours," but anyway I did not say it. I

don't know how anyone could prove it either. Seeing that there are no real British bees left, it would be difficult to render them immune. Also, it is foolish to lump all bees other than the old British together as foreign. The Italians have done good, no doubt at all, but there is little doubt that the Dutch have done much harm, and many people think they have English bees when their bees are in reality Dutch.

If Mr. Taylor does not consider Italians, etc., "more or less fixed varieties" (I may repeat here that they are not species). What *does* he consider a fixed variety? And when Mr. Taylor concludes by saying in effect that because foreign bees and their crosses are absolutely all that are left in this district (Wallingford-on-Thames) he feels more sure than ever that they are less better able to withstand disease than natives, he goes quite beyond me, at any rate.—R. B. MANLEY.

## TREATMENT OF "ISLE OF WIGHT" DISEASE.

[9751] Seeing that there is now considerable evidence that antiseptic treatment, either as spray or medicated food, is undoubtedly useful in the treatment of "Isle of Wight" disease in bees, I wish to make a suggestion. There have certainly been cures, and probably also failures, effected by Hydrogen Peroxide, Phenol, Izal, Bacterol, Flavine, etc., and I venture to suggest that the newer organic arsenicals, e.g., Salvarsan, Luargol, etc., be given a trial. It is quite a possible hypothesis and is, indeed, favoured by experience, that special antiseptics may be found to possess particular potency, and the class suggested has not apparently been tested. Living in a valley as yet undevastated by "Isle of Wight" disease, I have no personal opportunity for experiment.—J. SCHOFIELD, B.Sc.

## INSURANCE AGAINST DISEASE.

[9752] With reference to "Belroyd's" letter published in the B.B.J. of July 25, suggesting a subscription fund being formed to provide means for combating the "Isle of Wight" disease, I should like to express my views on the subject.

Although this is a matter which concerns all bee-keepers seriously, it is not easy to get those interested to subscribe to what concerns them more or less indirectly, and I would suggest an alternative scheme which would affect them directly, based on the following lines:—

1. That an insurance company be formed in which bee-keepers would be invited to invest money on an ordinary dividend basis.

2. That policies be issued to bee-keepers, who would pay, say, 4s. per annum on the first hive, and 1s. each on all other hives, against "Isle of Wight" disease.

3. That payments of 50s. be made for each stock lost by this disease.

These figures are given merely for example, to explain the scheme.

I imagine such a company would have the necessary funds to carry on research work to investigate cases of suspected disease, and it would be to their advantage to prevent the disease from spreading by taking the necessary steps with regard to destruction and disinfecting wherever the disease breaks out.

Later, as the disease might become less prevalent, the premiums might be reduced.—LESLIE H. HOUNSFIELD.

## NATIVES v. FOREIGN.

[9753] I was pleased to read the article in the B.B.J. (August 1, 1918) by "Robin Hood."

It is a matter which I have wished to see brought forward for some time, but wanted some more experienced bee-keeper than myself to kick off. I fully endorse all he says, and will not go over the ground again more than I can help. I recommend all beginners to read and re-read that article.

When I first started bee-keeping I was carried away with the glowing accounts of the foreign bee, and of course got some. The result was exactly as stated by "Robin Hood." Now the job is to get rid of the strain, which I am trying year after year to do. When there is so much foreign blood about it is a slow and difficult matter.

I find the native the best bee for this district. Why people anchor their hopes on two chambers full of brood I don't know. I don't think the foreign bee lives so long, and is not able to do the work the native bee does; therefore to keep up the population of the hive breeding has to go on at such a rate that it takes the bees all their time to feed the larvæ. Keep your stocks clean, healthy, and with young queens; you will then get honey if it is there to be got.

My experience with the foreign bee is that our winters are too long for it; it does not provide sufficient stores, and consumes them too quickly in early spring. The native is more reliable and steady, and comes out top in the long run. In my opinion the root of the trouble is that so many people have a passing fancy to keep bees, and get a stock and dump it down in the garden, and think they have done all that is required for honey production. The result is that some long-

suffering and good-natured bee-keeper has to do all the managing and work for such a person. *Why should he?*

If people before starting bee-keeping would learn something about it, even as they would before keeping rabbits or birds, etc., the craft would be greatly improved and difficulties would melt away. Swarming and the like never trouble a bee-keeper who has taken the trouble to study his subject. I venture to say that every bee-keeper is willing to help a friend with his bees, but it is not right to expect him to do *all*. I know several who keep bees and pride themselves on them, but they dare not, and do not, touch them themselves. Can one wonder at things not being as they should be? I could name several who have kept bees for years, and they candidly tell one that they have never seen below the excluder!

Can anything be done to put our craft on a more experienced footing and convince the real novice that he must give a little time and thought to the subject before he is fit to have charge of a stock of bees? I will not say more at present on this subject. I feel that even now I shall have a buzzing about my ears. In spite of that, I feel convinced that these things need ventilating; nothing is gained by hiding them. Some of us have a good deal at stake in the craft.—W. Ion.

## HEIGHT OF HIVES FROM THE GROUND.

[9754] I have been much interested in the letters appearing lately in the B.B.J. I, for one, intend to make an experiment, and will give full particulars in the Journal.

I cannot help thinking that if bees were kept higher from the ground, the weak and infected bees would be unable to gather into the hive and cause infection of the healthy.

In Mr. Herrod-Hempsall's hints (page 257) he mentions one way as being the best for stopping swarms from decamping. This year I had a large swarm on May 28, which I hived on the old stand. I was away the next day, but the bees came out from the old stand, settled for about ten minutes, I am told, and then went away.

I only had four swarms saved from nine I had, and three out of the four settled on the same bough each time.

Honey is selling in Pershore at 3s. 6d. per lb.!

My bees have not given much surplus this time, although on two lots of standard frames. They swarmed before half drawing out a box of frames.—A. Donkin.

## Notices to Correspondents

*Correspondents desiring an answer in the next issue should send questions to reach this office NOT LATER than the FIRST POST on MONDAY MORNING. Only SPECIALLY URGENT questions will be replied to by post if a STAMPED addressed envelope is enclosed. All questions must be accompanied by the sender's name and address, not necessarily for publication, but as a guarantee of good faith. There is no fee for answering questions.*

J. Schofield.—*Honey value of mustard and rape.*—Mustard is a very good honey plant; its honey value is 3, pollen 1. We have not the figures for rape, but it is also a good honey plant.

J. Kneller (Bangor).—*Value of the extractor.*—The honey extractor is undoubtedly a success The "Cowan" with gearing and reversible cages is our "fancy."

G. M. Rosling (Devon), J. Langdon (Cowes).—*Clipping the queen's wings.*—This will prevent the bees from swarming—or rather prevent the swarm from absconding—but the colony will need some attention. The disadvantages are that the bees may supersede the queen when they find she is unable to accompany them and swarm out with the young queen. What is more likely to happen is the bees may swarm, and the queen attempting to go with them is lost, the bees return to the hive, and the queen perishes outside. This may occur when no one is near the hive, and the bee-keeper is not aware of the loss of the old queen, and a few days later the bees swarm with a virgin queen who can fly. In theory, of course, the swarm is supposed to cluster round the queen on some low-growing bush near the hive, or on the ground, but this does not always work out in practice.

L. H. Hounsfield (Croydon).—*Nectar bearing plants for July and August.*—The thistle you refer to is no doubt the Chapman Honey Plant. Others are Sweet Clover, Centaurea Cyanus (Corn Blue Bottle), Borage, Sweet Alyssum, Buckwheat, and Blackberry. We do not know where you can get seed of the first two. Messrs. Sutton & Son, Reading, can supply the others; possibly they can supply them all.

M. Biner (Loughton).—The syrup will be quite right. You gave rather a strong dose of Izal; it should be half teaspoonful to 8 lbs. of sugar.

"Novice" (Wimbledon).—Do not feed any more until the middle of September. Then feed up as rapidly as the bees will take the syrup until the combs contain about 30 lbs.

"Beginners" (Peterborough).—We think you may venture to use the sugar chips for feeding purposes.

*Suspected Disease.*

I. C. S. O. (Oakham).—The comb contained a little of both foul and sour (pickled) brood.

## Bee Shows to Come.

*A nominal charge of 2s. 6d. is made for notices (not exceeding 7 lines) in this column, 10 lines charged 3s. 6d., up to 15 lines 5s., which covers cost of insertion from order till date of show. Cash should accompany orders for insertion.*

**Wednesday, September 4, 1918, at Salisbury.**—Honey Show, in connection with the Commercial Travellers' Food Production Exhibition. Fourteen Open Classes for Honey, to embrace the three Counties of Wilts, Hants and Dorset only. Schedules from J. H. Topham, Melrose, Albany Road, Salisbury.

**Sepember 4 and 5, 1918, at St. Andrew's Halls, Glasgow.**—Glasgow and West of Scotland Horticultural Society. For Bee Schedule apply to Hugh M. Mackie, C.A., 124, St. Vincent Street, Glasgow, Secretary.

# THE DEPOSIT SYSTEM.

**You are advised to insist on this being used when dealing with strangers.**

## Rules and Conditions for Depositing.

*In order to save trouble, it is requested that the Rules be carefully read over by persons using the Deposit System of trading.*

**1. Method.**—When strangers are dealing together, the purchase-money of the articles is deposited at our office. We acknowledge receipt of the deposit to *both* parties, and hold the money until we are satisfied that the purchase is concluded. If a sale be effected, we remit to the seller the amount deposited, less a charge of 2½ per cent. in the £, with a minimum of 6d., and the expenses of Post Office Orders and postage, &c. Cash will be forwarded by Cheque, Post Office Order, or by Postal Order as preferred. If a sale or exchange be not completed, we return the amount deposited, after making the same deduction. By this means buyers and sellers are secured against fraud.

**2. Deposits.**—Postal Orders (drawn on General Post Office) and Cheques must be made payable to W. Herrod-Hempsall, and crossed "London County and Westminster Bank." The numbers of the Postal Orders should be kept by the sender. We cannot be responsible for any loss that may occur in transit.

**3. Honey on Approval.**—All honey will be sold by sample, which must be sent direct to buyer.

**4. Bee Appliances.**—In ordering, the time allowed for completing the order to be stated to us when sending cash If maker accepts, we hold cash until transaction is satisfactorily completed, when the amount will be remitted, subject to conditions as in Clause 1.

**5. Bees and Queens.**—These will be dealt with entirely by the parties concerned, so far as price, &c., go, and when the purchase is satisfactorily completed cash will be remitted as per Clause 1.

**6. Goods in Transit.**—These are at the seller's risk, i.e., any damage to or loss of an article on its journey is borne by the vendor; but a rejected article must be properly packed and returned by the same means as was used in sending it.

**7. Carriage.**—The carriage of all goods, *except such as are sent by post*, is payable by the buyer, unless otherwise agreed. If any article sent on approval be returned, each party to the transaction must pay carriage one way.

# Special Prepaid Advertisements.

## One Penny per Word.

**Trade** *advertisements of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at* **1½d.** *per word as* "**Business**" *Announcements, immediately under the Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of 3s. per ½in., or 5s. per inch.*

*PRIVATE ADVERTISEMENTS are only intended for readers having* **Surplus Stock** *to dispose of.* **Driven Bees, Nuclei,** *and* **Queens** *that are reared or imported for sale, are Trade Advertisements, and can only be accepted under trade terms. A charge of 6d. extra will be made if a box number is used.*

*Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.*

*Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.*

### PRIVATE ADVERTISEMENTS.

TOO many would-be bee-keepers want to push the button and have the bees do the rest. Reverse your methods. Let the bees push the button and let it be the bee-keeper who gets bus.—S. H. SMITH. h.76

STRONG Stock in skep, 1918 Queen, plenty stores, 37s. 6d., plus carriage. Good Extractor, ungeared, 29s. 6d.—W. WOODS, Normandy, Guildford. h.77

FOR SALE, 1918 Italian Hybrid Queen, 6s.—MILLER, Glenlee, Adele Street, Motherwell. h.78

WANTED, several Stocks of healthy Hybrids.—State price, with particulars, to BEE-KEEPER, Fairby, Longfield, Kent. h.79

QUEEN, surplus imported Italian, about August 29, 7s. 6d.—42, Bromwich Street, Bolton. h.80

WANTED, 15 to 20 1918 Fertile Queens, Blacks or Hybrids preferred. Could do with several lots of Driven Bees. Queens and bees must be guaranteed from apiaries free from disease.—Reply Box 43, BRITISH BEE JOURNAL, 23, Bedford Street, W.C.2. h.81

COTTAGE, detached, wanted to purchase. Any size or condition.—Highwold, Easthill, Sanderstead. h.82

**W.B.C.** HIVES wanted. Good condition and reasonable. State lowest price.—T. E. INWOOD, 60, Uxbridge Road, Ealing, W.13. h.83

WANTED, 3 lbs. Driven Bees. Good price given.—LYTH, 281, Deansgate, Manchester. h.84

APIARY outgrown management. Selling 20 Stocks, each 10 frames, Hybrid Dutch Bees, guaranteed healthy, £4 5s. each, carriage paid. Boxes to be returned.—Box 44, BEE JOURNAL Office, 23, Bedford Street, Strand, W.C.2. h.85

BEE Goods are all sold.—CALVERT, 5, Field Place, Marston Road, Stafford. h.72

SEVERAL lots of Bees on 5 to 8 frames for sale, 6s. per frame, carriage forward. Travelling box to be returned.—WRIGHT, Sutton Poyntz, near Weymouth. h.7

WANTED, 12 swarms Driven Bees; weight not under 4/5 lbs. each. State date of delivery and price. Boxes sent.—GARDEN, Ardgathnil, Elgin. N.B. h.53

THREE Strong Stocks, eight frames each, 1918 Queen, £2 15s. each.—J. BOWDEN, 167, Ellerton Road, Tolworth, Surbiton. h.58

HEALTHY Driven Bees wanted.—Price to A. BROWN, 20, Temple Street, Wolverhampton. h.60

FOR SALE Extractors, 25s., 30s., 35s.; good condition. Wanted, Driven Bees, Honey, Hives and Appliances.—GWYNN, Conningsley, Malvern. h.67

### BUSINESS ADVERTISEMENTS.
**1½d. per word.**

COMFORTABLE APARTMENTS for Brother Bee-keepers visiting Douglas. **Terms: Tea,** bed, and breakfast, 3s. 6d.; or full board, **6s. per** day.—**HORSLEY'S,** Merridale House, top of Castle Drive, Douglas, Isle of Man.

STRICTLY BUSINESS.—A free sample Flavine and the Circular for a stamped, addressed envelope; six packages, 6d.; "Intensive Bee-keeping," Chapters I.—VI., 6d.; a japanned Sprayer and all the above, 6s. The Service Furnishing Society, Ltd., 289, High Holborn, W.C.1, stock the 6d. package Flavine, and will forward Flavine Candy, in 5-lb. lots up, at Pascall prices.—S. H. SMITH, 30, Maid's Causeway, Cambridge. h.75

HEALTHY Driven Bees, with Queen, 10s. 6d. per lot; September delivery: supply limited. Fertile Queens, 5s. 6d.—W. WOODS, Normandy, near Guildford. h.86

HEALTHY Driven Bees, Italian Hybrids, 1918 Queens, 10s. lot. Package returnable.—CADMAN, Codsall Wood. h.87


## SEASONABLE HINTS.

Stocks that need food should be fed rapidly during this month, until the total amount of food stored in the combs for a strong colony is about 30lbs.

To find out if the bees need feeding, the combs should be examined, and a rough estimate of the amount of stores made. A standard comb, quite full, will contain 5 to 6 lbs. of honey, so there should be the equivalent of five standard combs full of stores.

Weak colonies will need more food in proportion, as they may have to consume more in order to keep up the necessary temperature during cold weather. The object in feeding now is to get the syrup stored in the combs, *and sealed over*, before the cold weather arrives. Should there be a quantity of unsealed honey or syrup when the bees go into winter quarters, it will take up moisture until it becomes quite thin and watery; it is then likely to ferment, and if used by the bees will cause dysentery—or something worse.

Some bee-keepers who have allowed the bees to have two brood boxes—either both standard combs or one standard and one shallow—are undecided whether to leave the two for winter or to remove one. This must be determined by the number of bees they contain. If both boxes are crowded, leave them both on; the top box should have the combs containing the most food. In the spring one may be taken away, if necessary, in order to conserve the heat of the hive and help the colony to build up quickly.

If there are only enough bees to well fill the ten standard combs, take away one box, leaving the bees those combs containing any brood there may be and the most stores. If shallow combs have been used for additional breeding space, and they contain the food, leave them on for the winter. All queen excluders must be taken away.

## A DORSET YARN.

Bees have a great variety of food plants still at the Violet Farm. Strawberries in full bloom, with plenty of fruit on the earlier trusses. (I see the bees look over these perpetual varieties more than they do the main crops in early summer.) The Hailsham berry, sent to me from Hagley Hall, is now in bloom and fruiting on some of the canes. The long lines of perpetual raspberries are giving plenty of food for them, and will for some time. The rains have made many thousands more flowers on the runner beans, everything looks like extra surplus this season. Our bees are still building comb on the sides of brood chamber, even after the full racks of sections are taken off and fresh ones placed on. One of my near neighbours has the same with his, even one of his late swarms that is in a skep and covered with a box. They have built all round the skep. All proves that it is fine weather that allows the bees to work long hours and give the large surplus. We are unloading our lot, and have given most of them a new rack. One that I did not has begun building comb on the bars and filling it with honey. This one has a wooden cover over the brood chamber, with a small piece of glass in the centre just to see how they are keeping together in the dull time of autumn and winter.

Three colonies are still keeping the black colour, but others are crossed with the Italians, even the lot that came from a hollow tree in the Glendon grounds. It must have been a virgin queen, and mated after bringing her to the Violet Farm, as they were all free from colour when they came; but now they have the orange band on many of the young bees.

How much they work the vegetable marrows and carry the pollen from one to the other is proved to me this year, as a lot of the plants from the bush variety have been crossed with the trailers, and have not kept the bush habit that they had last season. They are now short-jointed trailers, which proves that the seed merchants must grow them a great distance from each other, or they would not be able to keep them true to character. That bees work black currants largely in the season of blossom has been also proved this year, as among some seedlings there is one that has leaves partly yellow, and it looks like a yellow leaved maple, and will be very ornamental. I have yet to see what its fruiting qualities are. In raising things from seed one is always on the look out for something different and better, though mostly they are inferior to the parent plant; still, they are varied in growth, which proves that the bees went over different varieties when collecting food from them when in bloom, and yet how rarely are the products of a hybrid character, even though the bees go over all species that are in bloom at one time, and must carry pollen of the different species on their bodies and leave some on each variety they visit.

Have had a visit from a Devon enthusiast, Mr. Hancock, of Newton Abbot. He stopped to see the bees at our farm on his way into Kent to take back some bees he had offered him. His clever

daughter had worked on the farm during holidays. Big and strong, as well as apt at learning, she ought to do great things during her spell of life. Am sure that the craft will be the richer for her life, as her knowledge of bees is considerable for one so young. Her father told me that large areas in Devon had lost largely by disease.

A bee man writes to me:—"How do you cover down for winter and have glass to see the bees?" Make a cover of board to fit the brood chamber, tack strips on one side at the edges; not too thick strips, not more than ½in. Cut a small hole in centre of board, as you would do to invert a feeding bootle, lay a piece of glass over this, and cover up with whatever winter wrapping you use. The bees will fasten down the glass to the board with propolis. This also gives a free way over the bars in winter for bees to get at their stores. Another way is to cover with thin oil-cloth, with a hole in the centre. Place first a few short strips of wood across the bars to give easy access to store. Lay the oil-cloth sheet over strips, lay a piece of glass on the opening, lay another piece of cloth or canvas with a hole cut in the centre the same as the lower one; cover up with felt or even old newspapers. If you wish to see how they are wintering, or if they have stores, you have only to roll back the wrappings and not distub the bees. The strips of wood should only go over eight bars, and not cover the two outer ones, as then the oil-cloth would not fall on to these outer bars, and it is essential for warmth in winter that the bees should be able to fasten this down at the edges all round.—J. J. KETTLE.

## THE DOINGS OF DEBORAH.

### IV.—WASPS.

"Now, Deborah, it is nearly the end of the season. Don't you think you might give me a word of commendation over the affair of the wasps?"

"Well, I certainly should have thought that it would be more like you to have chivvied all the wasps out of the tool-house when they invaded it, and so let them loose to try to invade our hives! Shutting them in like that and then sulphuring them was certainly one to you, but——"

"Yes? What is the 'but'?"

"If you had not left those two extracted supers in the toolshed the wasps might never have been attracted to our bee-farm at all."

"I must certainly not do that another year, but I think the wasps would have been round the hives in any case this year. I have done for two nests quite close to the hives since the invasion, and there must have been at least 500 wasps in the shed. Did you see how they rushed to the window when the sulphur fumes reached them? The window was absolutely yellow with them."

"Yes, we enjoyed the sight mightily, and buzzed our hardest as they crawled more slowly and finally lay dead. It gave us a nasty twinge of memory, though, as our thoughts flew back to the old days of the sulphur-pit! We got no honey from the fruit this year. Too cold! And that always means no fruit for the wasps, and then they are keener on our stores. But, you know, you owe it to us to give one to the wasps after the trick you played on us two years ago."

"Don't mention that. I was so dreadfully sorry and shall never forgive myself. I suppose it was all because I left the skep unprotected after driving you all from it; but I only left it a few minutes while I carried you to dump you in front of the new hive."

"At any rate, it was a few minutes too long. Just imagine leaving our precious, warm old skep standing upside down in the sun at the end of August! Of course, every flying bee in the apiary was on to it in a moment."

"Yes. And then the robbing and the fighting! It was no use my covering up the skep and taking it into the house, for it meant that we dare not open a window or door for at least three days. You simply poured in!"

"I see you are getting away from the subject of the wasps. May I just remind you how, after you had removed the skep the wasps——"

"No, please don't remind me!"

"As I was saying, the wasps set on to the struggling, fighting, demoralised bees and——"

"No, don't! I can't bear to think of it!"

"—and actually bit out the honey-sac from us while we were alive, and next morning you found us crawling all over the flags in the garden with no abdomens—just legs, wings, head and thorax."

"Yes. It made me perfectly sick to see you and to realise it was because of my carelessness. But it made me sicker when I could think of no better way of repenting than to tread on all of you I could see. I have hated wasps ever since."

"We have hated them from all time."
—DEBORAH'S HOSTESS.

## HONEY RECIPE.

### GOLDEN PUDDING.

Put some honey in a dish with a few bread crumbs. Make a custard with one egg, put on top, and bake.—(Mrs.) F. RUMMING.

## THE URGENT TASK.

By A. Z. Abushady.

Under certain conditions it might be an easy matter to prevent infection with "Isle of Wight" disease, or possibly to make the disease abortive in its early stage, but once the internal tissues of the bee have been more or less damaged by the invading pathogenic organisms, it is not an easy matter curing it, especially in the absence of a "*specific*" drug. In recommending the *trial* of some of the modern nontoxic antiseptics for treating the disease my motive has been the search, not only for a suitable good antiseptic in the ordinary sense of the word, but also for a "*specific*" drug in addition. So far, this has not been discovered, and I am told that those who have extensively tried "*Flavine*" do not claim from its use more than a temporary relief. It could *not* be, therefore, a "*specific*" drug, and its only additional advantage over other antiseptics is cheapness. The colour itself is, in my opinion, of no value for our purpose; in fact, it is a disadvantage to those who take pride in the cleanliness of their hives. It is misleading, therefore, to suggest that it has on diseased bees an action similar to that of diphtheria antitoxin. We are still left, therefore, in the same old position of fighting the disease with a suitable general antiseptic.

*The artificial immunisation of queens against "Isle of Wight" disease* is a justified experiment in the light of the foregoing and previous remarks on this subject. An independent line of research would be to utilise filtered emulsions of diseased bees (after being rendered harmless as a source of infection by mixing with a suitable antiseptic, heating, etc.) as sources of the toxins, which should be given to the bees in *judicious* doses mixed with syrup, etc. It is out of place here, at the present stage, to consider technical points connected with the preparation of good toxins, or with dosage and method of administration, my aim being simply to present further suggestions on this subject, and to stimulate a greater interest in research. In this connection, I feel gratified to note that at least one of your correspondents agrees with my view that the B.B.K.A. ought to be supported with donations for research work. He suggests an "'Isle of Wight' Research Fund," but I simply suggest a "B.B.K.A. Research Fund," since research on many other matters is highly desirable, and should be *a continuous and a permanent duty*. Subscriptions to such a fund, therefore, should always remain open, and a minimum reserve of £100 should always be maintained. Trusting that this suggestion will meet with a hearty response, I venture to enclose a cheque for £1 1s., to be supplemented in future, from time to time, with other contributions to the fund. As a laboratory researcher, I would highly appreciate co-operation from a select committee appointed by the B.B.K.A., principally in the sphere of experimental inoculation which goes hand in hand with laboratory work. In the absence of the former, false conclusions might be drawn from the latter. Such a committee, appointed by the Association, would insure methodical work, and would save one, like myself, the disappointment of not being able to arrange in a proper way for the regular carrying out of necessary experiments, as, in the absence of these, one is left unable to tell whether any of the organisms isolated from diseased bees has a pathogenic character towards them or not. Further, laboratory work under such conditions is next to useless, and would simply mean waste of time and money. I earnestly hope, therefore, that the B.B.K.A. will receive the merited *continuous* support for the conduction of research, both on our urgent problem, as well as on every other important subject connected with apiculture.

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## PLAYING THE GAME.

By J. Price.

Since the appearance of my former articles under the above heading, in which I drew attention to the fact that the high prices offered for bees would tempt unscrupulous persons to dispose of weak and sickly lots of bees, I have had many letters confirming this, and although in some cases the purchasers have managed to work up these weakly lots, there are some who have failed. Many have imported disease, and are now wiser but sadder people than before they ventured on bees.

I am afraid a great deal of harm has been done to the craft in this way, and many that were enthusiastic in the spring are out of the craft now for all time.

From the letters appearing now in the Journal under the title "Let us be Honest," I am afraid this unfair business has been quite common in all districts, and one enquirer asks why can't the names be exposed. The editors have given a most satisfactory reply. To this I would like to add that, so far as my knowledge goes, this unfair dealing has been by the casual advertisers only, and I am pleased to say that the firms of long standing have dealt honourably with their customers, although probably some prices are very high.

I recently examined a swarm received by a lady from one of our dealers for 17s. 6d., and I am sure it was well worth the cash. On the other hand, I find a

swarm, or stock, has been purchased from a casual advertiser at a high price, and it has turned out to be a very bad spec. indeed.

I am aware that, in any case, there are bound to be some disappointed purchasers; there also will be—and I regret to say that I have seen many—sad cases of dishonesty. Some are sold with names that are, to my mind, deceptive, and whenever I see bees advertised as "immune," "disease resisters," "with no disease in district," I advise anyone to keep off. To me this extra title is not needed if a straightforward transaction is to be done, and even the word "healthy" added to an advertisement is a signpost of danger. Why should it be used if all our dealings were fair? I have yet to see an advertisement that offered unhealthy bees for sale, simply because no one would buy. Why, then, use any of these terms?

I will remark on one case only, that came under my notice lately. The bees were advertised as "healthy," but no written guarantee was given, and when questioned at the time of purchase as to a few crawling bees there were on the ground, the seller assured the buyer that they were all right—it was simply food that they wanted, and his bees were "immune" to disease. In a week after purchase I was called in, and the verdict was, as may be expected—garden literally covered with crawling bees, and one solitary seam left. This was in July, and the cost of the bees was £4. I would like to add that the seller is no novice at the game, and I have learned since that he knew the bees were diseased, and had decided to sell rather than keep them to die on his hands as he formerly had. I fancy I hear your readers say that he ought to be made to return the cash. Yes, I agree, and I should like to see such cases tested. I am inclined to think that some fund should be created to fight such cases and expose the persons. Why not the British Bee Keepers' Association take up some cases and ask for subscriptions through the JOURNAL? I think there would be a good response. Not only do I consider such acts as those described dishonest, but I consider the scattering abroad of diseased bees in that manner is a criminal offence, and should be punishable.

While legislation on this point is not available, I do think that in the interest of food production these cases should be fought. Even if they were lost we should gain by getting publicity, thereby hastening the time when such acts would be considered not only a great sin against nature, but a great wrong. "Let us be honest" and "Play the game" in our dealings is the watchword of all true bee-keepers.

## CARMARTHENSHIRE BEE-KEEPERS' ASSOCIATION.

A honey show was held in connection with the Ammanford Horticultural, Allotment, and Bee-keeping Societies' Exhibition on August 24, 1918.

The honey class proved quite a success, the number of entries being 23. The quality also was excellent, although the exhibitors had only a short notice and little time to prepare. It is hoped to publish the schedules, with quite a number of open classes for honey, at an earlier date next year.

Mr. H. Samways, F.R.H.S., who assisted in judging the Horticultural sections, judged the honey classes, and made the following awards :—

Best three 1-lb jars dark or light honey.—1, E. A. Cowley, Salon; 2, P. Cairns Guthrie, Lumble; 3, Jacob Evans, Llandelie.

Best three 1-lb. sections.—1, P. Cairns Guthrie, Lumble; 2, A. Preston, Ammanford.

Best shallow frame.—1, P. Cairns Guthrie, Lumble; 2, E. A. Cowley, Salon; 3, G. W. Fox, Ammanford.

Best 1 lb. beeswax.—1, A. Preston, Ammanford; 2, J. T. Lloyd, Ammanford.

Special prize, wired shallow frame.—A. Preston, Ammanford.

## UXBRIDGE AND DISTRICT BEE-KEEPERS' ASSOCIATION.

The second annual honey show of the Uxbridge and District Bee-keepers' Association was held at St. Margaret's Parish Room, Belmont Road, Uxbridge, on Wednesday, August 21, 1918. The entries fell short of last year, as the honey flow was spoilt by the rainy weather when the clover and limes were out. We were specially favoured by securing Mr. W. Herrod-Hempsall to judge the honey for us, and the best thanks of the Association are due to him for his splendid lecture given during the afternoon in the grounds adjoining the hall, which was attended by a good number of interested spectators. During the course of the lecture the queen was found in the demonstration hive, and shown round to those present. We shall be pleased to help bee-keepers in this district if they will communicate with the hon. secretary.

Mr. R. Lee, George Street, Uxbridge, had on view a splendid trophy of sainfoin honey which was greatly admired, and our thanks are due to him for his loan of bee appliances for use at the show.

The following are the successful competitors in the classes :—

Four 1lb. jars run honey.—1 Rev. Luther Bouch, 2 Mr. H. M. Knight, 3 Miss I. H. Jackson.

Two 1lb. jars run honey.—1 Rev. Luther

Bouch, 2 Mr. H. M. Knight, 3 Miss I. H. Jackson.

Four sections.—1 Mr. W. E. Black, 2 Miss D. Heyward.

Two sections.—1 W. E. Black, 2 W. E. Black, 3 Miss Heyward.

One shallow frame.—1 Mr. H. M. Knight, 2 Rev. Luther Bouch, 3 Mrs. Binckes.

One wax shape, not under ½lb.—1 W. E. Black, 2 Rev. Luther Bouch, 3 Mrs. Binckes.

Special prize awarded to W. E. Black for most points in the classes.

W. E. Black, Lawn Road, Uxbridge, hon. sec.

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## LION WORKS AND DISTRICT CO-OPERATIVE BEE-KEEPERS' ASSOCIATION.

The above association held its first show of honey and bee produce on Saturday, August 31. The show took the form of a honey exhibit at the Broadway Allotment Holders' show of vegetables, and was for the benefit of the local hospital for wounded soldiers. There were 12 entries for competition; about 230 lbs. of honey were staged in a class-room provided for the association by the allotment holders. There was also a very large quantity of appliances on show; almost everything in connection with bee-keeping was staged, including a hive fully fitted with glass panels for observation purposes; also an observatory hive, with bees, was staged by the secretary, Mr. Tilley, which was of great interest to the audience. All the afternoon crowds were gathered around it, and kept the members present very busy answering questions and explaining the work of the bees, pointing out the queen and drones, and a few of them went home with sore throats after so much talking. The show was a great success, seeing that all the members are novices, no one having more than one season's experience. Some splendid comb honey was staged, for which Mr. Brain took first prize, and Mr. T. Turner second prize. The extracted honey was of the very finest quality. Mr. C. Tilley won first prize and Mr. Millward second in this class.

At the close a large quantity of honey was sold, and all at 3s. per lb. A lot more could have been sold, people begging to be obliged with honey.

In the evening the show was visited by the most worthy vice-president, Mr. P. Frank, and Mrs. Frank, who congratulated the association on its first show. At the close a hearty vote of thanks was passed to Mr. Frank for the support he has given the association during its young days, and also to the secretary and other helpers who so ably carried out the arrangements for the show.—(*Communicated.*)


*The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.*

## NATIVE v. FOREIGN BEES.

[9755] I was very much interested in the article on this subject by "Robin Hood" appearing in your issue of August 1. Having always been a champion of the Italian bee, and a bee-keeper for over eighteen years, I do not think this article should be allowed to pass unchallenged. One of the chief points put forward by your correspondent is that Italians are excessive swarmers. This is quite incorrect, as I am now going to explain. No doubt the writer, like many others who are prejudiced against the Italians, is an advocate of the British standard frame now in use. If one is going to give an Italian queen ten standard frames, and expect everything to go along merrily, disappointment is bound to be the result. It is generally admitted that the Italian queens are about three times as prolific as our native queens. It should therefore at once strike all sensible bee-keepers that a queen of this strain should have at least three times the breeding-space of a native queen. If an Italian stock is allowed to have two or three brood chambers in which to breed, you will have no trouble with swarms and they will not so much as even think of it; but with seven racks of shallow frames placed above, the honey will roll in, not by the pound but by the hundredweight. I have repeatedly had in the "Model Apiary" hives standing 6 ft. high, which have given over 250 lbs. of honey and artificial swarms as well. One year I had a stock of Simmin's White Star Italians working in three brood chambers, and seven shallow racks. This hive produced 327 lbs. of honey, and two artificial swarms were made which gave over 30 lbs. of honey. Now I will challenge any person to show a similar result from a stock of natives. Several other White Star stocks worked on the same lines produced over 200 lbs. I must, however, admit that this is probably one of the best honey-producing districts in England. However, the Blacks only gave about 120 lbs. per hive, and were always swarming and giving cause for anxiety. As regards their immunity from "Isle of Wight" disease, it is now recognised by

all commercial bee-keepers that the Italians stand this disease better than the natives. We are constantly hearing of prominent bee-keepers who have lost all their bees through "Isle of Wight" disease. They are generally those of the same old school who do not move with the times, but advise others to stick to the natives, the standard frames, and at once destroy any stock showing symptoms of the disease. As regards the temper of different varieties of bees, the Italians are certainly better to handle; but on the whole I do not find much difference with any race of bees. The natives are often unbearable, and have a habit of running off the combs and clustering on the bottom bars and the sides of the hives. Your writer also said that Italians rarely gather enough honey for wintering, but this is incorrect, for it is the easiest thing imaginable to leave a rack of shallow combs over the standard combs for wintering. The Italians never choke the brood nest with honey, but always take it up above, and in August, when the supers are removed, I have generally found all the combs below the excluder packed solid with brood, thus ensuring an enormous quantity of bees for winter. I have always found the Italians are ready for the supers earlier than natives, and generally have a rack sealed and finished before the natives have started. I do not claim that the Italians seal better than natives, but I have taken sections off some White Star stocks that are absolutely perfect in every respect. If wanted for extracted honey, the Italians leave nothing to be desired. To work these bees successfully, and to avoid such high hives, we want a frame about an inch deeper and two inches wider, and hives to take at least twelve frames. I should also like to state that I made several two-frame nuclei about June 20, and these were given fertile, or virgin, Italian queens, and are now full stocks on ten frames, asking for supers, but owing to the shortage of foundation I cannot supply their needs. I was only discharged from the Army in the middle of June, but from eight good Italian stocks have built up to 18, and am taking honey as well, while other people with natives are doing next to nothing. I should advise bee-keepers not to cry down these excellent bees before they look round to find the reason of their failure with them.—JULIAN E. LOCKWOOD, Hunstanton.

## LET US BE HONEST.

[9756] If I may trespass upon your valuable space, may I say that the difficulty, and uncertainty, of dealing with strangers is easily overcome by those desiring to purchase depositing the amount with you under the scheme outlined each week in the JOURNAL. The very fact of this being done would at once put a stop to a great deal of the dishonest practices, evidently rampant amongst "bee-keepers," the very reason, of knowing the bees, or articles, would first be seen and inspected before they had the opportunity of handling the money, would either prevent them sending the goods to the purchaser, or the alternative, inventing a tale that they had already been sold; which would be preferable to the would-be purchaser being swindled.

None of us wish to suspect others; especially bee-keepers; at the same time honest dealers would never object to the scheme being adopted.

May I also suggest that purchasers who have been victimised by advertisers in the JOURNAL should send the names and addresses of the offenders to the manager, outlining the offence, in order that a "Black List" may be started, enabling the manager to use his judgment as to accepting or refusing any further advertisements in the future, from that advertiser.

Failing the acceptance of these suggestions, there is another alternative. Bee-keeping will, in the future, become very extensively adopted in the British Isles; surely no one would object to paying one shilling or more per annum to a central fund, which would constitute them being members of the "Bee-Keepers' Protection Association," to which all complaints and inquiries could be made, that would safeguard bee-keepers in future from swindlers, and their interests, in all directions.

There is much more that could be said, but I have already drawn upon your good nature, too much.—P. J. W.

## THE EXPERIENCES OF A "SUBURBAN NOVICE."

[9757] A great many persons write nice little articles all about their experiences, their first "drive," their first swarm, which they call "the catch of the season," their first sting, and so on, and it occurs to me that there is no reason why I should not see my experiences in print, if only Mr. Editor could be induced to make the insertion. Well, I had a fancy for live stock ever since I could toddle. Being born of "poor but honest" parents, my surroundings were not conducive to the gentle art of bee-keeping, and, moreover, the busy life for which I was destined precluded all hope of indulging any such desires, but all comes to he who waits, if only he can wait long enough, and, after many and seemingly endless years of toil in the city, I at length acquired such surroundings as permitted me to indulge in a hobby, and so I took to the bees.

I wrote a cheque for 50s., and planted a hive in the back garden—and was told if I had so much money to throw away, I might buy a new coal scuttle, or a brass bedstead, both badly needed.

I came home every fine afternoon to perform operations, and tinker with "the thing," which proved beyond doubt that I could get away from the office if I chose, and it was very strange how I could never find time to go out west and do a little shopping. I am told that every time I mess with the beehive I have a horrid smell about me, which clings to my person for a week. Some people can never realise that the true bee-keeper simply loves that smell.

I am constantly asked if I expect to get any honey, and if I have any idea how much it will cost me if I do, and that I might buy it of better quality at much less cost. I am also constantly informed that it is only common people and persons of low minds that keep bees.

I am told that my bees prevent the garden from being used by anybody, that I mess the whole house, and that I can do nothing but think, and talk, and read, and sleep about bees; last thing at night, first thing in the morning, always going to have a peep at them, but when I used up all the sugar on the premises for feeding them and made the kitchen all sticky, really, it was going too far.

It has leaked out in the city that I "keep a bee," and whenever I appear that stale old joke about a bee and a bonnet passes round the café, and seems to afford great amusement at my expense.

Dear Mr. Editor, these are only a few of my experiences, and it requires no end of courage and a stiff upper lip to live through them, and I fear much, I am very much afraid, that one or other of us—that is, me or the bees—will have to go under.

## Notices to Correspondents

G. C. B. (Surbiton).—*Prevention of swarming.*—There is no "absolute preventive" of swarming. At times bees will swarm in spite of anything the bee-keeper may do to prevent it. Plenty of room and abundance of ventilation will do much to check it. See reply to G. M. Rosling in last week's JOURNAL *re* clipping queen's wings. Confining the queen to the hive by means of a queen excluder does not answer. The drones would need liberating every few days, or they would hinder the workers, and cause a lot of excitement in their endeavours to get out. We will give a few methods of swarm prevention next week if possible.

A. WOOD (Surrey).—*Preventing bees' wings sticking to wet alighting board.*—The best method we know is to give the alighting board a coat of fairly thick quick-drying paint, and sprinkle it while still wet with coarse sand.

W. W. (Bridgwater).—*Moving bees in old hive.*—As the hive is in such a dilapidated condition it will be a difficult matter to move it without mishap. Can you "drive" the bees and take them in a swarm box and fix the hive up in a crate? If so, it would be safer than trying to move the old hive with bees and comb, as apart from the risk of the combs breaking down and smothering the bees in honey, it would be difficult to give plenty of ventilation. On arriving at home you could run the bees back on to the combs for the winter, and transfer them to a new hive next spring.

"RUSTIC" (Briton Ferry).—*Queries on requeening.*—It will be advisable to requeen the first swarm, as that will be headed by the old queen. The parent stock and the after swarms will all have queens raised this year. The bees will in time usually supersede an old queen. This has probably happened to your 1916 queen.

"BEGINNER" (Wing).—*Using bought drawn-out combs.*—These will be all right if they have not been in contact with disease. It will be safer to disinfect them by soaking them for an hour or two in some disinfectant and water They are very cheap at that price.

"VERACITY" (Wexford).—(1) *Aspect of hives.*—A south-east aspect is best. It will make little, if any, difference to the swarming, but it will to the collection of honey, as the bees will work earlier in the morning.

(2) *Vitality of foul brood spores* (*Bacillus alvei*).—These have been known to survive for twelve years.

(3) *Potato spray poisoning.*—We do not know that any investigation was carried out last year. We were unable to obtain a sufficient quantity of bees that were supposed to have been poisoned in order to have an analysis made, and this year we have not had a sample at all. We think there is very little risk of it occurring.

(4) We do not know of anything.

"FREDA" (Hants). — *Vicious bees.*—A cross between two varieties does at times produce bad-tempered bees, a second or third cross being the most likely to do so. Pure Italians would not be so likely to produce vicious bees. Dutch bees are quite as liable to "Isle of Wight" disease as Italians or Italian hybrids.

W. R. J. (Cornwall).—*Dealing with skep.*—Leave the skep just as it stands until spring, then transfer the bees to a frame hive, by standing the skep over the frames fitted with foundation and allowing them to work down.

A. B. B. (Blantyre).—The bees were a cross between Italians and a brown bee. The different marked ones are all from the same queen. The workers from a queen of one variety mated with a drone of another variety will not all be one uniform colour, some having two distinct yellow bands, some one, and others none—that is if either queen or drone is an Italian.

G. P. (Renfrew).—*Wintering.*—No. 4 would be the best plan, but bees should be able to fly outside. We should prefer letting the hive stay outside. Pack the bees with a good warm cushion or plenty of other packing on top, and a good watertight roof.

M. A. (Suffolk).—See "Seasonable Hints."

G. HEATH (Tamworth).—You could make another stock by purchasing and introducing another queen to it

J. G. (Southgate).—We cannot say what caused your bees to behave in that manner. It might be caused by a threatening storm or an attempt at robbing.

*Honey Samples.*

"DUCK" (Bridlington).—The honey is a very nice sample, mainly from clover. It is a light honey. Warming it would make it clear. You can keep the combs till spring. Lay them flat for a few days and the honey will drain out. Of course, they will need turning. Store in a dry place.

"FARMER" (Penistone).—Clover honey of excellent quality. At present prices it is worth 3s. per lb

*Suspected Disease.*

"NOM-DE-PLUME" (Chesterfield).—The trouble is "Isle of Wight" disease. The bees appear to be Natives.

DR. J. CREE (Yorks).—It is "Isle of Wight" disease.

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THREE Strong Stocks, eight frames each, 1918 Queen, £2 15s. each.—J. BOWDEN, 167, Ellerton Road, Tolworth, Surbiton. h.58

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FOR SALE Extractors, 25s., 30s., 35s.; good condition. Wanted, Driven Bees, Honey, Hives and Appliances.—GWYNN, Conningsley, Malvern. h.67

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COMFORTABLE APARTMENTS for Brother Bee-keepers visiting Douglas. Terms: Tea, bed, and breakfast, 3s. 6d.; or full board, 6s. per day.—HORSLEY'S, Merridale House, top of Castle Drive, Douglas, Isle of Man.

STRICTLY BUSINESS.—A free sample Flavine and the Circular for a stamped, addressed envelope; six packages, 6d.; "Intensive Bee-keeping," Chapters I.—VI., 6d.; a japanned Sprayer and all the above, 6s.—S. H. SMITH, 30, Maid's Causeway, Cambridge. h.75

DRIVEN BEES and Honey for Sale. What offers?—BOOKER, Alfold, Bilingshurst. i.10

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"ISLE OF WIGHT" Disease permanently cured. Tested four years. Solution and directions, 2s., post free.—PRESSEY, St. Elmo, Coulsdon. d.73

### HONEY WANTED.

Wanted, any quantity of guaranteed PURE ENGLISH HONEY extracted this season. Must be clear and of good colour.—Please send samples to JOHN TRICKEY & SON, Produce Specialists, "A.M." Dept., Hillfarrance, Taunton, stating lowest price delivered to Norton Fitzwarren Station, G.W.R

### HONEY AND BEESWAX PURCHASED.

Run Honey in bulk. Sections per gross.

### HONEY FOR SALE.

Cuban, Californian, English, Irish.

Free tins and cases, carriage paid. Cash with order. Samples, 1s. Prices on application.

**A. GORDON ROWE, 28a, Moy Road, Cardiff.**


## PROFITEERING?

Now that honey of all kinds is making such high prices, some of the vilest-flavoured foreign honey being retailed at over 2s. per lb., most people will no doubt be under the impression that the producers in other lands are receiving a correspondingly high price for their honey. That this is not so in Australia the following, which we quote from a letter just received from our esteemed contributor Mr. Tarlton Rayment, of Briagolong, Gippsland, Vic., Australia, shows :—

"We have experienced a remarkably prolific season, and I am pleased to report that the whole of our crop has been sold at a—well, I was going to say satisfactory, but on second thoughts prefer payable, price. We sold our 13 tons—for export to London— at 5d. per lb., glad to do it 'for England, home, and beauty.'

"Later we read where some Australian honey was withdrawn from auction because it only reached 1s. 8d. per lb. We were amazed. Surely the profiteer must be responsible. I *know* that no Australian apiarist received over 6d. per lb.—bulk, of course—and few got that figure."

## A DORSET YARN.

Again the great wealth of song is on the farm, on the long lines of perpetual raspberries. I cannot tell if the Ling heather has lost its sweetness, or if the lure of the rasps. is greater than the heather, but the "glad song of content," of which Maeterlinck wrote, is very much in evidence now. Wasps are working the ripe fruit, and bees are holding a carnival on the flowers. As one works close to them, marking out the lines for lettuce to stand through the winter months for spring use, one hears the glad song continuously. It is fine for the bees to have food in plenty close home, particularly if weather is showery, as it has been some days this last week. A line of cauliflower in bloom has been for some time, and is still, a great attraction for them; the runner beans are still wonderful with flowers; but the haricots have ripened off. The pheasants have found them, too, and are a continual nuisance to the grower. Every evening, as the men leave the fields, they come after the beans. I remember asking an old poacher once, why he always let a lot of beans stay in the winter, when he could gather them and cook the ripe seeds. His remark was, "It's a sure bait for pheasants; they have the same attraction for them as sunflowers seeds have for rats." These men, who have passed their whole life with animated nature, know how to catch them, and what will lure them into their own gardens.

There were several lots of honey in Wimborne market on Tuesday. One lot was finished superbly, with pure white capping. The blacks seem to finish them with air under the capping, and the Italians mostly seem to lay it on the honey, or it sinks in on the honey with the bees running over it.

Mr. Butson told me he had never made so much money from one single hive before. He sold several nuclei at high prices and then had 40 lbs. of honey. All proves that there is money in bees. These were Italians. He uses shallow bars for extracting. He maintains that bees will fill a shallow bar quicker than they will a section. The former weighs several pounds, so, of course, he is a long way before the Violet Farm where we use sections. We shall have some shallow bars of all pure heather honey this year, as our Italians have nearly filled the lot—eight of the ten were capped when Squire Tomlinson came to see me on Monday. This has taught me another lesson, that Italians store heather honey on the top, and blacks begin to fill the brood chamber when heather is in bloom. At least, that is what I have always found in other years. The blacks seem to be afraid that to breed too much in one year is not good policy, or they want the winter stores as close as possible to the winter cluster round the queen.

A lady enthusiast writes from Tenby, of a dark, thick, strong-tasting honey that was in some of her sections. I advised her to send to the JOURNAL, as I feel sure that such finely written matter would be of general interest to bee-keepers. The honey was collected in August, so could not have been so-called "honey dew." I suggested ragweed to her when sending a reply. Of course, one cannot tell unless one knows the flora of the neighbourhood, and ragweed is very plentiful in Dorset, great bunches of dirty yellow flowers. Seeds will be blowing about to be a nuisance to other farmers. There is nothing will eat it but the caterpillars of the Cinnabar moth, which feeds on all the groundsel or "senecio" family. The moths are ashy black and red, very pretty, but their flight is weak. Bees seem to be very partial to the flowers when they open first, and when the Ling heather was open our bees all flew towards the moors; but I notice this week they are flying over towards the pasture lands again. I know of nothing else for them

but ragweed and clover, and they have not been so much in evidence on clover at our farm this year.

Am glad to see that one of our gallant soldier bee-keepers is back again with his bees. His contribution to last week's BEE JOURNAL is very conclusive as to the wonderful production of Italian stocks. It was about this time last year Mr. Claridge wrote of the large gathering of honey from his Italians, with his scientific management. The writer of this yarn has still a lot to learn about his bees. Have heard it said many times "In a multitude of counsels there is wisdom." I find it is a truism. One learns more of bees as each week's JOURNAL comes to hand.—J. J. KETTLE.

## ABOUT SWARMING.

In America they are past masters in every phase of bee-keeping conducted on a large scale, so it may be well, in our review, to consider several methods they adopt over there to check swarming. The description of each plan is given in a considerably condensed form.

1. As early in the summer as practicable, deal as follows with all hives where bees are extra strong. Put the queen in the lower story with one frame containing a little brood, and fill up the space with combs or frames with full sheets of foundation. Over this place an excluder, and over this a second story, with the rest of the frames and brood. Ten days after kill cells in upper story, and when brood is all hatched, these will become the extracting combs. When comb honey is being worked for, this story should be withdrawn, and racks of sections can take their place. The principle in both cases is correct, and swarming should be checked.

2. When running for extracted, it helps against swarming to have the stories "stuttered," the second story shoved forward to make ventilation at the back, the third story shoved backward to make ventilation at the front, and so on alternately. Even for comb honey I like ventilation at the back, between the hive and the super. Give abundance of room, not plenty only, but abundance. If working for comb honey, exchange your old queen for a young one before swarming starts. These three things, ample ventilation, abundance of room, and young queens, fill the bill. (Dr. Miller.)

3. We unite our very weak colonies with our very strong ones, setting one above the other without excluder. At this uniting our stores are also equalised. A colony containing considerable honey is carried and set either under or over a colony containing a normal number of bees, but short of stores, or vice versa. Swarming fever prevention is secured by giving the more populous colonies *an abundance of room*, so that they will never feel the least bit cramped. This is the key to swarm prevention previous to the opening of the honey flow. Supply the empty combs previous to this opening, and when it has opened, if working for sections, let crates take the place of the upper story.

4. When it is found that a colony, before the full flow, begins to build queen cells, it is divided into two equal parts, and the queenless part is left on the old stand, if the queen is found. If not, both divisions are given combs containing queen cells. Then the open space in the hive body is fitted with ready built combs, or frames containing full sheets of foundation. On our next round the divisions are examined, and the weaker ones are replenished with frames of sealed brood from colonies that can spare them. This cures such colonies of the swarming fever for the season. This plan is successfully worked in the Western States.

5. In the East they practise the following method of swarm control:—Take all the precautions generally used to discourage swarming. In some seasons all of these will fail, and then prompt measures must be taken. Shake the bees at once on clean worker combs. If these contain some honey, it is just as well, and if there is any sealed brood, it is better. When the shaken bees enter the hive, or before, return the supers from the hive they have occupied. The absence of any *unsealed* brood will most likely cause them to give up any desire to swarm for that season. This is not what is known as "shook" swarming, which will receive attention in a later issue.

6. "Switching" bees about every ten days from one hive body to another is sometimes found efficacious. This process converts what before the operation was the "hatching story" into the storing one. The "switching" keeps the queen laying continuously. It removes her from her brood and eggs every ten days, and prevents the brood nest from being clogged with honey. Virtually, this plan is almost an equivalent of swarming, but with the great advantage that there is no breaking up of the strong force in the hive, which remains under one roof right through the season. It is a plan only possible when working for extracted honey, and only a thoroughly efficient bee-keeper should attempt it.

7. If no increase is desired, remove for fourteen days two combs of brood and some bees with the queen. If no cells are started at the time of the removal of the queen, withdrawing the two combs is all that may be required to check

swarming, before returning the queen and brood. If these combs are set behind a division board with a piece of zinc on it, the queen and brood can be returned with perfect safety in fourteen days. It is advised that during the time the queen and the frames are absent, the space they formerly occupied at the side should remain vacant, as there is little danger of queenless bees building comb there. If, however, the queen is a specially valuable one, the two combs with the bees, brood, and queen may be taken away to form a nucleus.

8. From far South Texas comes a claim for almost absolute swarm prevention. The "stunt" knocks swarming on the head. The prevention must be undertaken before bees get the swarming fever. The author works with divisible brood chambers, and with these he can break up the mass of brood. He simply exchanges chambers and separates the brood into sections, always giving room in excess of the actual requirements of the bees.

9. I have reserved the simplest, perhaps the best, and certainly the shortest "recipe" till the last. Here it is in sixteen words:—"Remove the queen and insert a ripe queen cell, removing cells while looking for the queen." It takes only a few minutes to apply. Try it!—D. M. M.

## THINGS THAT MATTER.

I find that a great many bee-keepers are very careless about how they pack their bees down for the winter. As the time is now coming on for this to be done, a word or two about it might help someone.

I find some never remove the excluder, but just throw a sack or something of that kind over it and leave things to chance. Others fill the hive up with newspapers, or anything they seem to want putting out of the way. Others put a cold, empty rack on the top, leaving it there all the winter. Respecting quilts. No hard and fast rule can be laid down, but a basis can be worked upon. Always have the quilt large enough, say 1½ inches larger all round than the brood-box, to enable them to be tucked well in.

Porous material should always be used, say one piece of calico next the frames, then two pieces of carpet felt, then a piece of old carpet, or a *clean*, soft old sack.

For feeding purposes we are advised to cut a hole in the centre of the quilt. I say don't cut the hole in the centre, but cut it three inches square and three inches out of centre. When feeding, adjust the quilts so that the holes are all fair over each other, and when covering down, either at ordinary times or for the winter, turn the quilts over alternately so the feed hole is "hit and miss," and blocked so that no bees can get through. It also saves the trouble of working a flap or an extra piece of something to cover the feed hole when not in use.

Respecting a winter passage. This is a most important matter, but very much neglected. With a passage of not less than ¾ inch over the frames, I have frequently been able to bring small stocks and nuclei through the winter with very little stores, which I could not have done had they not been able to easily move about over the frames to reach the food. I also find that a great number of the bees cluster on the top of the frames. They are able to mass in the ¾ inch space formed by the girder, and keep warm better than in the narrow slit between the combs, which often is nearly closed up, especially at the top.

I recommend and use for winter girders three laths ¾ inch square nearly the full width of the brood-box, and cut down at each end on the top side to enable the quilts to lay down on the edge of the brood-box. Also hollow the laths out in the middle ⅜ inch deep to give good bee way under them. Use three laths on each stock, three to four inches apart. When in position, lay the quilts lightly over them, and tuck well in on the outsides, and be careful not to press on the centre. You will then find that the bees will stick the first quilt to the edge of each lath, and this prevents it falling in between the laths and blocking the space up.

In early spring, if you wish to give the bees some medicated candy—*which is always advisable whether they need food or not*—raise the quilts a little on that side where the ends of the girders are, and gently pull out the centre lath, and in its place push one or two cakes of candy. This can be done with the least possible disturbance to the bees. When removing the girders in spring clean them, and place them under the hive ready for future use, taken care of they will last for many years. By this method the bees get free movement in the warmest part of the brood-box, namely, the top, which tends to good wintering and early breeding and rapid expansion in the spring, all of which help to make strong, healthy stocks.—WILLIAM ION, Healing.

## WINTERING

BY O. PUCK, CHINGFORD.

Many able and instructive treatises have appeared from time to time in the JOURNAL on this all-important subject, yet with all due respect to the writers, it seems to me that most of them, although

elaborately describing the preparations necessary to bring about the desired result of successful wintering, have missed the point. To properly elucidate the matter, we should fall back upon nature, be guided by her teachings and not make deductions from observations made in frame hives, which are the creation of man. What more ideal conditions of wintering can one imagine than a colony of bees situated under a roof or in a hollow tree? At the end of the honey flow the bees are clustered below their natural stores in dry surroundings in a state of perfect contentment after the season's arduous labours, by the frequent use of propolis they have filled up all chinks and crevices, excluding cold draughts and yet pervious enough to allow ventilation. Instinct teaches them that with the waning of nectar-yielding flowers, the consequent reduction in the queen's egg production and a cooler temperature, a period of long confinement and rest is approaching, and that unless they make timely preparation to put their house in order they cannot survive.

Thus far nature; now interfering man comes along with his science and completely upsets the balance of nature for purposes of his own. *First*: he changes the abode of the bees from a lofty and dry one to one just above ground, more often than not in a damp location. *Second*: he deprives the bees of all the stores above the brood nest at the end of the honey flow, and, *third*, instead of allowing the bees to remain in a state of rest, he puts them once more to the heavy strain of storing honey or syrup in large quantities in quick time, and sealing same for use in winter.

That the extra labour of storing and sealing late in the autumn has a detrimental effect upon the condition of the bees is evinced by greater mortality during the winter months; same cannot be compensated for by the raising of young bees in September, as most of these, being unable to have a flight, do not possess sufficient stamina to stand the winter and die off before spring, and, besides, there is the additional strain put upon the queen's system by unduly prolonged egg-production, which is not in conformity with the laws of nature.

Text-books tell us that success in wintering depends upon (1) an abundance of sealed stores, (2) a large number of bees and a prolific queen, and (3) proper ventilation without cold draught, and advise to commence preparation for wintering about the middle of September. Taking a leaf from the book of nature the latter is by that time already an accomplished fact—the sooner, therefore, it is commenced after the stop of honey flow in August the better it must be for the well-being of the colony afterwards.

After removal of supers early in August the condition of the brood chamber of each stock should be ascertained—in most cases it will be found that the two outside frames contain sealed stores. These two combs I remove for the time being, and thus reduce the brood chamber from 10 to eight frames of comb, placing those with brood in the centre, and then put a bottle-feeder on top and start slow feeding with honey. This, continued for a fortnight, will encourage the queen to go on breeding moderately, and if all colonies are fed, the bees are more contented and not so prone to rob, and show no inclination to ferret out weak lots or neighbours' hives for plunder, or, worse still, bring home an infection of "Isle of Wight" disease.

By the end of August all brood in the outside combs will have hatched; remove these and place them behind the dummy for the bees to clean out and carry back into the brood-nest what stores there may be left in them, and substitute for these two combs, the two of sealed stores taken out earlier in the month; also give the bees behind the dummy, if not already done, access to any extracted combs you want cleared out, putting two or three in late in the evening, when the bees have stopped flying for the day, and early morning you can remove these combs nice and clean ready for another season. The early and slow feeding has a double advantage. In the first place, it corresponds in a way more to the natural order of things, and ensures sealed stores whilst the weather is still favourable, and, in the second, it does not put that additional tax upon the bees' energy as rapid feeding a month later must do.

On about September 10 remove the feeders; as a rule brood will then be found on the two centre combs and ample sealed stores on the others. The first stage of laying a foundation for successful wintering has now been reached; the next, and equally important one, is packing up for winter, with proper ventilation free from cold draughts, and, more important still, free from dampness.

Since the introduction of movable combs, there have been advocates of the cold and of the warm systems, *i.e.*, frames placed at right angles to the entrance *versus* parallel. I contend that neither system quite corresponds to the natural requirements of the bee. Observe the start made by a swarm hived in a box or skep, and what do we find? Comb-building is invariably begun in the top-most corner, farthest away from the en-

trance, and the first combs are built diagonal to the entrance, and why?—for no other reason than to protect the brood raised in same subsequently against a direct current of cold air striking them. Fresh air the bees must have, and warmth radiating from the cluster is maintained as the combs are built under the roof—the fresh current of air coming in at the entrance strikes the combs obliquely and then travels round the ends, thus the brood is protected from chill by the bees encircling it and the brood-nest is gradually extended in proportion to the increase of the colony. Subsequent combs built more or less irregular are connected by brace-combs, serving a two-fold purpose, viz., to act as girders between the combs and to strengthen them against a break-down and to form attachments against the sides, leaving loopholes and interstices for ventilation purposes. Bees, like hornets and wasps, give their brood-nest an oval shape, so that the current of air may better circulate round the combs and reach all parts, and if we watch the bees fanning at the entrance of a frame hive, what do we find? They stand in rows at one side of the entrance, leaving a free passage for the incoming and outgoing workers, and by the position these fanners have taken up they send a current of fresh air round the inside of the hive, causing a draught of heated air laden with moisture evaporated from the nectar in the cells to rush out on the opposite side of the entrance, strong enough at night time to blow a candle out.

*(To be continued.)*


## TREATMENT OF "ISLE OF WIGHT" DISEASE.

[9758] The following account of an apparently successful treatment of a bad case of "Isle of Wight" disease may be of interest to some of your readers:—During the first week in June I had a strong cast from one of my stocks, and for the sake of the experiment hived them on combs from another stock which had died the previous season of "Isle of Wight" disease. These combs I liberally treated with pro-flavine. In 17 days this cast showed decided signs of the disease, and in another week had developed into as bad a case as I have seen. Crawlers were all over the beds, dying in heaps, and the dysentery was of a most unusual quantity. They were so bad I decided it would be hopeless to try remedies, and purchased chloroform to destroy them the following day. At the last moment I repented, and decided I would use the occasion to give Yadil a good test—for although I had been using it with apparent success in suspicious cases, I had had nothing so serious as this to deal with. For a fortnight I sprayed bees, frames and hive with a solution of 1½ teaspoonsful in half a pint of water, each alternate evening. By the end of the first week the symptoms had been much reduced—by the end of a fortnight there were no signs of disease to be found. I have sprayed them two or three times since, and also the candy they are feeding on, and although I have watched them very sceptically, at all times of the day, for recurring signs, there have been none discernible, although these bees have been flying freely. I have much pleasure in recording this experiment, as all my previous experiments with disinfectants—and I have tried the lot—have failed to give me such a clean and decided result as this one, and I am writing now, in the hope that should this meet the eye of any other bee-keeper who has also failed with medicants as I have, he will give Yadil a trial and report the result.

Before closing this letter I should like to express an appreciation of Dr. Abushady's contribution to your paper, and the hope that his endeavours to promote scientific research work for the benefit of our craft may meet with the success they deserve.—F. W. Duke, Ongar.

## ANTI-PROTOZOAL DRUGS IN "ISLE OF WIGHT" DISEASE.

[9759] In the B.B.J.'s issue for July 4, 1918, also in the August issue of "Co-operative Food Culture," I deplored the negligence of authorised researchers in not experimenting with anti-protozoal drugs in "Isle of Wight" disease. There is a long list of these well-known preparations, most of which are highly toxic, and need careful study by those who experiment with them. Presumably, these notes were not seen by your correspondent who is advancing, as a new suggestion, the employment of organic arsenical compounds. These only form part (though quite an important one) of anti-protozoal preparations, and it is not advisable to direct the attention of researchers to their employment alone. We had enough partisanship in the past, and even in the present, towards the fanciful support of one useless drug or the other, instead of adopting the more worthy attitude of fighting the disease by whatever means that seem promising. Hence it would be advisable to avoid favouring any special prepara-

tion, and it would suffice to draw the attention of the newly appointed Research Committee of the Board of Agriculture to the lack of experience with these preparations in "Isle of Wight" disease. Their fund and other means would facilitate for them the extensive trial of most, if not all, of these drugs, and of compiling an unbiassed report on their merits for the guidance of the craft. It would be safer to draw the attention of ordinary members of the craft who are unable to cure their diseased colonies by the ordinary employment of antiseptics to *try* such simple, inexpensive, and comparatively less toxic anti-protozoal drugs as quinine arsenate (in a commencing dose of $\frac{1}{6}$ grain per pint of spraying fluid or feeding syrup) or quinine sulphate (in a commencing dose of 10 grains), both of which are employed in malaria. These and allied drugs, to begin with, are certainly safer in the hands of most members of the craft than the powerful enemy of *Treponema Pallidum*.—A. Z. Abushady.

## DESTROYING WASPS' NESTS.

[9760] I was pleased to read in your issue of August 22, re destruction of wasps' nests. During the last twenty years I have destroyed many nests of wasps in our district. I have destroyed *over* 130 nests in one season, and I find the best way to use the sulphur is in a bee smoker. First place some clean white rag in smoker, then light the rag, and get it burning well, then drop a portion of sulphur on the burning rag and puff it up, then put a piece more rag on the top, keep the smoker going. The rag on the top creates more smoke, then place the smoker nozzle in the entrance to the wasp nest, and smoke till the wasps give over humming, then carefully uncover the nest with a tool, keep the earth clear from the nest, then pour paraffin on the nest, and put a match to it. I find this a good way. In some cases, where the wasps are strong, I have a small bundle of straw tied up very tight. I put a little paraffin on this, light it, and put it over the hole. It will drive the wasps back. Then I have a piece of gas piping about an inch bore, place this in by the straw into the hole where the wasps are, then use the smoker with the sulphur. In some cases they are very strong, and the pipe is useful.

My method is to trace them up in the day time, and put a stick at the nest, so that I can find it better at night. Going at night makes a clean job of them.—F. W. Frusher.

[9761] May I give you my method of destroying those pests?

First get some brown or coarse grey paper, such as ironmongers use for wrapping, tear into strips (do not cut it; tearing leaves a rough edge which catches fire better than a cut edge). Lay one strip of paper on the table, or bench, put on it a layer of flowers of sulphur, then another strip of paper, and more sulphur, and so on until it will make a plug large enough to fill the cylinder of a smoker, taking care not to wrap the wad too tightly. Then light the wad the same as one would for smoking bees.

When it is well alight, a few puffs in the hole leading to the wasps' nest will soon stupify them all. Should a few come home during the operation, give them a puff and they will soon be off. Of course, this should be done as late in the evening as possible, but not after dark.

[If the paper is first soaked in a solution of saltpetre and water, drying thoroughly afterwards, it will burn much better.—Eds.]

I also take a spade and a bucket filled with water, then, as soon as I have overcome the wasps, dig the nest right out, put it in the bucket of water, stir the lot well up, dig a hole and bury it. I have never known this to fail.

A friend told me a few days ago she had a wasps' nest hanging on the wire front of her chicken house. When I went I found this to be a hornet's nest, *not* a wasps'. I gave them just a few puffs with the smoker, poked the nest down into the bucket of water, and all was over in about five minutes.

Referring to Mr. Kettle's yarn of August 22, I am like him, I never use a Porter Bee Escape for clearing bees out of sections. I can see no use for same, except there is sometimes a fear of the bees puncturing the cells slightly, and so causing some amount of "weeping," which, of course, looks bad in windows, but if care is taken, this does not happen.

With us the "Isle of Wight" disease is not so bad in this district this year, but we have had a very poor honey harvest. Three times the bees have half filled the shallow bars, and then, on account of wet days and cold nights have emptied them all again: but there is a fair flow now coming in, chiefly from wild mint, rag-wort, and other wild herbs.—C. Reed, Beedom, Chelmsford Road, Wickford, Essex.

## HEIGHT OF HIVES FROM THE GROUND.

[9762] I do not know whether you can endure yet another effusion from my pen, but I feel constrained to make some reply to Messrs. Bennet (9738) and Martin (9739). In the first place, I never for a moment thought that distance from

the ground would "confer immunity" from "Isle of Wight" disease. I saw some colonies high up in trees surviving; I saw other trees in which colonies had established themselves low down where the bees had died. Seeking for an explanation, I advanced the theory—nothing more—that infected bees failed to return. I believe that keeping the bees higher from the ground would be a help in keeping free of "Isle of Wight" disease. Mr. Martin says that my swarms most likely had virgin queens. I failed to find the queen of the second swarm—it was rather late when I hived it—but the queen of the first one was fertile and did not appear to be a young one. I found the same queen laying after the union was effected. If I had meant a cast I should have said so. I fail to see the unfairness of the test. The possible sources of infection are such as all my bees have to be subjected to. I do not see that the introduction of the Italian queen was a possible source of infection. She was obtained from one of the best-known English breeders of Italian queens—Mr. Simmins—who guarantees the queens he sends out to be healthy. I do not, of course, contend that an isolated experiment of this sort would be conclusive. The most I would say is that if all my other stocks became infected and this one does not, it will be one piece of evidence in favour of my theory, since all my stocks are headed by Italian queens. Mr. Martin says, "Why depose a young queen to introduce an Italian?" I reply, "I have no reason to believe that the queen deposed was young; she did not look it. Even if she had been, I should have deposed her, because I have quite decided that I will never again attempt to keep native bees over the winter. I am not going to be drawn into a further discussion of the respective merits of natives *v.* Italians. Suffice it to say that in the past my stocks of natives have always contracted "Isle of Wight" disease, and that my Italians seldom have done so.—G. R. STRONG.

## A NOVEL INCIDENT.

[9763] Some of your readers may be interested in the following incident:—

I have been staying for a time at my relative's home, a farmhouse in a secluded village in the north of Hampshire. Like many other old farmhouses, the residence is a partly timbered one, with thick beams running through the building. To add to the picture, there is a large old-world garden in which rosemary, lavender, borage, thyme, balm, and poppies abound. Truly a favoured spot for man and bee alike.

In one of the beams on the wall, facing the garden, there has been a hole for a number of years, in which bees have made a home. No particular attention was paid to them, however, until last March, when it was noticed that the atmosphere of the bedroom built over this particular beam was becoming quite warm. Surmising the cause, a hole was made in the floor, when it was found that the bees had penetrated some distance underneath. The full extent of their ramifications could not, however, be seen, as this would have necessitated pulling up several floor-boards. Nothing more was thought of the matter until about the middle of May, when on a sunny morning two swarms came out from the hole and settled on the trees in the garden. Some old straw skeps, which had not seen service for over 50 years, were resurrected, and although they were badly in need of repair, were hurriedly patched up, and the bees safely housed. A few mornings later two other swarms came from the same hole, these, also, were housed in the same way. I regret to say that one of the swarms has since left its improvised home, but up to date of this letter (August 13), the other three colonies are apparently still doing well. Notwithstanding the withdrawal of the four swarms the number of bees going in and out of the hole in the beam seems as large as ever, and it would be interesting to know what size the original colony was.

The majority of the bees seem to be of a motley colour, not the handsome English black bee. I am quite a novice in apiculture, and I should like to know if it is not unusual for so many colonies to have lived together in the old hive, if such a name can be given it. Would not the presence of at least five queens promise trouble? Is it possible that civil war rose in the camp and that some of the queens with their colonies were ejected? Certainly on the mornings they swarmed they were in rather a hostile mood, and stung several people in the vicinity.

It would be interesting to have a thorough examination made of the old bee home, albeit the work would not be without a certain element of danger.—E. E. STREET.

[It is unusual for several colonies of bees to use the same entrance to their "hive," which appears to be the case in this instance if two swarms came out the same day. As our correspondent says an examination would be interesting.—EDS.]

## NOTICE TO CORRESPONDENTS.

Owing to circumstances beyond our control, we are unable to reply to correspondents this week, but hope to do so in our next issue.

# Special Prepaid Advertisements.

## One Penny per Word.

*Will advertisers please read these Rules carefully in order to save trouble, as they will be strictly adhered to.*

**Trade** *advertisements of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at* **1½d.** *per word as* **"Business"** *Announcements,* immediately under the *Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of 3s. per ½in., or 5s. per inch.*

*PRIVATE ADVERTISEMENTS are only intended for readers having* **Surplus Stock** *to dispose of.* **Driven Bees, Nuclei,** *and* **Queens that are reared or imported for sale,** *are Trade Advertisements, and can only be accepted under trade terms. A charge of 6d. extra will be made if a box number is used.*

*Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.*

### PRIVATE ADVERTISEMENTS.

WANTED, to purchase, pure English Run Honey, in tins or bottles.—Price and sample to E. KEYWORTH, The Chase, King's Lynn. i.2

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WANTED, good finished Sections, also Light Extracted Honey.—State price per dozen and cwt. to "Colewood," New Road, Mitcham, Surrey. i.8

COTTAGE, detached, wanted to purchase. Any size or condition.—Highwold, Easthill, Sanderstead. h.82

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UNIVERSAL Bottle Feeders, present catalogue price 3s. 6d. each, send three for 6s. 6d., carriage paid.—FLOWER, Owslebury, Winchester. i.16

WANTED, at once, two Italian Hybrid Queens (1918). No Dutch blood.—VINCENT, 132, Croydon Road, Anerley. i.17

TWO four-frame lots Hybrids, 3 frames brood, young Queens, boxes free, carriage paid, 25s. each. Deposit.—A. SIMPSON, Chalfont St. Giles, Bucks. i.18

WANTED, few healthy lots Driven Bees.—Particulars, MISS E. JOHNSON, Ripple Hall, Tewkesbury. i.19

½ CWT. best Cumberland Honey, three stocks Bees (Italians) for Sale. Offers wanted. Stamp reply.—PEARS, 31, Pugin Street, Carlisle. i.20

FOR SALE, nine Stocks of Bees, each on 10 frames of comb, Hybrid Italian, free from disease, £3 10s. each; seven Single-wall Hives, in good condition, roofs zinc covered, 18s. each; three Taylor's W.B.C. ditto, 30s. each; 10 Section Racks for single-wall hives, 2s. each; four sheets zinc Queen Excluders, 2s. each; two Smokers, 2s. 6d. each.—BOX 45, BEE JOURNAL Office, 23, Bedford Street, W.C.2. i.21

THERE is nothing to be alarmed about. No windows are going to be broken. The D.B.'s are only marching past on their way to winter quarters.—S. H. SMITH. i.22

WANTED, Stocks of Italian Bees. State price carriage paid.—E. BOOBIER, Old Babell, Swansea. i.23

THE Principal Bee Expert of Norwich never had any use for Flavine.—Its uselessness is known by proofs possessed by A. TROWSE, Eade Road, Norwich. i.29

WANTED, "Isle of Wight" diseased condemned Bees on frames.—CHARLTON JONES, Peers, Conway. i.24

DRIVEN BEES wanted, 10s. each lot; any quantity bought.—WILLIAMSON, 1, Harrytown, Romiley, Stockport. i.25

WANTED, a few lbs. of Golden Bees. Good price paid for pure strain.—JELLINGS, 8, Stoke Green, Coventry. i.26

CONQUEROR HIVE wanted.—DR. TURNER, Northern Hospital, Winchmore Hill, London, N.21. i.27

### BUSINESS ADVERTISEMENTS.

**1½d. per word.**

COMFORTABLE APARTMENTS for Brother Bee-keepers visiting Douglas. Terms: Tea, bed, and breakfast, 3s. 6d.; or full board, 6s. per day.—HORSLEY'S, Merridale House, top of Castle Drive, Douglas, Isle of Man.

STRICTLY BUSINESS.—A free sample Flavine and the Circular for a stamped, addressed envelope; six packages, 6d.; "Intensive Bee-keeping," Chapters I.—VI., 6d.; a japanned Sprayer and all the above, 6s.—S. H. SMITH, 30, Maid's Causeway, Cambridge. h.75

2S. PER POUND offered for English Extracted Honey. Sample required.—A. LEWSEY, White Notley, Essex. i.28

WANTED, all grades pure English Honey, extracted this season.—Please send sample and price to J. H. LEE, "Little Bowden Apiary," Burgess Hill, Sussex. h.74

"ISLE OF WIGHT" Disease permanently cured. Tested four years. Solution and directions, 2s., post free.—PRESSEY, St. Elmo, Coulsdon. d.73

**HONEY WANTED.**

Wanted, any quantity of guaranteed PURE ENGLISH HONEY extracted this season. Must be clear and of good colour.—Please send samples to JOHN TRICKEY & SON, Produce Specialists, "A.M." Dept., Hillfarrance, Taunton, stating lowest price delivered to Norton Fitzwarren Station, G.W.R

**HONEY AND BEESWAX PURCHASED.**

Run Honey in bulk. Sections per gross.

**HONEY FOR SALE.**

Cuban, Californian, English, Irish.

Free tins and cases, carriage paid. Cash with order. Samples, 1s. Prices on application.

**A. GORDON ROWE, 28a, Moy Road, Cardiff.**


## QUESTIONS ON BEES AND BEE-KEEPING.

One of our readers, who is evidently a keen and thorough-going bee-keeper, has prepared for his own instruction a number of questions on bees and bee-keeping. He has very kindly placed these at our disposal, and suggests we print them from time to time in the B.B.J. We give some of them this week. The idea and suggestion is that readers write out the answers to the questions as a means of self-education. We cannot give answers to them, or undertake to correct answers given. We shall, however, be pleased to hear what our readers think of the project. There will be nothing frivolous about the questions; some may be easy, others difficult; but they are designed to help, and to test and increase the knowledge of those who try to answer them. We commend this work for the long winter evenings that will soon be upon us. The first set of questions are given below :—

### QUESTIONS, ETC., FOR BEE-KEEPERS FOR SELF-EXAMINATION.

*(Students are recommended to write their answers, and check them afterwards by reference to books.)*

1. What may cause a swarm to abscond after hiving?

2. How is a subjugating cloth made, and used?

3. What advantages has the modern bee-keeper which the bee-keeper of, say, 70 years ago did not possess?

4. State fully how comb is prepared for extracting by machine?

5. Should excluders be placed with the openings at right angles to or parallel with the frames?

6. What are the indications that robbers are attacking a hive?

7. Compare the utilities of the two-bee-way, the four-bee-way, and the no-bee-way forms of sections.

8. What disadvantages arise from crowding the hives in an apiary?

9. Describe particularly two forms of wax extractors.

10. Give details showing how a nucleus is made.

11. Describe minutely the head of a drone.

12. Make notes for a 15-minute lecture on containers for the retail trade in honey.—J. L. B.

## A DORSET YARN.

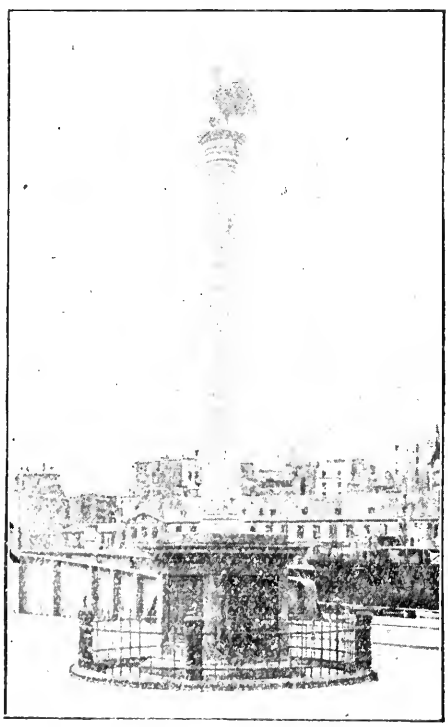
Our bees are working the units on the farm this showery time, though when bright for a few hours they are off in the direction of heather. From the laurel and privet hedges they are still carrying away something to make their homes safe for the winter. Two racks which I unloaded from a lot of hybrids this last week were very heavily cemented with propolis; this lot has furnished me three racks of section, of which all but five were sold at good prices. I gave 10s. for the bees; they were given a new lot of drawn-out combs from a late swarm in 1917 that was robbed clean out by the Italians; a rack of drawn-out sections was placed on at the time of hiving them. I was able to send off two lots of 55 and 60 sections to one dairy, and the cry is, "Send on more as fast as possible; all are sold in three days." So great is the demand for section honey that one can still extend with bees if the stocks live through, as our season of production is longer than with bee-keepers in the North. A gentleman from Sheffield who came to the farm last week said after the limes they did not get any surplus. Another bee-keeper writes from Durham he will spend his holidays in Dorset, and will pay me a visit this month. Others are wanting to buy farming land for fruit and bees. They want to bring their entire apiary into Dorset. They might not find a better county than this, but farm lands are going up in price; some of Lord Stalbridge's sold for £70 an acre, but that was the richest dairy lands in Dorset. One's bees would have to be all productive to pay the interest on the invested capital. I have always found that some stocks only give a small surplus. I suppose the queen is a poor layer, where others are good for building up strong colonies. One this season that was quite a small swarm gave me three racks of sections, where another that was much greater in numbers only did two; each was in a bar-frame hive, and each started the same week. At the price of honey just now an apiary would soon pay for the high price of land; even on the poor heather lands it is £50 an acre, but this costs the buyer so much labour to grow fruit as well. But land on the borders of farm lands is, in my thinking, the best for bees, in that they get a longer collecting season.

When at Blandford last week on market day, I called on Mr. Galton, an old bee-keeper who takes the JOURNAL each week, even though his bees went under with disease. He hopes to start again as soon as he can get a stock. There are very few bees in his neighbourhood just now; at one time there were a great many.

He was having his hives and racks all cleaned up to clear off all disease from them. He is a man of many parts, a keen musician. He played the "grandfather" fiddle in one winning band against all England; he is also a solo flute player, and he has a beautiful organ, and piano. But the music he misses most is the song of his bees. "I do miss them so," he said, as we looked at his fowls and ducks, his rabbits and pig. He seemed to only want his bees, and all his wants would be satisfied. After a cup of tea with his invalid sister I went back to the farm, thankful that there are so many good and delightful people that one is proud to know as friends, and among bee-keepers are some of the most entertaining and intelligent that I know.—J. J. KETTLE.

## A STRANGE BEEHIVE.

I have just received from Buckfast Abbey, Devon, a copy of your booklet, "Bee-keeping Simplified." May I con-



A STRANGE BEEHIVE.

gratulate you on the production of such a practical and concise little treatise? I feel sure it is destined to greatly popularise up-to-date methods of bee-keeping.

It may interest your readers to see a reproduction of enclosed postcard, which represents a very strange beehive. The cock, which is the emblem of the French nation, has become a hive of industry. Last summer, when approaching the monument, I heard a hum as of a swarm of bees passing over my head, and, on looking up, noticed that the cock was inhabited by a busy crowd, the bees entering by the tail, through a flaw or hole left by the casting of the metal. As one may easily imagine, it must be a rather uncomfortable hive both in summer and winter, but the honey it contains is as safe against intrusion as any treasure ever was.

I am looking forward to another busy season as lecturer on bee-keeping to the wounded soldiers of the neighbourhood.—P. MASSE, Interpreter.

## EXPERIENCES AND OBSERVATIONS IN THE TREATMENT OF "ISLE OF WIGHT" DISEASE.

BY A PHARMACEUTICAL CHEMIST.

It is now a matter of some six or seven years since the inevitable came into my out-apiary in the shape of "Isle of Wight" disease.

It was in the month of February that external observation told me that the best and strongest of three stocks was dead. My worst fears were soon confirmed by the removal of roof and quilts. The combs full of splendid natural stores and the floor-board piled up with dead bees.

The bees were alive in the two remaining stocks, but were destroyed in the following April. My home apiary kept free from disease for three seasons after the loss of the out apiary.

Through the winter of 1915-16 seven stocks perished, leaving three in good condition for the spring. Through swarming these increased to six, but during the autumn were reduced by disease to two. The two stocks wintered, and in the spring of 1917 one stock was in good heart, with no signs of disease, whilst the other was weak and losing bees every day through the disease. Being a busy man, and the apiary not just at home, I had not found time to apply any remedy other than an occasional dose of Izal, applied with a rose-spray on the alighting boards, during the time the various stocks mentioned died out.

Having kept more or less in touch with what other bee-keepers were doing in the way of treatment through reading the B.B.J., and having learnt that the contents of the stomachs of diseased bees were invariably acid, I determined in the spring of 1917 to treat the diseased stock with bicarbonate of soda. With a solution of the salt of a strength of 1 in 20 (1 oz. in a pint of water) I sprayed the bees. I also poured the solution into the cells of unsealed stores.

In this way I used up nearly 10 ozs. of

the solution, a small quantity of which was spilled on the ground through running off the combs.

I saw the stock again four days later, and was delighted to find the bees flying well and not a crawler to be seen.

The stock progressed and increased until by the beginning of June it covered six combs, and for five weeks it showed no signs of disease. Then it broke out as bad as ever again, and went on for a fortnight before I found an opportunity to administer another dose of the solution. When this was done the result was just as effective as in the first trial.

The healthy stock was supered about the second week in June, and had got the super about half full of stores when it first showed signs of the disease. This stock was also treated with the solution, with the same good results.

For another period of four or five weeks the stock first treated held its own, but after that period required a third application. It went down to winter covering six combs; but in the spring of this year the bees were all dead. The supered stock failed to store any more surplus in the super.

A stray cast of Italians found its way into a hive containing a brood chamber and queen excluder, on top of which was a box of shallow frames. The roof was ill-fitting at one corner, and the cast took possession of the shallow frames. A Sunday afternoon in August was spent in putting the hive straight, and placing the box of shallow frames in the position of the brood chamber, and in making the bees use the orthodox entrance. After this an investigation was made of the supered stock. This proved fatal to it. During the following week this stock was robbed with such persistence and fury by the Italian cast that the bees joined forces with the Italians, and when a visit was paid on the following Sunday the stock was practically robbed out.

The Italians lived until the following February (this year), when they also died out.

From the above experiences I have come to the conclusion that diseased stocks readily answer to treatment with bicarbonate of soda applied at a time when the stocks are able to build up. That as soon as the young bees become old enough to take the disease they will do so. In this lies the difficulty in the use of all remedies. Their application must be continuous, because the generation of bees in the hive is constantly changing. Adult bees are dying off and young ones are becoming adult right through the breeding season.

My experiences as related above are such that I am convinced that it is worth the while of any bee-keeper who has the time, to try and devise a method whereby a continuous supply of bicarbonate of soda could be administered to diseased stocks right through the spring, summer, and up to going down for winter. The solution used for a continuous supply would not require to be as strong as the one I used; but solutions of different strengths could be tried on various stocks. It is now almost too late for the remedy to be tried with any chance of observing the results, but some of your readers will have the opportunity next spring of testing it and proving whether it is of any value or not in the treatment of "Isle of Wight" disease. Not only could the solution be used as a cure, but, which is of much greater importance, it could be applied as a prophylactic or preventive remedy to healthy stocks.

If the contents of the stomach of diseased bees is acid, and the bacillus thrives only in an acid medium, then it seems common sense to suppose that the disease will be kept at bay if the acids of the stomach are neutralised, and that is where the application of bicarbonate of soda becomes scientific.

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## WINTERING.

By O. Puck, Chingford.

(*Continued from page* 301.)

In our modern frame hives everything is angular; circulation of air, therefore, cannot be so perfect as in the oval form. When frames are placed at a right angle ventilation is better, but not perfect, as often evinced by chilled brood in spring, and when frames are placed parallel, the front combs act as a barrier to ventilation and prevent the air current from travelling to the back, causing the end combs to become mouldy. To my mind the nearest approach to ensure a good circulation of air to all parts without causing a cold draught would be to place the brood-box corner on or diagonally to the entrance, but as the floor space in ordinary W.B.C. hives does not permit of this being done, I have hit upon another plan of ventilation without draught, and my *modus operandi* is as follows:—Procure some straw-bottle envelopes, large size; take two, cut them open lengthways and spread out flat, lay one on top of another one, sow the ends together, and you have a straw mat 14 in. long by 9 in. wide which will just fit inside the brood-box; now raise your brood-box on an eke $\frac{5}{8}$ in. deep, then put in one straw mat against one side inside brood-box at right angle to front (the mat will, of course, project $\frac{5}{8}$ in. into the eke), then put a dummy against the mat, then your stock of bees on, say, seven or eight frames. then a dummy, another straw mat, and

further dummy, and your stock between the two dummies is protected by a straw mat on either side against cold draughts; cover top of frames with ticking, leaving a square opening in centre size of section square for a device over frames, cover device with transparent celluloid, and in February, remove celluloid, put in its place a glass-covered section with granulated honey. On top of ticking place two straw mats crossways, on top of these one or two pieces of felt, and over all, but leaving sides free, a loose bag filled with cork dust, and your bees are comfortable and snug to stand the test of the severest cold. Dampness during hibernation is absolutely fatal to bee life, and, to avoid it, I am a strong advocate of keeping hives under cover. A light, open, lean-to shed with corrugated iron roof answers the purpose admirably. In the autumn, after removal of flight boards, I draw the hives well under the shed where the ground is perfectly dry, raise them on bricks, and it is obvious that bees wintered under such conditions must pass through the winter better than those in hives standing out in the open, on damp ground, often reeking with decaying vegetation and exposed to all inclemencies and changes of the climate. The eke placed below brood chamber will prevent dampness inside hives during the winter, as the bees can cluster more naturally on the combs in the form of a disc and move round the bottom of the frames—they will always cluster in the front nearest the entrance and have a better chance of shifting round the ends from comb to comb when they are placed at right angles to entrance; whereas, if parallel the sight one often meets with in the spring is two or three seams of bees dead between the combs at back with ample stores in the end combs which these bees, however, were unable to reach owing to their losing contact with the cluster. The radiation of heat from the cluster in a fairly populous colony will keep the bees alive in our climate during the severest cold, provided they have access to food and are kept in a dry atmosphere. Immediately we begin to raise the temperature inside the hive during autumn or winter by artificial means we cause moisture to condense, not only on the inside walls of the hive, whence it will run down and accumulate on the floor-board, but same will also settle on the bees on the outside of the cluster, chilling them, and they drop off to perish on the floor, and the exhalations given off by their decomposing bodies will have a detrimental effect upon the bees clustered above. In fact, any undue rise of the temperature out of season will rouse the bees from their torpid state of hibernation, make them restless and active, and, as a consequence, they will consume more food and create an abnormal state of affairs.

From September to February leave hives well alone; go round occasionally and see that all is safe, pass a hooked wire round the floor-board and rake out débris and dead bees, but on no account disturb colonies from above frames. With the advent of the breeding season in February I substitute American cloth for the ticking on top of frames to condense moisture then needed, and place the straw mats outside the brood-chamber between the body box and outer casing to retain heat; also put one or two more felt covers on top to keep the brood-nest snug and warm, and, except adding an empty comb or two at the side, when required, leave the brood-chamber undisturbed till warmer and settled weather sets in, in March, when on the first genial day covers are taken off, placed in the sun for an airing, floor-boards cleaned and disinfected, and everything overhauled in readiness for the coming season.

In conclusion, I wish it to be understood that I am not laying claim to having solved the problem of wintering, if a problem it may be called. I am a strong believer in taking lessons from nature, and simply give others the benefit of my experience. What may turn out a success in the hands of one man may turn out a failure in the hands of another one, as there are often minor points to be taken into consideration before arriving at a decision; but I think the maxim may safely be laid down that, so long as we winter bees analogous to their natural habits, see that they are provided with ample stores of sealed honey, and as a *sine quâ non* protect them against cold draughts and dampness, we shall have them come through the winter in good condition, and failures will be few, if any.

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## WEATHER REPORT.

WESTBOURNE, August, 1918.

Rainfall, 2·13 in.
Heaviest fall, ·58 in on 2nd.
Rain fell on 12 days.
Below average, ·64in.
Sunshine, 193·9 hours.
Brightest days, 13th & 15th, 12·1 hours.
Sunless days, 2.
Below average, 16·7 hours.
Maximum temperature, 81 on 22nd.
Minimum temperature, 44 on 30th.
Minimum on grass, 39 on 30th.
Frosty nights, 0.
Mean maximum, 69·7.
Mean minimum, 53·3.
Mean temperature, 62·5.
Above average, 2·2.
Maximum barometer, 30·347 on 13th.
Minimum barometer, 29·611 on 6th.

L. B. BIRKETT.


*The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.*

GOOD RESULT FROM A MISTAKE.

[9764] Knowing that you are interested in amateur bee-keepers, and what we do for our bees, I thought I would write and tell what came of a mistake.

Mr. Aubrey, the expert here, had always admired my bees, and had said he'd never seen any like them round this part. Happened to mention the fact to a gentleman here in Woking—Mr. Yetts, of The Wood, Maybury, who also keeps bees. He said he would like to see them. The two gentleman came one Saturday afternoon, and Mr. Yetts said they (my bees) were from his strain (Sladen's Goldens).

Some five or six years ago (he did not mention how many) Mr. Yetts had lost all his bees ("Isle of Wight" disease), and had sent to Mr. Sladen for some, and paid 15s. per frame for five combs and queen, 75s. in all. He had given a swarm to a gentleman who lost them, and they settled in the garden of the man I got them from.

I told Mr. Yetts I had this queen in 1915, and saved her and three combs of bees from "Isle of Wight" disease in 1916.

He suggested making a nucleus, as the queen was getting old, and the text-books tell us they are best in their second season. Well, I did so, carefully looking over the three combs I took out—food, old brood, and young brood and eggs—to see I had not taken out the queen. I also shook off bees from three more combs and put in a frame of drawn-out comb. A week later, to my surprise, all the bees were flying outside (it being a very hot day) as if preparing to swarm.

On examining the hive, I found the frame of drawn-out comb full of eggs both sides, full evidence that I had taken the old queen.

I transferred them to an eight-frame hive, as I had nothing else, putting in the four frames to complete the number. A week later there were five frames of brood, one of eggs, and two of food. Last Saturday week I put them into a ten-frame hive, giving two frames of drawn-out comb, and put on a section rack. About four of these sections had been drawn out and partly fallen one side, as I had the same rack on the hive the nucleus was made from. I took out four sections. I came home sick yesterday, and, wanting some honey, thought I would take out a section. I did so, and when the hive was opened the rack was full of bees, several sections partly filled and sealed one side, and the other being drawn out. In my opinion I shall have to put on a rack of shallow frames this week-end.

Previous to all this I had looked over the parent hive, and discovered 12 queen cells—five on one comb. I cut three out and put this comb in a hive where there were plenty of bees, but the queen was laying in a peculiar manner. I thought I had a fertile worker busy. However, a lad found a little, thin black queen. Mr. Aubrey said it was a rest period. It seemed to me 'twas the wrong time when all the honey was coming in, so I put the comb with two cells in, and the queen has been laying about a week. I also made a nucleus, giving two queen cells that are doing all right. About ten days after I had a swarm out of the parent hive, which I put on eight frames (and is now on ten).

About four days after, another swarm, a smaller one. This rather surprised me, as I thought I had cut out all but two queen cells in the parent hive. The last swarm now on six frames of comb.

Some time before all the foregoing I discovered a hive queenless, and took a comb of eggs and brood from the old queen, and they are now on ten combs and a rack of shallows.

I thought of putting the second swarm back in the hive, but before doing so examined the hive, and discovered two more queen cells, which I promptly cut out. Could not see any other queen. I opened one of the cells I had taken off, and the young princess ran out on to my hand. She was very pretty—black head and shoulders, and body the colour of walnut (a reddish brown).

I thought she would do for the hive. I put her on one of the combs. The bees began to pull her about, so I took her off again, as about 6 in. away on the comb was another queen.

I have now seven hives of bees, six of which are headed by 1918 queens, all laying well. I suppose this old queen of mine must be an exception to the rule. Heading a first swarm on May 5, 1915, she must now be in her fifth season, and doing well. (Hatched 1914.) This, her fifth season, she has filled two hives with brood and bees, one of which has given off two swarms, five frames of brood, etc., for nuclei and re-queening, and is still going strong. No so bad for an old queen, Mr.

Editor! [No doubt the bees have superseded the original queen that was with our correspondent's first swarm. Five years is about the limit for any queen to survive, and for egg laying purposes she would be exhausted and worn out long before that.—Eds.]

I am very glad to see that Mr. Kettle has recommenced his very interesting articles.

My seven hives are the result of saving my queen and three combs of bees from "Isle of Wight" disease in February, 1915. I am glad to say I have had no recurrence since.

It would be interesting to know if Mr. Sladen had any of his "Goldens" attacked by "Isle of Wight" disease. I am beginning to think my bees are almost immune, and I think that a continual supply of salt and water for them to drink has something to do with keeping it away.

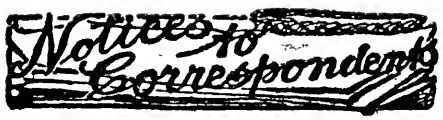
Wishing you, dear Mr. Editor, all beekeepers, and the B.B.J. all success.—C. H. ORCHARD.

## "YADIL" IN MALIGNANT DYSENTERY.

[9765] From an expert bee-keeper of a good reputation I have just received a letter containing the following note on the treatment of a colony of infected bees ("Isle of Wight" disease). He writes as follows:—"... I treated them first by spraying with 1½ grs. of "Flavine" to the quart, but could see no real improvement in a few days, so I then sprayed with 3 drs. of "Yadil" to the pint, and since that, they have improved rapidly, and if they keep right, it will be the first lot I have cured at the end of the summer."

In my opinion, the autumn is the best period for *experimenting* with drugs in the treatment of malignant dysentery, inasmuch as the favourable weather of the spring and early summer has by itself a most helpful influence in relieving a diseased colony; in fact, it strikes me, on studying the literature of this disease, that exceptional stocks have recovered from the disease, or at least have temporarily overcome it, mainly through the influence of the favourable warm weather. This will explain the "cures" attributed to the use of hydrogen peroxide and similar unstable preparations which could not possibly exert even an appreciable antiseptic power when mixed with the bee syrup and administered slowly, although they might be of some value when used fresh in a spraying mixture. A clean, disinfected hive, fine weather, the destruction of the crawlers, and the disinfection of the infected hive and appliances—such precautions, without the help of any antiseptic or drug, other than the powerful rays of the sun, seem to effect a cure in some cases. Re-queening would also much facilitate the task. Therefore, to avoid a misinterpretation of the degree of success in treatment, (1) a suitable experimental period should be chosen, namely, the unfavourable autumn months; (2) the use of one and the same preparation should be continued unless there is sufficient evidence of its failure; (3) the dosage should be regulated according to discretion, for instance, if three teaspoonfuls of "Yadil" per pint of syrup or spraying mixture could be tolerated without ill effects, as I have found from experiments, there is no wisdom in being content with a small dose of one teaspoonful in an urgent case; (4) again, the maximum amount of the drug, or antiseptic used, which could be safely given to a diseased colony, must be administered in the shortest possible time, in order that the infection may receive the utmost of antiseptic counter-measure which is compatible with safety. In this connection I would like to repeat my former note in the JOURNAL regarding the complete safety in administering "Yadil" *continuously* to bees whether in prophylaxis or treatment. For the former reason, I have administered "Yadil" to my bees, principally in their water, continuously, for no less than four months. (5) Lastly, it should be remembered that some of the "crawlers" ought to recover from their disability as the result of a successful treatment, but it could not be expected that most of the disabled bees should recover from the *effects* of the disease, even with a specific drug, considering the pathology of this infection. Hence those crawlers that do not show signs of rapid improvement ought to be destroyed. Their existence could not reflect on the merits of any drug.

To sum up: it is now the right time for experimenting with drugs in the treatment or prevention of malignant dysentery; no drug could be accepted as a "cure" in the true sense of the word unless it could stand the most severe tests, with perhaps a permissible small percentage comparative of failures in the very advanced cases of neglected infections; and that, in view of the encouraging evidence regarding the value of "Yadil," which is based on a small number of experiments, more experiments on its merits are highly desirable. In the absence of sufficient evidence, no definite opinion could be expressed as to its possibilities in treating malignant dysentery, and it is in the hands of bee-keepers who possess diseased colonies, also in the hands of touring experts, to aid in this campaign of enlightenment.—A. Z. ABUSHADY.




E. A. BURT (Essex).—*Standard combs for extracting.*—You can use these for brood combs, if they are composed of worker cells. Take off the broad ends, cut the comb down to the right thickness, and fit them with the narrow metal ends. Those that are clogged with pollen may be rendered fit for use again by soaking them in water until the pollen becomes quite soft. If they are then syringed with a garden syringe the pollen will be washed out.

H. M. R. (Lingfield).—*Destroying bees.*—(1) Yes, they are two different varieties. (2) A quicker method than sulphur is to use chloroform, about ½ oz. will be sufficient. If a porous quilt, such as calico, is used next the frames, pour the chloroform on it between the top bars, and at once replace the other coverings. (3) The hives and bees may be moved any time now, if the new location is 1½ to two miles away. If not, leave them until the bees have been confined to the hive by cold weather for a week or ten days.

K. KENDALL (Spilsby).—*Queen mating.*—There is just a chance for a queen to mate now, but it is a very poor one. The bees would survive the winter with a virgin queen, but only drones would be bred next year. Better purchase a queen, and requeen as soon as possible.

J. E. (Surrey).—*Uniting queries.*—(1, 2 and 3) Your plan is quite feasible. First take away the old queen and cage the young one, then take out the old combs and shake the bees off into the hive. Space the remaining combs as widely apart as possible, and dust all the bees thoroughly with flour. Then place the other combs in the spaces, dusting the bees on each one as this is done, and close the combs up. If there is brood in the combs taken away, place a queen excluder over the brood box, and put them over it, leaving until the brood has all emerged. Keep the young queen caged at least 12 hours. (4) Move the centre hive forward, a yard, and turn the entrance at an angle of about 45 degrees to the direction it faces now. When the bees have been flying for a day move it another yard at right angles to the first move, past one of the other hives, with the entrance also at right angles to its first position. After another day's flying, move it another yard in the same direction as the second move, and let it stay for a few days until the bees have become well accustomed to the new location. The other two colonies may then be united, placing the hive on the centre stand. The hive that was moved may be gradually moved to a new position, or left until cold weather arrives, and then be placed on a permanent stand. (5) No.

R. F. KEASEY (Cheshire).—(1) We can send the pamphlet if you forward 1½d. stamp, or you will find the same and other instructions how to make a W.B.C. hive in "The Bee-keepers' Practical Note Book," 1s. 2d., post free. (2) The last two weeks in April will be early enough.

M. HARRISON (Carlisle).—*Price of honey.*—The Government have not fixed a price at present. Light honey sections are making from 3s. to 4s. We have not yet heard a quotation for heather sections.

F. V. HERON (Hants.).—*Dealing with skeps.*—Let the bees stay in the skeps until the spring, then transfer to frame hives. You can only judge of their condition by lifting them. A glance underneath will show the strength of the colony, and the weight if the hive contains plenty of stores. It should weigh 40 or 50 lbs. Buying drawn-out combs is a risky business, and if you have none of your own better let the driven bees alone. A skep may be fed, if there is a hole in the top, over which to place a feeder, or a cake of candy.

A. H. BURDER (Wilts.).—*Wasps attacking hives.*—Close the entrance, to one bee space if necessary, and rear a piece of glass in front of it. Track the wasps to their nests and destroy them.

B. ONMANNEY (Essex).—*Syrup v. Candy.*—It is much better to have the bee's food in the natural place for it—the combs. If you find a difficulty with the feeder you may use the candy. This will be taken down and stored, but the bees will have to fetch water to enable them to do so, and it will take much longer than if syrup is given.

F. R. (Norwood).—*Wintering a skep.*—If the bees are too numerous to go into the skep, leave it over the frames of comb just as it is, but if they have deserted the latter, take them away and lower the skep on to the floor board until next spring.

"JAY BEE" (Cardonald).—Under the circumstances you will have to trust to candy, renewing the supply as it is consumed. Finding the queen is a matter of practice. Use as little smoke, or carbolic cloth, as possible.

M. F. REDDIE (Essex).—You cannot do better than follow the plan outlined. The brood will be all right for several hours if the skep is warmly covered.

C. A. Z. (Cwll).—(1) No. (2) It is a matter of opinion. Most bee-keepers prefer a porous covering, such as calico. We have more often used oilcloth. (3) The position of the combs, parallel, or right angles, will not make the slightest difference to infection by foul brood or other disease. The advantage of having combs at right angles—that is, end on to the entrance—is better ventilation.

G. A. C. (Surrey).—Better leave the full super on. This will contain about the right amount for wintering. If all the honey is taken away the bees will need enough sugar to make 30 lbs. of stores. This does not necessarily mean 30 lbs. of sugar, as there is a certain amount of water in the stores. One pound sugar, or candy, should make at least 1¼ lbs. of stores.

"EBOR" (Dorset).—They will probably keep all right in a dry and cool place.

H. CHEESMEN (Kent).—Swanley is not a good district for bee-keeping.

X. (Twickenham).—The Bacterol candy may be made into syrup by dissolving in hot water. Allow half pint to each cake.

R. DUTTON (Essex).—We have not tried it, but we should not think so.

C. PECK (Wisbech).—Thanks for your letter and photo. The glass "hive" is intended to be used as a super over a skep, not as a permanent hive.

WANTED, one or two Stocks Italian Bees on bar frames, 1918 Queens. State price.—H. STIMPSON, Gordon Road, Melton Constable. i.35

WANTED, Stock of healthy Hybrid Italian Bees, on three or four combs, 1918 Queen. Deposit.—Price to F. CLARKE, Mount Pleasant, Lechlade, Glos. i.35

WANTED, two Fertile 1918 Queens; Italian or Hybrid.—VICAR, Worsbro' Bridge, Barnsley. i.36

WANTED, Fertile 1918 Queen; pure Italian preferred.—ROSLING, Summerlands, Paignton, Devon. i.37

FOR SALE, several strong Stocks of Bees on 10 frames, heavy winter stores, price £4.—NEEDHAM, Hemel Hempstead. i.38

TWO healthy Stocks, each on five well-filled frames, £3 each, carriage paid. Boxes to be returned.—Box 47, BEE JOURNAL Office, 23, Bedford Street, Strand, W.C.2. i.39

FOR SALE, four surplus 4-frame Nuclei, fed, 35s. each, carriage paid. Boxes returnable.—BARNES, 20, Bourdon Road, Anerley. i.40

FERTILE QUEENS, two Hybrids (1918), 6s. 6d. each.—NELSON, Great Blakenham, Ipswich. i.41

"BEE-KEEPERS' RECORD," January, February, March, 1918, wanted.—NELSON, Great Blakenham, Ipswich. i.42

QUESTION: How may one quickly find the queen in those big "skyscraper" stocks you advocate? Answer: Let the bees tell you. Divide, then attend to other work for half an hour. Where the bees are quiet there will be the queen. i.43

HONEY wanted. J. R. WATSON, 11, Bothwell Street, Glasgow i.4

### BUSINESS ADVERTISEMENTS.
**1½d. per word.**

COMFORTABLE APARTMENTS for Brother Bee-keepers visiting Douglas. Terms: Tea, bed, and breakfast, 3s. 6d.; or full board, 6s. per day.—HORSLEY'S, Merridale House, top of Castle Drive, Douglas, Isle of Man.

STRICTLY BUSINESS.—A free sample Flavine and the Circular for a stamped, addressed envelope; six packages, 6d.; "Intensive Bee-keeping," Chapters I.—VI., 6d.; a japanned Sprayer and all the above, 6s.—S. H. SMITH, 30, Maid's Causeway, Cambridge. h.75

"ISLE OF WIGHT" Disease permanently cured Tested four years. Solution and directions, 2s., post free.—PRESSEY, St. Elmo, Coulsdon. d.73

9S. PER POUND offered for Extracted Honey; cash on delivery; tins returned.—YEO'S DAIRIES, Paignton, Devon. i.45

WANTED, Honey Sections.—Particulars and price to BROOKLANDS DAIRY, 39, Elm Grove, Southsea. i.44

### HONEY WANTED.
Wanted, any quantity of guaranteed PURE ENGLISH HONEY extracted this season. Must be clear and of good colour.—Please send samples to JOHN TRICKEY & SON, Produce Specialists, "A.M." Dept., Hillfarrance, Taunton, stating lowest price delivered to Norton Fitzwarren Station, G.W.R

### HONEY AND BEESWAX PURCHASED.
Run Honey in bulk. Sections per gross.
### HONEY FOR SALE.
Cuban, Californian, English, Irish.
Free tins and cases, carriage paid. Cash with order. Samples, 1s. Prices on application.
**A. GORDON ROWE, 28a, Moy Road, Cardiff.**


## BEE-KEEPING IN MONMOUTHSHIRE.

We are asked to announce that a meeting will be held in No. 2 Committee Room, Town Hall, Newport, Mon., on Saturday, September 28, at 3 p.m., for the purpose of inaugurating a bee-keepers' association for the county. Will those desirous of joining, but unable to attend the meeting, kindly communicate with Dr. G. R. Strong, Magor House, Magor, Mon.

## A DORSET YARN.

Bees are still flying high when the weather is favourable. In cottage gardens there are golden rod and Michaelmas daisies. Ivy is open on hedgerows facing south, but wasps seem to be on the flowers mostly, as they are with the bees on the rasps. and strawberries. I notice the wasps bite off the stamens of rasps., so eager are they to get food from the flowers. They have more ingenuity than bees in foraging for food. I used to see them on the tritomas, or red-hot poker, as they are called by the cottagers of Dorset. The flowers are very close together on the top of a long spike, all of them long and tubular, too small for bees to enter, so they go by them; but wasps bite a hole in the base of the tubes and steal the nectar, as I have seen them do in honeysuckle. I do not see that they harm the flowers of rasps. by biting them off, as all are swelling fruit. It seems a good sign of extra vitality to see the bees in such numbers, and so eager for more stores.

One of the black stocks this week, when the sun was bright, held an assembly to lure out the drones. There was noise enough for swarming: the males were out blustering about, making no end of a rout (one's thoughts are with the "Ingoldsby Legends"). We had to go and see the cause of the extra noise; but it was soon apparent: the entrance was narrowed to keep out wasps, and the workers were keeping the drones out, so as the sun shone they were in their element; but when a shower came on, the males were, many of them, left out to die. If one had only the time to spare, there seems still to be a lot to learn of their habits.

The best lot of Italians have just completed the rack of shallow bars sent up to me by Squire Tomlinson, which we assume to be mostly heather honey. Eight of the ten were all capped; the other two were full, but not covered on the outer sides. The rack of sections beneath had twelve finished, six only partly covered, and three not drawn out. This was after taking off two racks of sections in August; it bears out the teaching of those beemen who use shallow and standard frames in preference to sections. One still has a lot to learn. We have too many conservative ideas with all our interests. Sections are clean and quick to handle, and people think that the honey is all pure. We must wake up at the Violet Farm, must belong to the progressive bee-men, must have an extractor, and then we shall have the heavy weights of honey for sale of which others write.

I read many years ago "What man has done, man can do," and what other members of the craft have done we shall try to do at the Violet Farm. To read of 200lbs. of honey from one hive is a still further inducement to extend the craft, because if one sends to the stores for sweetening substance, they will only supply just one small tin of 2lbs. at one time. If bees are kept, one may have a hundred 2lb. tins of the sweetest substance in the world of nature from one hive.

In Dorset there are still some of the bees destroyed to get the honey from the skeps. The young men are at the Front; only the old stagers are left on the estates, and they only know one way to get the honey, and that is the brimstone pit. There is so much to do on the farm, one cannot spare the time to go miles to drive bees, as we did in the years that are gone; we cannot put in much outside work during the hours of daylight; but it seems such a waste of clean stock (some that came out of a church roof clean and healthy) to burn them with sulphur.

A distinguished member of the National Society, from Bickley, came to see the farm on the 18th. Was sorry not to be able to give him more time; but we had stuff to send off by the mid-day train for Derby, and we are filling the glass houses with violets for winter bloom. So many hours of rain, the fine weather has to be made the most of. Have had a letter from a beeman soldier, who is gallantly doing his bit for the freedom of the world in France. Some kind member of the Association sends him the *B.B.J.* regularly, which is well for him to read of home and bees in the land he loves so well. A lady bee-keeper sends me a small jar of extracted honey which has a disagreeable flavour. It has the taste of privet: there is something of the smell of privet to it as well.

When one has been planting privet hedges hands and clothes smell of ligustrium, and that is how this lot appeared to me.—J. J. KETTLE.

## BRITISH BEE-KEEPERS' ASSOCIATION.

The monthly meeting of the Council was held at 23, Bedford Street, Strand, London, W.C.2, on Thursday, September 19, 1918.

Mr. T. W. Cowan presided, and there were also present Miss M. D. Sillar, Messrs. W. F. Reid, W. H. Simms, F. W. Watts, J. Smallwood, G. R. Alder, J. B. Lamb, C. L. M. Eales, G. J. Flashman, G. Bryden, J. Herrod-Hempsall; Association representative, Captain C. C. Lord (Kent), and the secretary, W. Herrod-Hempsall.

Letters of regret at inability to attend were read from Messrs. A. G. Pugh, T. Bevan, G. W. Judge, F. W. Harper, and Major F. Sitwell.

The minutes of Council meeting held on July 18, 1918, were read and confirmed.

The following new members were elected:—Mrs. A. L. Douglas, Mrs. A. G. Ruxton, Mrs. F. E. Bridgeman, Miss M. Stevenson, Miss R. Lubbock, Captain B. H. Brodie, Rev. D. Price, Major H. A. P. Littledale, Major G. A. Sabine, Dr. N. FitzRoy Lloyd, R.N., Messrs. A. W. Previte, D. Hardcastle, J. L. Bishop, H. E. Deacon, A. T. Hedger, J. T. Moore, A. G. Atwell, J. C. Maude, H. Browne, J. L. Newman, C. P. Nutt, and B. Gordon Sherry.

The Cardiganshire and West Carmarthenshire Association applied for affiliation, and the same was granted.

Rev. G. H. Hewison was nominated as the representative on the Council for the Doncaster Association, and was accepted.

The report of the Finance Committee was presented by Mr. J. Smallwood, who stated that payments into the bank for July amounted to £21 8s., and for August to £9 15s. 11d. The bank balance on September 1 was £154 4s. 2d. Payments amounting to £44 6s. were recommended.

The reports on Preliminary Examinations held at Stone, Haden Hill, Henwick, Rochester, Dartford Heath, Hinckley, Bushey, Golders Hill, and Beeston were presented, and it was resolved to grant certificates to Mrs. C. Stevenson, Misses R. Attenborough, L. Benest, L. Cran, E. Crookes, R. Cruddas, M. Heywood, B. Havergal, H. Lawson, S. Long, M. Powers, R. St. Leger, I. Slade, K. Vale, D. S. Scott, E. H. Darney, the Baroness Rosencrantz, Rev. E. J. Bartleet, Captain C. C. Lord, Lieutenant H. Butterley, Sergeant H. G. Mascall, Sergeant A. G. Atwell, Messrs. G. H. Hope, B. T. Abell, E. J. Smith, T. Cowlishaw, E. C. Middleton, C. J. Law, A. C. Houghton, Captain G. M. Gordon, W. Carter, G. R. Allen, E. Semper, C. Bishop, J. P. Cheyne, A. Fry, H. W. Round, W. J. Martin, E. E. Brown, F. L. Wilson, H. King, G. A. Hall, A. Kimbrell, A. H. Ridgway, J. Hackett, A. T. P. Wardle, E. E. Lowe, F. W. Roberts, H. Clark, J. J. Abell, J. H. Goddard, F. Hare, F. Holloway, J. G. Fletcher, P. E. Wagstaff, F. L. E. Watts, G. Smithurst, W. Sharpe, S. Dodsley, G. Ward, W. Jackson, A. H. Hanson, A. H. Breach, J. Rae, J. Newell, J. Arnfield, C. W. Mullen, D. Stevenson, W. E. Black.

It was resolved that owing to the difficulty of travelling and the Government request to limit travelling, no conversazione be held this year.

Arrangements were made for the Intermediate Examination to be held on November 29 and 30.

A letter was read from the South Staffordshire Association *re* the sale of diseased bees, and the secretary was instructed to deal with the matter.

It was resolved to send a letter to the Food Production Department again urging the necessity for providing bee-keepers with sugar for feeding their bees.

Mr. Reid said before the meeting closed he would like to say—and in doing so he was sure he was expressing the feelings of all—how pleased they were to have Mr. Cowan with them again, also that he was looking hearty and well. The remarks were received with applause. Mr. Cowan replied that he was delighted to be present again, and hoped the time was not far distant when he would be able to attend oftener.

Next meeting of Council, October 17, at 23, Bedford Street, Strand, London, W.C.2.

## QUESTIONS, ETC., FOR BEE-KEEPERS FOR SELF-EXAMINATION.

*(Students are recommended to write their answers, and check them afterwards by reference to books.)*

13. What is vaseline or petroleum jelly used for in an apiary? And how?

14. What eggs are laid by an unfertilised queen?

15. What is the best method of preventing condensation of moisture in a hive?

16. How can the economy of supplying bees with comb instead of foundation be shown?

17. Give the dimensions of the British Standard Frame.

18. Describe how artificial cells for queen-rearing are made.

19. Differentiate between black brood and foul brood.

20. State the extent to which entrances to hives should be open at the several important periods of the year, and give reasons for the differences.

21. To what is the varying colour of beeswax ascribed?

22. Name the plants and trees useful in August and September to bees in this country.

23. Compare the Italian with the ordinary British black bee.

24. Describe the wax-moth and the harm it does in a hive.

J. L. B.

## THE BEE GARDEN.

### The Official Lists

*(continued).*

*Echinops ritro* (Globe Thistle).—This, like *Cheiranthus allionii* and *Cynoglossum*, is one of Messrs. Sutton and Sons' additions to the list. The name is made up from the Greek *echinos* (a hedgehog) and *ops* (a likeness). [Another instance of the use of this name is *echinopsis*, a genus of cacti the spines of which suggested the same likeness.] The reference being to the spiny scales of the involucre or envelope of composite flowers.

There are about 60 species of *Echinops*, and these are all ornamental, but somewhat coarse, thistle-like plants with blue or whitish flowers borne in globes. The structure of these globes is very curious; each flower in the globe has a little wrapper of its own, and the whole globe is surrounded by one all-embracing involucre.

The geographical distribution of the genus ranges from Portugal to India, via Abyssinia. All the species are of the easiest culture and are highly suitable for naturalisation in wild gardens and shrubberies, as well as for border work.

I find the one that I grow very effective as a background to Heleniums, Golden Rod, and other yellow-flowering subjects, toning down the glare of colour. A bee-keeping neighbour of mine has a fine plant of *E. ritro*, which stands alone as a specimen and is very handsome. Perhaps the choicest of all for colour is *E. R. ruthenicus*, 3 to 4 ft. high, an exquisite powder-blue, in bloom by midsummer and for several weeks onwards. Taylor, in Bailey's Encyclopædia, says: "The silvery-white stems and handsomely cut, prickly foliage of globe thistles are interesting features. They make excellent companions for the blue-stemmed Eryngiums. All these plants are attractive to bees, especially *E. exaltatus*, which has considerable fame as a bee-plant." Johnson, Wright and Dewar's edition, remarks: "Bees are very partial to these plants." Nicholson, while alluding to it as "a rather large genus," only describes six varieties, several of which appear to be synonymous. There is, indeed, considerable confusion as to the varieties, and this unfortunately centres round those most important from a bee-keeping point of view. *E. strictus*, *E. commutatus*, *E. exaltatus*, and *E. sphærocephalus*, together with *E. paniculatus*, are names all of which are, by one authority or another, given to the same plant, that catalogued as *E. nivalis*, a name in turn dismissed as "a trade name that is unknown in botanical literature."

Dadant, Langstroth, on "The Hive and Honey Bee" (page 386), mentions, among other bee plants, "several varieties of *Echinops*, one of which, the *Sphærocephalus*, was introduced here by Mr. Chapman." The reference clearly is to Chapman's *Echinops*, or Chapman's Honey Plant, yet this is generally described as a perennial, while the one I grow, and which I obtained seed of as Chapman's, is a biennial.

The height is given as 5 to 7 ft. Perhaps owing to the fact that my 15-yards-long row of them was planted on a site previously occupied by a generously manured celery trench, the plants have averaged 9 ft. in height, some nearly 11 ft.

No bee-plant that I have ever grown was so attractive to them. Whenever the weather was favourable the heads were crowded. I have counted 14 or 15 bees on one at the same time, and as each plant throws up to 20 heads of bloom it will be obvious that the accommodation was not very limited. Humble-bees, too, as well as drone flies and others, competed with the bees for the nectar.

From this row of plants I have saved a large quantity of seed, and so convinced am I of its importance as a bee-keeper's friend that I shall be pleased to send some to anyone who will forward an envelope stamped 1½d. for the purpose. To any secretaries of county or other Associations who care to have some for their experimental apiaries, or for free distribution to members, I will send a larger quantity if they send larger and stronger envelopes, proportionately stamped. I make this offer the more willingly as my own stock was originally obtained in the same way from Mr. Baruch Blaker, who has certainly been a benefactor to his fellow bee-keepers. The seed should be planted in October, and light soil suits it best. Heavy clay should have an admixture of sand or lime rubble if *Echinops* is to be happy in it.

*E. ritro* and *E. R. ruthenicus* are

perennials generally propagated by division. They resent disturbance, and improve each year in strength and beauty. —A. Harwood, 11, Windermere Road, S. Ealing.

[As the time for sowing seeds of the Chapman Honey Plant, for flowering next year, is during the next few weeks, and in view of Mr. Harwood's offer, the description and directions for the culture of that plant are given now, instead of some weeks hence, which would be the case if it was taken in its proper order in the "Official List."—Eds.]


*The care of the Smoker.*—A good smoker is a great blessing, a poor one a regular nuisance, and a bad one a perfect curse. Therefore, at the very beginning, invest in a good one: for it pays. The smoker should be tested periodically as to whether it is in efficient working order. This should be done at the opening of every spring campaign. Lying about during a period of nearly six months, it generally gets out of order. Before starting the spring cleaning and general examination examine its parts carefully; but, at the same time, it is wise to advise the use of very little smoke. During the season note repeatedly that the front grating does not get clogged, for then the smoke holes will not give free vent for the issue of a proper blast. The nozzle may also get shut up if the paper burned is of a soot creating nature. Clean it out occasionally. Note that the leather part does not crack, and so permit the escape of air. If left lying about in all weathers this part hardens, thus affecting the efficiency of the article. Do not let it rust, because this shortens its life. Too powerful a blast, or rather the too forceful blowing of the fuel into a flame, helps to wear out the machine prematurely. Notice that the rear grating does not get loose. In this case the roll of paper gets pushed home too far, with the result that the air fails to act properly, and the smouldering charge has a tendency to go out. No less important is the selection of the substance used as smoker fuel, and the manner in which the implement is charged. Packed in too firmly, or pitched in anyhow and too loosely, one fails to get the best service from the smoke. In either case the blast is a poor one, and too frequently it fails, perhaps at a critical moment. Soft brown or grey packing paper rolled into cartons generally does well. Corrugated paper, if of the right firmness, proves efficient as a rule. Moleskin or corduroy have always been prime favourites in the North, and if the garment has been long in use so much the better. Either substance lasts long and rarely goes out. Tinder is a patent burner which goes on smouldering until it is utterly consumed. It can be made from any packing paper. Purchase an ounce or two of saltpetre, dissolve it in a pint or two of water. Dip the paper, first cutting it into suitable breadths, and, after it lies a little time, spread it out in the sun to dry. If this material is found to burn too rapidly, place a layer between two of undipped paper, and you have a safe, efficient, and long-lasting charge, fit to meet any emergency. Once again it may be recommended to use smoke sparingly when opening hives, and even when handling bees.

*Storing Water.*—Recently I dealt with water as an article of food for not only young but adult bees. The first use will not be disputed; I do not see why the second should be in any way questioned. The *storing* of it is, however, another question. It is a moot point amongst bee-keepers whether they really store it in the cells for a time, or whether they carry it direct from the drinking fountains to where they mix it with the pollen and over-thick honey as food for the young larvæ. Some bee-keepers hold one opinion, some the other. I lean towards the storing theory. I have often found a very thin liquid in a good many cells touching on the brood circle, which conveyed no impression of sweetness to the taste. Some cells contents, if not tasting cool, were certainly not so warm as the others. They disappeared quickly. Judging by analogy bees should store liquid temporarily just where the nurse bees require it. These *young* nurse bees are the workers who prepare the food to sustain the infants. The older bees, who visit the drinking fountains, are not likely to remain in the hive to carry on feeding operations; indeed, we know they reissue in a very short space of time to obtain another load. The pollen laden bee returns to the flowers for another burden. The nectar-collecting worker goes on all day gathering sweets from the blossoms. Why, then, should not the water carriers do the same, and why should they not store it in cells just where the nurses expect to find it?

*Worker Comb.*—Why not use some of your *weak* colonies to build out complete combs of all worker cells? Choose a colony of this kind, distinctly below the grade of medium, and confine them to a few frames. It must be premised that the lot is headed by a good queen. Use

such a lot to build some combs from starters! You will find the frames beautifully filled with all worker comb, and, if spaced properly, they will be as flat as a board. Of course this is a case where feeding is absolutely necessary, unless when weather is very fine and a flow just at the door. As each comb is completed, withdraw it, and supply another. If they get too strong they will start drone cells at once. A nucleus lot fed with the object of working them up into a full colony acts at first in the same way as a rule. A second swarm or cast, generally a small lot, behaves similarly. The presence of a newly fertilised queen in the last case helps to account for the results. They realise that they have no use for drones, therefore they rear none; and when comb building the same prescience guides them, the result being that they construct only worker cells. Beginners should be taught that when any space is being filled up in an established stock in normal circumstances, the bees will build drone comb unless full sheets of foundation are supplied in the new frames substituted for those withdrawn. Building drone cells is a crime against the Spirit of the Hive!

## KENT BEE-KEEPERS' ASSOCIATION.

### ANNUAL HONEY SHOW.

The annual show of the Kent Bee-keepers' Association (Western Division) took place on Saturday at the Westgate Schools, Dartford. The entries were below half of what they were last year, owing to the very bad season, and in consequence the quality of the honey also suffered. The members of the Association were in no way to blame for the poor quality, as each did his or her best to gain the usual standard of excellency. Indeed, at first it was thought that a show this year would be impossible, and it was only by the extra efforts of the members that it was held.

Mr. A. Dewey, Chairman of the Association, presided, and spoke of the wonderful progress made by the Association during the year, the membership having increased by over 300. Whereas two years ago they were the smallest Association in England, now they were the largest. A new feature was the foundation of a library for the benefit of bee-keepers, which was established at the Dartford Library under the guidance of Mr. Wood, who had consented to act as Hon. Librarian. The speaker paid a tribute to the work of the worthy hon. secretary, Mr. G. W. Judge, whose activities the Association would recognise in some practical form, as a substantial memento of his valuable services for the County of Kent. He also referred to the work of Mrs. De Putron, the daughter of Sir George and Lady Whitehead, who had found time, in spite of the pressure of Red Cross work, to help the Association considerably.

Lady Whitehead, who was accompanied by Sir George, then declared the show open, and she was presented with a basket of flowers and honey by Mr. Paulin, who deputised on behalf of his little daughter.

A tour of the show revealed the further remarkable progress in honey producing methods by the exhibits in which honey is a substitution. The observatory hive lent by Mr. H. J. Upton evoked much interest, whilst a special feature was the honorary exhibit of Mr. Bryden, who took two silver cups (presented by the Earl of Guilford and Sir R. Tilmer) at the Wye Honey Show. Another feature was the show of flowers which are visited by bees.

The Bryden Challenge Cup was again won by Mr. Bryden with 40 points, Mr. H. Davis being second with 20 points.

During the afternoon lectures were given by Mr. H. E. Carter on "Removal of Surplus," and Mr. A. Dewey, on "Elements of Bee-keeping." Frame building competitions, Manipulation of hive by Mr. G. Bryden, and a demonstration by Mr. G. Baird of his very fine patent extractor, by which both sides of the comb are extracted at once. The whole arrangements were splendidly carried out by Mr. A. C. Paulin, the show secretary, assisted by Mr. Judge and Mr. Dewey. The judge was Mr. W. Herrod-Hempsall, and Mr. Price acted as steward.

At the conclusion the prizes were distributed by Mrs. Knight.

#### THE PRIZE LIST.

Class I. (6 sections).—Mr. G. Bryden, Rochester; Mr. F. C. Martin, Wilmington; Mr. E. King, Bromley.

Class II. (3 sections).—Mr. F. C. Martin, Wilmington; Mr. A. Dewey, Wilmington.

Class III. (6 jars light).—Mr. G. Bryden, Rochester; Mr. J. Reader, Chatham; Mr. G. S. Baird, Erith; Mr. W. J. Martin, Eltham.

Class IV. (6 jars dark).—Mr. G. Bryden, Rochester; Miss Heale, Maidstone; Mr. W. J. Martin, Eltham; Mr. H. E. C. Carter, Blackheath.

Class V. (3 jars light).—Mr. G. Bryden, Rochester; Mr. G. S. Baird, Erith; Mr. H. Davis, Crayford; Mr. J. Reader, Chatham.

Class VI. (3 jars dark).—Mr. G. Bryden, Rochester; Miss Heale, Maidstone; Mr. W. J. Martin, Eltham; Mr. T. H. Tarling, Gravesend.

Class VII. (3 jars granulated).—Mr. G. Bryden, Rochester; Mr. W. J. Martin, Eltham; Mr. A. Dewey, Wilmington; Mr. G. S. Baird, Erith.

Class VIII. (2 shallow frames).—Mr. G.

Bryden, Rochester; Mr. G. S. Baird, Erith; Mr. W. J. Martin, Eltham; Mr. F. W. Harmer, Bexley.

Class IX. (beeswax).—Mr. G. Bryden, Rochester; Mr. Thos. Head, Canterbury; Mr. W. J. Martin, Eltham; Mr. G. S. Baird, Erith.

Class X. (honey cake).—Mr. G. Bryden, Rochester; Mr. C. Bishop, Upchurch; Mr. F. W. Harmer, Bexley; M. Hammond, Beckenham.

Class XI. (utility exhibits).—Mr. H. Davis, Crayford; Mr. W. J. Martin, Eltham; Mr. H. E. C. Carter, Blackheath; Mr. F. W. Harmer, Bexley.

Class XII. (home-made hives).—Mr. C. F. Gee, Chatham; Mr. H. Peck, Strood; Mr. J. Black, Catford; Mr. H. Davis, Crayford.

Class XIII. (home-made appliances).—H. Davis, Crayford; H. Peck, Strood; W. Carter, Rochester; Graham Porter, Canterbury.

Class XIV. (6 photos of bee life).—Not judged.

Class XV. (flowers visited by bees).—W. Getting, Shoreham; H. Davis, Crayford; Miss Smiles, Wilmington; Mr. A. C. Paulin, Bexley.

Class XVI. (gift section).—Not judged.

Class XVII. (gift jar).—Mr. G. Bryden, Rochester; Mr. A. Fry, Gillingham; Mr. H. E. C. Carter, Blackheath; Mr. W. Getting, Shoreham.

Teas were served during the afternoon by the Ladies' Committee at cost price. —*Communicated.*

## CORRESPONDENCE.

*The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.*

### LET US BE HONEST.

[9766] I have given the subject of honest dealing a considerable amount of thought, and see that others have pitiful tales to tell of the wily methods of the dealers in bees.

Until the Government prevents, or tries to prevent, the sale of diseased bees, how are we to deal with the offenders? Month-to-month information among one's friends may save them from being "had."

We can also recommend the honest dealers in our correspondence, but it would not be safe to name the bad also. The law of libel is queer, and however true the information may be, it does not justify one sending it about in this way. Suing for the return of cash paid would publish the man's name and his dirty action, but unless it is reported in the trade papers, little good is done, and perhaps it is soon forgotten. The deposit system of the B.B.J. is an excellent one for readers advertising for bees; it may be made a condition of purchase, but where it fails is, where a dealer advertises bees for sale he may pick and choose his customers unless every one makes the deposit a condition of purchase. Buyers have lately been tumbling over each other, eager to buy, and sending telegrams and money post-haste, in short, the sharks have had a gay time, and the buyers a bad one, which may go on indefinitely, the distance separating the parties debarring any action (except under great difficulties) against the offenders.

There are shades in the condition of the sharks. Some act straight, with their neighbours, but are prepared to "do" anyone at a distance, and a favourite way of obtaining distance custom is an advertisement in the B.B.J.

It seems to me that the advertisement page of the B.B.J. would become more valuable if it was understood that any abuse of the privilege of the advertisement pages would entail certain penalties.

Seeing the Editors have tried to protect readers by the deposit system, they may be inclined to do more, but it is not for me or any other reader to say how they shall conduct the B.B.J. I can only say that perhaps the following notice at the head of the advertisement page would give the sharks cause to alter their ways: —"The Editors reserve the right to refuse any advertisement from any person, about whom they have had serious complaints, and without stating reasons, or entering into the nature or merits of the complaints."

I quite understand that "Isle of Wight" disease may show itself after leaving the dealer's hand, but when the bees are in a filthy state when received, there is cause for complaint, also, it would not do to act on the complaint of anyone who thought he had a grievance, but when a dealer is repeatedly complained about, it is safe to assume there is some cause. However, ventilating this subject may work some improvement.—F. B. CHARLTON. Stockton-on-Tees.

[For the information of our correspondent above and others, we may say

that we have what some may term a "black list." All complaints are investigated as far as possible, and letters of complaint filed for reference. Needless to say we do reserve the right to refuse any advertisement, a right that has been exercised in the past, and will be in the future.—EDS.]

## TO BEE-KEEPERS.

[9767] Declare war on the wasps. Join up without delay. Carry the war from the beehives into the enemy's nests, but remember war rations, shortage of food, etc., and if possible destroy the nests in such a way that they can afterwards be dug out and the grubs given to the poultry for food.

Following are three simple but sure ways of destroying nests:—

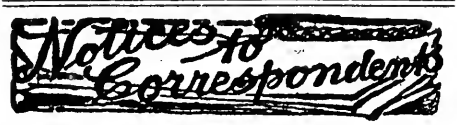
1. Run ½ pint of tar into the entrance of the wasp's nest, plug up the entrance very firmly with a large stone. This, as a rule, will destroy the strongest nest in a few days.

2. Soak a piece of rag in a tablespoonful of turpentine. (It is best to tie the rag round a stick.) Thrust the stick right into the entrance of the nest.

3. An old way of destroying a nest 30 years ago was to pour a kettleful of boiling water into the entrance of the nest.

Wasps' nests destroyed by either of these methods can safely be given to poultry.

One very hot summer, early in the nineties, we had, in our district, what appeared to be a "double crop" of wasps' nests. I remember that year I had five stocks of bees which had been in quite a natural condition in straw skeps. They did not drive out their drones until the end of the first week in November. That season, with the help of two lads employed by me, and the village school children who knew where all the nests were, I destroyed 373 nests in one day.—W. W. PRYOR.




***Correspondents desiring an answer in the next issue should send questions to reach this office NOT LATER than the FIRST POST on MONDAY MORNING. Only SPECIALLY URGENT questions will be replied to by post if a STAMPED addressed envelope is enclosed. All questions must be accompanied by the sender's name and address, not necessarily for publication, but as a guarantee of good faith. There is no fee for answering questions.***

J. TOMLINSON (Derbs.).—*When to transfer bees from a skep.*—The exact time for placing a skep over frames of foundation will depend on the strength of the colony, but it will probably not be earlier than the end of April. Fix them up as soon as the skep is becoming full of bees. Try "Bee-keeping Simplified," post free 7½d.

"VERACITY" (Wexford).—*Packing for bees.*—Sawdust would answer if the bags were made of some close woven material that would not allow it to sift through. (2) Only by subjecting it to long, continued heat. We do not think there is an agent here, nor do we know the cost, but it would probably be over £100. (3) Winter the bees towards the back of the hive; the entrance will not then be so likely to be choked up with dead bees.

"BEE" (Mont.).—*Wintering queries.* (1) It will be better to make a winter passage even if the bees are wintered in two boxes. (2) If the hives are sheltered from the north, you may turn the entrances facing that quarter for the winter, or make a tunnel to put in front of the entrance. The best material to use is a piece of lead, 4 or 5 in. wide. Cut the ends on a bevel so that on one side the length is about 6 in. and the other four; bend up about ½ in. along each end at right angles. If the contrivance is placed with the longest side close up to the entrance, and the turned up pieces downwards, it will form a tapering tunnel entrance which will keep out the sunlight. Wood may be used, two thin laths being nailed on to a piece of board to form the entrance, but it is apt to be blown off. (3) No doubt many of the young bees would fail to find the way home and perish. It is much better to use a super clearer.

J. C. M. (Oxon).—*Medicating syrup made from candy.*—It is better to put another teaspoonful of "Bacterol" to each pint of syrup. The idea of the Board of Agriculture is to put it in the candy not as a medicine for the bees, but to help to render it unfit for domestic use, and as it is put in when the candy is hot certain volatile principals of the "Bacterol" will be driven off. When the candy is dissolved in hot water the strength of the "Bacterol" it contains will be still further reduced. This or any other medicine should be added to the syrup when it is only lukewarm.

A. MILLARD (France).—(A) We do not think so. (B) It is unusual. An average of 30 or 40 lbs. is nearer the mark. (C) It would depend on the man; probably about 150. We do not know the largest number one man keeps and manages alone.


## FRUIT TREE DISEASES.

### THE MENACE OF SILVER LEAF.

Reports received by the Food Production Department indicate the increasing seriousness of Silver Leaf disease in fruit trees. In some localities it has become almost a scourge, and some of the most valuable varieties of plums, especially Victoria, are threatened with extinction unless drastic measures are taken to check its extension. The disease occurs also in apples, but less frequently.

Unless active steps are taken to combat it, Silver Leaf spreads relentlessly. It cannot be too often widely known therefore that if the affected trees are systematically and energetically dealt with it is possible very largely to control the disease. *By promptly cutting out silvered branches and by rigorously removing all dead trees, or trees which have begun to die back, it has been proved in practice that the spread of the disease is checked.* No other treatment can as yet be advised.

In view of the urgent need of combating Silver Leaf, the Food Production Department strongly urge fruit growers throughout the country especially in the important plum-growing districts, to take energetic measures to destroy all trees which have begun to die back, and to cut out the silvered branches of trees otherwise healthy. It is worth some sacrifice to take this in hand at once, for the fungus fructifies chiefly in autumn, and the longer dead wood bearing the fungus is allowed to remain the greater is the risk of infecting other trees. As it is unlikely, however, that this work can be completed before the leaves fall, all silvered branches and trees which are dying back should be conspicuously marked at once, so that they can be removed so soon as opportunity permits.

In carrying out these operations the following points must be borne in mind:—

(1) The invisible threads of the fungus are often to be found in the tissues of the wood considerably further down the branch than the level at which the silvered leaves appear. Affected branches should therefore be cut back to a point where no brown stain in the wood can be found.

(2) All wounds made by severing branches should be pared over and covered with Stockholm tar. In the ordinary routine work of the garden also care should be taken to avoid injuring plum trees and to Stockholm tar all wounds.

(3) Dead or dying trees should be completely grubbed up. Exposed stumps on which the fungus can fructify should not be left in the ground.

(4) Several branches and trees that have been grubbed up should be removed from the plantation immediately and be used for firewood. Small branches should be burnt on the spot. If it is necessary to keep the firewood for any time, it should be stored as far away as possible from fruit trees and preferably in a shed. To cut down dead trees without subsequently removing them is utterly useless, and to keep a wood-pile in or near a fruit garden is a practice that cannot be too strongly condemned.

The success of the above measures largely depends upon the co-operation of all fruit growers, including the owners of fruit trees in private gardens. Neglected fruit plantations are not only a great danger to other trees, but also to those orchards which are maintained in a proper and sanitary condition. In view of the threatening character which Silver Leaf disease has assumed, it is earnestly hoped that an active campaign against it on the lines indicated above will be commenced and maintained in all parts of the country.

The value of fruit bloom for the bees in early spring cannot be over-estimated, and those of our readers who possess fruit trees will, we trust, not only take note of the above themselves, but will also draw the attention of any fruit growers they know to those matters, and thus help to prevent the depletion of both fruit and honey harvest.

## A DORSET YARN.

Bees are hunting over laurel and privet when weather is bright; it is somewhat late for them to get propolis, but must assume it is the bees from the hives where the surplus has been taken off late. We can still hear the glad hum as we work in the fields; there are some broad beans in flower, a few self-sown ones; both Blacks and Italians are on them when fine.

In a neighbouring garden is a late flowering balm that was a great attraction; it is a stranger of the Labiate family, which I have not before seen, and had an amaranth blue composite flower, which was quite a weather guide, as it did not open when inclined for rain; this was also besieged by bees; it also closed up at night, even the old flowers, showing how wonderful are the powers of plants to shelter their seed organs until they are perfectly fertilised. I do not know if this is the flower to which Milton referred:

"With solemn adoration down they cast
Their crowns, inwove with amaranth and gold,
Immortal amaranth! a flower which once
In Paradise, fast by the tree of life
Began to bloom; but soon for man's offence,
To heaven removed, where first it grew,
There grows and flowers aloft."

I think I read that Spenser described the amaranth as a purple flower?

I suppose it is no matter what the colour or what its name, so long as bees can get food from it in the season. I cannot place the flower, it has the growth of the Tragopogono, the 12 o'clock flower, to which the edible salsify belongs, its colour, amaranth blue, and it calls to memory pieces one used to hear children recite in the days of long ago:

"I thought of the ne'er fading amaranth bowers,
That blossoms for ever above,
And thought me, eternity's beautiful flowers,
Must bloom in those regions of love.
And I sigh to reach there
To twine me a wreath
Unprofaned by a tear,
Or mortality's breath."

I have heard the sand everlasting called the amaranth, "Gnaphalium arenarium," clusters of very small flowers which are dried, and dyed, for winter decoration, but this is digressing very much from bees.

The mallows are a great attraction to bees; I notice they like the wild ones that grow by the side of the fields, just as much as they do the large flowered ones that are grown for decoration. The tree mallow is much looked over by them, the flowers are ephemeral, last only a short time, but there are so many which open every day. It is not a wise plan to let the seed ripen, it is a nuisance among crops, as every seed seems to grow, and the plants very soon run up 6 ft. in height when the soil is good. It mostly takes two years to get a huge flowering tree. We hoe up thousands every year, but there are always some left to flower and carry on; it is more suitable for the wild parts of an estate. They make handsome foliage plants, with large leaves, like the aralia, and then the flower stems will run up 8 and 10 ft. high, with many thousands of flowers. I believe they are grown in some parts for fibre like the hemp; the layers of outer covering of the stem is very strong.

A soldier member of the craft writes me from France about the flora of that country. The large amount of scabious that is everywhere round the lines of communications. He must have lived near big cities in England, or he would have noticed just as large areas of them. Round East Dorset there is a great quantity on banks and sides of fields, and everywhere by the main roads and by-lanes, but bees do not visit them a great deal here. I suppose there are other flowers that give more food, and these are sought after most.

When trimming round the fields (the banks and hedgerows) one comes on some wild Borage plants, and as the stroke of the hook gets near to them the bees fly off as if one had struck a wasps' nest. This must have been one of the plants that made Sir John Lubbock write how bees preferred blue flowers; they certainly are very fond of this one, yet the flowers of this wilding are very small. The plants are very hardy or they could not grow among coarse grass in hedgerow banks, and hold their own year after year, among huge clumps of onion grass and cock's-foot. As this blooms nearly six months of the year, it is a very fine bee plant and well worth extending on our banks and wild places. All food plants that give such a long harvest are a great help to the bee farmer. If the wild one grows so well, why not buy and sow seeds of the better flowering sorts? If the banks will grow onion grass and cock's-foot 4 ft. high it will grow more borage plants, and possibly sage; they also are very tenacious of life, and they would crowd out other plants entirely. We must try some and see the results.

When one sees the bees working during wet weather—and ours are out as soon as the showers are over, gathering food from flowers—they must also take back a large quantity of water, particularly with flowers that are erect like the borage. With pendulous flowers like the rasps and fuchsias it is different, as they are protected; one's thoughts are with the bees in the hive, if, late in the season, they can evaporate this moisture from the honey. Books tell us that a very great deal of moisture has to be evaporated before the honey will keep. (I was astonished myself at this large amount—have been reading it up.) I looked at the combs of the hives I unloaded last week, before placing on the pieces of lath for the bees to travel over the combs in winter, all the outer ones were full and capped. There were plenty of nymphs getting out of the cells, but all round them the empty cells were being filled with honey; there was a very large amount of pollen of all colours, but honey cells were down to the bottom. If they fill these with so much moisture, will they be able to evaporate it now so late? This may be a reason of bad wintering which I get sometimes. Some of our scientific writers, like Dr. Abushady, may be able to tell better than the simple farmer of Dor-

set, if this is one reason of bad wintering.

When in the house at meals we still hear the song of the bees. We planted, seven years since, some clumps of fuchsias, they never die in winter, and all summer they give out plenty of their graceful, pendulous flowers; they are on each side of the door, and bees, as they sip the sweets of the flowers, are given some swinging exercise as the flowers sway about in the breeze. A visitor, on Saturday, who spent his holidays in the Isle of Wight, said they were very fine on the Island. The reason that the honey has very little moisture in it must be the swaying motions of its pendulous flowers, but the bees seem to like the swaying business, for they are always there, and if there is honey on the table they are not above coming inside through the open window; perhaps they think they have the best right to it

We are now using the sections of honey that were put on in August, the six uncapped ones from an Italian stock; it has a most delicate taste and it is highly perfumed. The colour, a light amber, and all books that I have seen give heather honey as dark and thick. This does not readily run from the cut parts of sections, so must assume it is all from the Ling heather, for the heather-clad moors are very beautiful still from Broadstone Station to the Farm; visitors who come to Wimborne Station see none of it, as the road lies by the River Stour and the dairy farms. It is also a three-mile walk, and from Broadstone less than two miles.—J. J. KETTLE.

## QUESTIONS, ETC., FOR BEE-KEEPERS FOR SELF-EXAMINATION.

(*Students are recommended to write their answers, and check them afterwards by reference to books.*)

25. What is the approximate total number of cells in the comb of a well-filled standard frame, assuming all to be worker cells?

26. In what features is a queen most readily distinguishable from drones and workers?

27. When must a hive be placed perfectly level and when with a slight inclination forward?

28. How is whole-sheet foundation fixed in frames?

29. From what materials are queen cells made?

30. In what kinds of weather do (1) prime swarms and (2) casts generally issue?

31. State what is likely to be found on examination in the summer of a comb in the brood box of a flourishing colony?

32. Of what does royal jelly consist, and to what use is it put?

33. What outside indication in early spring shows that the queen has begun to lay?

34. When changing queens in a hive, what is the procedure?

35. What circumstances or conditions cause or favour dysentery in a hive, and how may its presence be detected?

36. Make notes for a 15-minute lecture on the sources of nectar in the United Kingdom.

J. L. B.

## HOW I TOOK A SWARM.

As I have frequently read with great interest the experience of others narrated in the B.B.J., I am going to try and record—for the interest, I hope, of others—my own experience in taking a swarm.

After I had got home, at about 7.15 p.m., the daughter of my neighbour came round to say that a swarm of bees had settled in their garden, and asked if I would like to take it.

I lost seven swarms last winter—my total stock—from "Isle of Wight" disease, and, not having yet built it up again, I naturally said I would be glad to do so. I therefore proceeded to collect a veil, a skep, and a board, and went over to see where the swarm was situated.

They turned out to be some 25 ft. up on the trunk of an old elm, and I was told by my neighbour when I arrived that he was afraid they were moving, as only a few remained. I naturally came to the conclusion that the swarm must have located a hollow trunk, and had taken possession. However, as I had come round, I decided to investigate, and proceeded to climb the elm.

I found, as I had feared, that they had "gone to ground" as the foot of a stump, the remnant of the main stem of the tree, which had been sawn off a little way above a fork, and only a few bees remained outside. At first I feared that the game was up. However, a little investigation showed me that there were two holes. So I decided to try to smoke them out and capture them.

This meant more paraphernalia than simply a kit and a skep, so I had to descend and go home for what I thought I should need.

It is always worth while at such times to spend a minute or two in thinking out your plan of action and what articles you will require, because it is so horribly annoying to get into position, and perhaps start on your operations, and then find yourself stranded for want of some essential article.

So I accumulated a smoker, a good stock of ribbed brown packing paper—which I find burns well in a smoker, and lights easily—an old table-cloth, a ball of strongish twine, a few screw-hooks, brad-awl and gimlet, a small hammer, and a box of matches. Putting these in an old cartridge bag, so as to be able to climb with them, I returned to the scene of action, climbed up, and, fastening the bag within reach, I got the skep and board passed up to me, lodged them handy by, and proceeded to light my smoker and commence smoking the bees out.

I was soon rewarded by seeing the bees begin to come out at the main hole, but though I had got the skep as near as I could over the hole, I was only able to get it down to about 9 in. above the hole, and at that point it was jammed by the other branches, and of course only touched these at two points of its circumference.

The bees, in climbing up from the smoke, kept to the main limbs, and did not go into the skep, and a great many of them went up the limb which forked away from me. This gave me pause, and I had to think how I could scrape or brush them into the skep after I had got them out. I had tied one end of my ball of twine to a handy branch, in case I should want any more implements, and of course I now did want a brush.

Luckily my friend was able to provide his, so, having got all the bees, as far as I could judge, out of the dead bough, I then spread my cloth over this to keep them out, and lodged the board as securely as I could between the limbs, to make a platform for the skep.

As I have said, the bulk of the bees had crawled on to the limb farthest away from me, and a thicker lump of them at one place led me to suspect the presence there of the queen. Luckily, by leaning across as far as I could, I was just able to hold the skep nearly under this lump, and having got my position as secure as I could on the friendly sister-branch on which I was sitting, I reached over to back my luck, and brushed off as much as I could reach of the thick bunch into the skep. I then put the skep on the platform, and remembered there were no stones handy to prop it up on. However, some spare ribbed paper was handy, so rolling up a wad of that I turned the skep right side up on the board and watched with intense interest to see which way the flow of bees would go, as that would show whether I had got the queen or not.

Those who have had the pleasure of taking swarms will understand how I felt when I saw none of the bees from inside the skep came out, but on the other hand some of those that were flying about settled on the board and went in. That was indeed a pleasant sight, and, reassured as to my success, I proceeded to brush off the bees that I could reach, especially those that I could brush towards the board. At first they simply fell in lumps, and I could not see any inclination to stream into the skep, so much so that I began to fear I had after all not got the queen; but after a little anxious waiting I began to see that they were moving in, and felt reassured.

There was, of course, no more that I could do to help the bees on wing—and there were naturally a lot of these, as the result of my brushing—to settle; so, as it was long past dinner time, I decided to go down, have dinner, and then return to business.

Luckily, while I was at dinner I thought of what more I might use, and did not overlook the possibility of my needing more light than is furnished by the twilight at 9 p.m., even aided by a nearly full moon. I therefore put a little electric lamp in my pocket before I went back after dinner.—J. R. B. Branson (Capt.).

*(To be continued.)*

## MONMOUTHSHIRE BEE-KEEPERS' ASSOCIATION.

### INAUGURAL MEETING.

A meeting was held at the Town Hall, Newport, Mon., on Saturday, Sept. 28, when it was unanimously decided to form a Bee-keepers' Association for Monmouthshire. The following officers were elected:—Chairman, the Rev. H. G. Stanley; vice-chairman, Mr. Graham White; hon. treasurer, Mr. Llewellyn Morgan, Underwood, Portskewett, near Chepstow; hon. secretary, Dr. G. R. Strong, Magor, Mon.; hon assistant secretary, Mr. R. Hancock, 1, Railway Terrace, Rogiet, Mon. A number of gentlemen were elected to the committee, with power to add to their number. The committee was instructed to draft a set of rules to be submitted to the next general meeting. It was decided that the Association should be affiliated to the B.B.K.A. The minimum subscription will be 2s. 6d., but it is hoped that those in a position to do so will subscribe more. It is proposed to keep in touch with bee-keepers in every part of the county by means of local secretaries, who will be members of the committee. The committee hope to arrange for a number of lantern lectures to be given in various parts of the county during the coming winter. All bee-keepers and intending bee-keepers in Monmouthshire are cordially invited to join the Association, and should send their names to the hon. secretary or the treasurer.


*The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.*

## QUESTIONS FOR BEE-KEEPERS.

[9768] In the BRITISH BEE JOURNAL of September 19, I am struck by the utility of the article "Questions on Bees and Bee-keeping." I think it should be most helpful, not only to beginners, but also to others whose knowledge is apt to get a bit rusty.

It seems to me it would be still more helpful if the papers on answers to questions were looked over and corrected, and if you approve of the idea I shall be very glad to do this, returning them quickly to the senders—with the one proviso that a stamped addressed envelope is enclosed.

I shall be glad to hear what you think, and if you approve a notice might be put in the BRITISH BEE JOURNAL.—(Rev.) EDWARD G. BARTLEET, Quedgley Rectory, Gloucester.

[We think it is very kind of our reverend correspondent to undertake this task. It will be a very great help to have the answers checked by another bee-keeper. We trust he will not find his self-imposed task too heavy.]

## BEE PLANTS WANTED.

[9769] May I ask you to be so kind as to give me a little space in your well-read paper for an appeal, partly on my own behalf, but still more for the benefit of my bees.

I have nearly half an acre of waste ground, and I want to naturalise on it bee-plants of all kinds. I cannot afford to buy these in such quantities, and they take several years to spread themselves by seed. I thought that possibly some sympathetic bee-keepers, seeing this, might bethink themselves that their plants would be all the better for thinning out. I should welcome any hardy bee-plants, but should suggest Michaelmas daisy, golden rod, any kind of perennial sunflower, any sedums, hollyhocks, any kind of Campanula, any kind of *Centaurea* (cornflower), *Arabis*, *Aubretia*, mallows, etc. If these roots were put into a sack and addressed to me at the Metropolitan Station, Ruislip, Middlesex ("to be called for"), I would gladly return the sack and pay any expenses, if the kind donor would let me know them at "The Godolphin School, Hammersmith."—(Miss) I. H. JACKSON.

## "YADIL" FOR "ISLE OF WIGHT" DISEASE.

[9770] The letter of Mr. F. W. Duke on the use of "Yadil" in the treatment of "Isle of Wight" disease bears out my own experience.

Early this year, after a period of confinement consequent on bad weather, I found one of my stocks badly infected with "Isle of Wight" disease, so much so that I picked up, the first fine day, a household shovelful, piled up, of dead and dying bees. The stock was hived in a W.B.C. hive, and after spraying with a solution of "Yadil," one teaspoonful to the pint, they were transferred to a Conqueror hive. The following day I picked up about a handful of dead and dying bees again, so sprayed as before. The result was highly encouraging. Although the queen was an old one, the stock built up very strong, and covered 20 standard frames of comb.

I do not care to describe the agent as a specific—I agree with Dr. Abushady there has been too much partisanship in the past—but the experience was more satisfactory than with any other drug I have tried. The stock was at the same time fed with syrup medicated with "Yadil."

Personally, I have found great benefit from adapting Mr. Simmins's methods in conjunction with any spraying. Infected stocks in W.B.C. hives I find are benefited by raising the brood chamber about an eighth of an inch by small wood blocks at the corners. Even without treatment this appears to retard the rapidity of the disease, which I have found also to be the case with infected stocks transferred to Conqueror hives.

I had intended writing you with reference to my experience of treatment with "Yadil" for some time, but delayed because I feared the disease might be latent and show itself later, but up to the present it has not done so, although I still have some slight suspicion such may be the case. Other stocks which showed slight symptoms during the season were treated in the same way with equally satisfactory results. All have been fed up for winter with syrup medicated with "Yadil." Later I will let you know how they winter.

Incidentally, I may mention, which is in line with your contributor in the article on "Wintering," that fast feeding is detrimental, *if carried on with small feeders*. Unless the feeder is a large one, the consequent excitement amongst bees

unable to reach the syrup is very injurious, especially in stocks where the disease is dormant. Large feeders are far more satisfactory.—B. SYKES.

## CUTTING THE QUEEN'S WINGS.

[9771] Perhaps you will be interested in hearing of what happened in the hive in which I cut the queen's wings. I am away from home during daylight hours now, so did not examine them again. On Wednesday I happened to get home about 5 p.m., and learnt that three swarms from this hive were in the beans. I got them all (they had waited for me for two hours). I then examined hive, counted seven hatched queen cells, cut out as many more not hatched, caught nine live queens and put them all in a box together, the old queen had evidently been killed, as I could see no signs of her—she was this season's, too. I then ran into the hive the sole survivor of my nine virgins: I thought by this means I should get the best.

In the evening I put a hive close to parent stock with nine drawn-out combs, and hived the three lots into this (weight 8½lbs.). My intention is to unite with parent stock when one or other of the queens is laying, and take away the other one. The parent stock was on twenty standard and thirty shallow combs, and I shall winter on twenty combs. I do not think cutting wings is much good. This is the first swarm from this hive this year, and, as more bees seemed to be left than came out, it must have been a fine stock. I have taken about 40 lbs. of honey and fourteen sections from it, and have some shallow combs to remove yet.—GEO. M. ROSLING.

## CHANCE OR INSTINCT.

[9772] I read with great interest Mr. Harwood's contribution under the above heading in the BRITISH BEE JOURNAL of August 22, and am inclined to agree with his theory that the bees in hive A attacked the queen, and that she, escaping from their clutches, rushed out of the hive, and found—by chance I should imagine—sanctuary in the queenless stock E. It is, I think, more than probable that she tried to enter some of the other hives before finding a welcome at E. Doubtless the weather was warm and honey plentiful—conditions which would make the bees dispense with an introduction.

I had an experience recently of a somewhat similar kind. As a precaution against the loss of swarms, I clipped the wings of the queens of my two strongest colonies, which I will call A and B. At the end of June I transported my bees to a village some miles from Edinburgh. On July 27 I examined A and B (which stood within two yards of each other) and found an active virgin queen in the former and no unsealed brood, and a virgin queen in the latter, with a small quantity of newly-hatched brood. Naturally, I concluded that both hives had swarmed, and, failing to find the queens, had returned. The next day I visited the bees in order to introduce a fertile queen to A, and found, in a depression in the ground a few yards from the hives, a swarm of bees, which, from their markings, I knew had issued from hive A. The bees had been there for nine or ten days (proved by there being no unsealed brood in the hive), where, in their faithfulness to the queen, they had braved the elements. I returned the swarm to the parent stock, keeping a sharp eye for the queen—an Italian. Presently I saw her, and picked her up by the wings; but she managed to escape, and flew a few yards, alighting, as I thought, on a bank. A search, however, failed to find her.

On August 10 I examined hive B, as I wished to ascertain if the young queen was laying. Imagine my surprise when I came across the clipped Italian queen! She must have entered and been accepted by hive B on July 28, notwithstanding the presence of the virgin queen, which she must have killed. I think this case is even more remarkable than the one mentioned by Mr. Harwood; but I may be prejudiced. —A. C. WILLIAMS, 8, Corrennie Gardens, Edinburgh.

## "ABOUT SWARMING."

[9773] D. M. M.'s interesting letter, I think, calls for a little comment.

Most of the methods for the prevention of swarming he mentions, and particularly the last, have one great and common fault, which is that they prevent swarming by weakening the stock. What is wanted is to prevent swarming without checking the queen for a single hour.

In foreign countries the season, I believe, is far longer than in our own, and therefore a check is not so badly felt, but here it often happens that our whole flow of honey lasts no more than fourteen to twenty-one days, and should the result of the check on breeding happen to be most felt just at this critical period, the honey harvest must be prejudiced.

*Destroying Wasps' Nests.*—Purchase a few ounces of cyanide of potassium, crush it to a fine powder (taking great care that none flies into the eyes), and place a teaspoonful in the mouth of the hole, so that entering wasps must pass over it. If weather is dry, sprinkle a little water on it. Dig nest out next day.

*Things that Matter.*—Surely Mr. Ion

can suggest some quicker and more simple plan for giving passage over combs. Surely ¾-in. strips of wood will do just as well without all that shaping, etc. So many of us cannot give time for more than work of real necessity. If Mr. Ion will give one or two of his stocks room under the combs he will not find the bees cluster above them.

I should much like to see Mr. Ion in early spring "gently pull out the centre lath." Do his bees gather no propolis?

May I once more advise all new beekeepers to let their bees alone (unless badly off for food) till middle April, or, at any rate, till April is in. *Now* is the time to see that bees shall not want feeding next early spring.—R. B. MANLEY.

## BICARBONATE OF SODA FOR "ISLE OF WIGHT" DISEASE.

[9774] The article in this week's JOURNAL on the use of soda bicarbonate for "Isle of Wight" disease is very interesting, but I am afraid the experience of the writer of that article rather proves that the chemical named is a palliative only, and not a cure. The acid condition of the stomach is the *result* of the disease and not the cause, and is very similar to the acidity of dyspepsia among human beings. Soda bicarbonate is used to counteract this acidity, but at the same time tends to increase rather than remove the cause of such acidity. The true cure for dyspepsia lies in treatment where an acid mixture is used.

The only way that "Isle of Wight" disease can be cured is by destruction of the bacillus, and not by treating the resultant stomachic disturbance.—H. E. C. CARTER.

## A VISIT TO MR. KETTLE.

[9775] I should be glad if you could spare a little of your space for an appreciation of a visit to the home of the writer of "A Dorset Yarn."

Arriving at Wimborne about 11 a.m., we wended our way towards Corfe Mullen, making several inquiries as to Violet Farm.

We were struck by the fact that everyone semed to know Mr. Kettle. On arriving at our destination, we were greeted by a cheery and much-tanned face, betokening an outdoor life.

On mentioning the B.B.J. and bees, Mr. Kettle's face lit up, and he exclaimed, "Bees! Oh! come this way," and in one minute we were looking at well-filled sections, with bees still working so hard in that luxurious district that it made our Northern minds envious.

We saw pure Italians, hybrids, and blacks, all hard at work gathering the last of the sweets for the winter cupboard. Especially interesting it was to see the swarm from the hollow tree, which Mr. Kettle wrote about; they, too, were hard at work.

The countryside abounds in heather, gorse, and every conceivable wild flower, and it appeared to us as if time had stood still for a month or so, as compared with Yorkshire.

After having shown us his bees, Mr. Kettle took us to see his violet beds, and even as we approached we were met by that sweet fragrance which gladdens the hearts of the town-dwellers when these lovely flowers are sent amongst them.

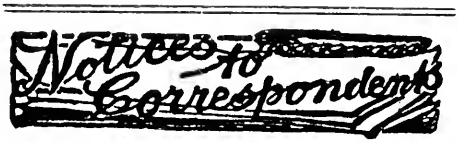
Great rows of apple and pear trees, with violets growing between; everything apparently in abundance, showing everywhere the unceasing care of the owner and a very bountiful Providence which rewards such care.

Not an inch of ground is wasted. Everywhere something is coming on, and all in proper succession. Amidst all this (surely enough to satisfy everyone) the merry hum of the bees makes perfection. Even the owner looks part of it; nothing here is out of place.

We commented on the difference in the lot of the town-dweller, as compared with our Dorset friend, who, having realised the secret of living, carries out that secret all through his daily life.

Our visit was a very happy one, and we felt instinctively that our host, his bees, violets and all, were in perfect accord with each other.

When reading the "Dorset Yarns" in future, we shall enjoy them all the more, for we shall have the rich memory of a wonderful day spent with the cheery and hospitable writer.—W. S. TURNER.




*Correspondents desiring an answer in the next issue should send questions to reach this office NOT LATER than the FIRST POST on MONDAY MORNING. Only SPECIALLY URGENT questions will be replied to by post if a STAMPED addressed envelope is enclosed. All questions must be accompanied by the sender's name and address, not necessarily for publication, but as a guarantee of good faith. There is no fee for answering questions.*

"SILICA" (Kidwelly).—*Obtaining bee plants.*—We do not know where you can obtain plants of the Chapman Honey Plant, and Bokhara Clover For seeds of the former see Mr. Harwood's offer in B.B.J. last week. Bokhara Clover seed may be obtained from Messrs. Sutton, Reading.

E. J. GEORGE (Oswestry).—*Syrup or candy for feeding.*—You had better trust to candy now, or there will be too much unsealed syrup in the combs.

G. M. ROSLING (Paignton).—*Queens not mating.*—It is not the fault of the drones, but of the weather. The experience is general this year. If there are still drones in the hives, there is just the barest chance of the young queen mating if there is a warm sunny day.

C. F. C. (London).—*Storifying for surplus.*—(1 and 2). We prefer the plan of working up the bees in the first brood box until they cover 10 combs, then place another box underneath it and allow the bees to work down. The brood is warmer in the top chamber. (3) Removing two or three combs of brood, and replacing with frames of foundation, is one of the best methods of checking swarming. (4) The fronts of both outer cases and brood chambers should be raised. The hive would be quite stable raised on three laths. They should be fairly wide, say, 1 or 1¼ ins., and all exactly the same thickness. So far as our own observation goes, the practice of the great majority of bee-keepers is to allow the brood chamber to stand solidly on the floor board all the year round. (4) No.

T. JONES (Marple).—*Wintering queries.*—(1) It is a matter of opinion as to what is the best material for a quilt. Most bee-keepers prefer unbleached calico, but we have not noticed any ill effects when American cloth is used. In any case, the entrances should be opened to 5 or 6 ins. for the winter. (2) It is not necessary to erect a small shed, over the hives, but it would probably be an advantage if the position is very bleak and cold. It will be a great help to safe wintering if you can erect something as a wind break on the north and east sides of the hives. Bee-keepers in America have found that winter losses of bees are greatly reduced when the hives are sheltered from the north and north-easterly winds.

K. H. (Birmingham).—*Bees refusing syrup.*—We cannot account for this. Give the syrup fairly warm, and smear a little inside the passage leading to the hive. You might also try the effect of a couple of hot bricks, well wrapped up and placed on each side of the feeder.

"TREBLE" (Waterloo).—*Liability for damage caused by bees.*—You would be liable for any damage that could be proved to be caused by your bees, but you can insure against this now for a small premium. For particulars apply to the Secretary, British Bee-keepers' Association, 23, Bedford Street, Strand, W.C.2.

A. L. MANBY (Yorks.).—*Disinfecting hive.*—There is no better method than scorching out the interior with a painter's lamp. If yours was treated in this way, then had lime placed in it, and has been exposed to the air for about two years, it will be perfectly safe to use it again.

"LEICESTRIAN" (Leicester).—*Disinfecting shallow combs.*—Soak them for an hour or two in a 5 per cent. solution of Bacterol, Izal, or Formalin. Be sure that the solution fills every cell. It is a good plan to send it in by means of a garden syringe. Another method is to fumigate them with Bacterol, or Formalin.

E. P. FRANKLAND (Westmorland) and J. F. S. (Warrington).—If there are still a large number of drones in the hive, the probability is there is no queen, or she has not mated. Unite to a queen right colony, or re-queen with a mated queen.

"BEE" (Hampshire).—(1) As a rule, Italians are not so good for sections as Natives, or Hybrid Italians. They usually make a thicker and coarser capping. (2) We have had no personal experience of that particular strain. Numbers of colonies of bees of any and every variety, covering eight to ten combs, were sold for £5 each during the past season. (3) Yes; fresh blood in your apiary would be likely to do good. (4) You have done quite right, so far as packing up is concerned. It is better to requeen every year. The bees will often depose a failing queen, but they are not to be depended on to do so. (5) Close it up, and put two balls of Naphthalene in the hive.

C. M. YOUNG (Essex).—(1) See reply to T. Jones. (2) No.

*Honey Sample.*

A. J. WILLIAMS (Plympton).—A very good sample. Mainly from clover.

*Suspected Disease.*

F. C. WRAY (Herts).—The bees died of "Isle of Wight" disease. We cannot say how soon other stocks would show signs of disease if infected. The time appears to vary with different stocks according to their power of resistance. Diseased bees will crawl from the entrance in almost any kind of weather. We have seen them attempting to do so in frosty weather during winter.

G. L. WELLS (Anerley). We do not find disease in the bees.

R. J. RODDAM (Glanton), MISS OAKDEN (Retford), J. B. (Uxbridge).—The bees are suffering from "Isle of Wight" disease.


## SEASONABLE HINTS.

Syrup feeding should now cease, and colonies that are still short of stores must be fed on candy during the winter. Pack the bees up for winter as soon as possible. Clear the floor board, treat it with a strong solution of disinfectant and water, applied with a paint-brush, allow to soak in for a few minutes, then dry off the surface moisture and replace the board while still damp. Do not omit to put some naphthaline on the floor board inside the hive. Winter passages should be provided, the usual method being to place two or three pieces of wood about half-inch thick across the centre of the top bars of the frames. These should only reach to the second bar on each side, and be pared down to a thin edge from the top, at each end, so that the quilt will fit snugly down at the edges. Where candy will have to be given during the winter, a square frame or stage may be made to take it, and the laths for winter passages tacked on either side. The stage should be made so that the bees can pass underneath it. The candy may be covered by a section case with one glass removed. One of our readers who does this finds that a half-inch hole bored through the centre of the cake of candy allows the bees to come through and work on the top surface. Entrances should still be kept to one and a half, to two inches, less if there are signs of robbing; towards the end of the month open to about five or six inches.

Give attention to the hive roofs, and see that they are waterproof; clean and store shallow extracting combs. If a store cupboard is not available, wrap each box of combs in paper, putting one or two balls of naphthaline in each. Honey extractor, uncapping knives and tray, and other tin appliances should be cleaned, rubbed over with vaseline, and stored in a dry place. Honey also, both comb and extracted, should be stored in a dry place; comb honey should be kept in an even temperature, if possible at about 70 or 80 deg. Fahr. Fluctuations in temperature will cause it to granulate, and sections in that condition are practically unsaleable.

## A DORSET YARN.

My eldest son, when in Ireland some ten years ago, found that the smallholders and cottagers always looked to the pig to pay the rent. Last year our bees more than paid the rent and the interest on the fields we have not yet redeemed, with the interest on money borrowed to build the glasshouses, and we were able to have honey on the tea table the greater part of the year. This season we have not quite reached the rent and interest on borrowed capital, but we started the season with depleted stocks, only purchased one small swarm for 10s., all I could buy off my neighbours: several came to me and took possession of hives; one, where there was no foundation in the frames (I had cleared the honey and old combs out and given the lot to the pigs, so as not to spread disease) this lot went up into the roof and had filled it with comb before I saw they were there: I gave them full bars after, but I had to lift cover and the first lift off at the same time in order to put the bars in position. From this I have had no surplus, it is doubtful if they will survive the winter: the hive is made of three champagne boxes, one to hold the brood chamber, one for lift and one for cover, with tarred cardboard over the top to keep out rain (please do not imagine we bought the boxes full of the famous beverage, we buy all sorts of boxes to send away our farm produce); these boxes are made of Lombardy poplar, wood that is very absorbent, the outside is tarred, but the inside plain, it will absorb moisture, and there is sure to be a great deal with so many bees.

Taking the two years together the bees clear off all the payments for rent and interest on borrowed money. When one looks at the small amount of land the hives occupy, and labour spent with them, and compares it with acres and acres of potatoes and other market stuff, with the labour (at high rates) spent on them, the bees, to use a slang term, "take the cake."

One lady (with a handle to her name) has presented me with a very large and nicely bound copy of A,B,C, and X,Y,Z, by Root. One has plenty to read about bees in this beautifully illustrated work: it is the first I have ever read of the American writers. Have seen in the Bournemouth Free Library a book by Professor Cook, but not of the same class as this one by Root. He seems to give so much knowledge of his own, and copious extracts from other clever men, one feels very small in what one does in Dorset compared with such great things in America.

The Dorset socialistic writer is under a great obligation to the illustrious and gifted lady for this delightful present, and fully appreciates the kindly thought that prompted her to send it. It proves again that "One touch of Nature makes the whole world kin," and the "greatest happiness comes in conferring benefits,

not by receiving them." I shall religiously read the whole lot (in spare time) before anything else that I have to read, and time is come when one can well read up a bit more of the bee world. We can live over again the pleasures of the past, with a greater resolve to go still further with these truly wonderful units of the insect kingdom.

Bees, on all fine days, are always with us, searching the last flowers of the asparagus; this succulent vegetable, if given a dressing of sulphate of ammonia in spring, will grow and flower a great deal longer than it will without some extra help each year: we have growths six and eight feet high in long lines. Some of our apples are in bloom, the rain, after a dry June, has made many blooms open; it is well for the bees, but it is not so well for next year's crop. The rasps are mostly all set and fruiting, but I see bees on the lines looking for the last flowers. Violets are open in quantity in the fields, so bees have plenty to do when the weather is suitable.

We have sown a field of crimson trifolium, and another farmer has a field, six times larger, sown with the same clover, all close to our bees; we can look forward with high hopes for success next season. We are ploughing up a 2-acre lot for early broad beans, which we shall get in soon. They will bloom before those sown in the early months of next year will be showing their flowers; have sown some *Limanthes Douglassi* (sent me by Mr. Harwood, with some Globe thistles and hybrid marrows which his bees had crossed), all for next year's harvest. It is with the tiller of the soil, as the old books says, "Cast thy bread upon the waters and thou shalt find it after many days." It is a long wait for the result, but it soon passes, because one sees the crop surely coming to the harvest of flowers and fruit.

We have still a large breadth of haricot beans to harvest, but the weather is not all one could wish for; we have not quite an acre of them, they are the most productive of the whole family, this small white American one. I see they keep drier standing where they grew than to pull them up; there are many other flowers in bloom which make our fields look very pretty, but the bees will not look at them, the acres of yellow chrysanthemum, for instance. Among the root crops there are still flowers of charlock for them; these will keep them busy, and not give them the robbing fever which seems to happen in the autumn.

Mr. Haskins, the largest bee-keeper in the Bournemouth area, came over on Tuesday to the farm; he says his lot has done well, and this year he has averaged 3s. per pound for his surplus. He is one of the nursery growers of Bournemouth, and his customers are among the wealthy residents, who give him high prices, where we sell to the dairies in bulk. Like ourselves he thinks if we had a bit more time to give to them they would do even more. He has none of the fields of clover we have in rural Dorset, nor the woods of poplar and chestnut, but many trees from the warm parts of the world have been planted in that borough. his bees must get a good mixture of honey, with the heather to give him a good lot in August, so many gardens round him are crowded with flowers that bees delight in.

An interesting letter from a gallant bee-keeper in France (who is driving an ammunition lorry attached to the heavy artillery) gives a most pleasing interview with one of the French Catholic padres about his bees and hives, in which this Abbe took so much pleasure.

Our youngest son, who is home on short leave, tells me he has not seen a stock of bees the whole season: he has been on a farm near Lenbury Wells—a place said to be good for rheumatism, which he got into his system campaigning in France last winter—in a fine agricultural part of Hereford, on the borders of Worcester, yet there were no bees. At home he can see them and taste the delicious sweets of their labours.

J. J. KETTLE.

## THE BEE GARDEN.

THE OFFICIAL LISTS (*Continued.*)

*Alyssum saxatile*, a shrubby perennial suitable for beds, borders and rockeries. It is propagated by division of the roots and by cuttings of young shoots with or without a heel of older wood. These strike readily under glass or in a shady border. A light, dry soil and sunny position are best; heavy soil should be drained and lightened, or alyssum will not flourish in it. There are several varieties, including *A. s. nanum compactum*, the height of which is only 6 in. as compared with the 1-ft. of the types. *A. s. fol. var.* has variegated leaves, while *A. s. citrinum* and *sulphureum* are, as the names indicate, lemon and sulphur coloured respectively. A very dwarf variety is known as Tom Thumb. The type is a golden yellow, hence its popular name of Gold Dust. There is yet another variety, *A. s. argenteum*, with silver-veined leaves. This flowers in June, whereas all the others come into bloom in April.

Alyssum, in combination with arabis and aubrietia, the three being planted in alternating masses, makes a wonderful display

in the spring border, and the bees will riot in all alike.

*Aquilegia*, Columbine.—A very old favourite this, *A. vulgaris* having long been a common inmate of the cottage garden. Nowadays, however, *a. r.* has given place to the hybrids of *A. caerulea* and *A. chrysantha*, these having a longer spur, as the hollow recession of the petals between the sepals is called. The height is about 1½ ft., and the colours range, by free crossing, through red, blue, white and yellow with intermediate shades. *A. vulgaris* is perennial, but the long-spurred hybrids are best treated as biennials, seed being sown in May or June in a cold frame. Any soil suits aquilegias, provided it be neither cold nor wet. Self-saved seed often yields fine colourings.

*Arabis alpina.*—This, together with *A. albida*, with which it is often confused, is a very easily grown subject, since, once planted, it only needs to be let alone to spread and form a compact carpet of green which in April is almost hidden by the mass of white bloom. Propagation is either by seed or by cuttings taken off the plants in July and set in sandy soil in a shady position. These root in about three weeks without any attention whatever.

There is a double-flowered variety of *A. albida*, which should be avoided as useless to bees, although showier and longer in bloom than the single variety.

*Asclepias syriaca.*—Swallow-wort, milkweed. The high value of this plant is offset by the danger the bees incur in realising it. Dadant, in "Langstroth," says: "The common milkweed or silkweed, *A. syriaca*, is much frequented by bees, but these visits are often fatal to them. All the grains of pollen, in each anther are collected in a compact mass, enclosed in a sac; these sacs are united in pairs by a kind of thread, terminated by a small, viscous gland. These threads stick to the feet, and often to the *labial palpi* of the bees, who cannot easily get rid of them, and perish. In some parts of Ohio and Western Illinois, a variety of the common kind, *A. sullivantii*, does not present to bees these difficulties to the same degree. We have seen bees gathering honey freely on four or five different varieties which grow in our neighbourhood, and especially on *A. tuberosa* or pleurisy root, fitly recommended by James Heddon. This kind is noticeable by its orange flowers." The moral is obvious; substitute *A. tuberosa* and/or *A. sullivantii* for *A. syriaca*.

*Aubrietia graeca.*—Purple rock cress. This, like arabis, is a close carpet-forming perennial and suitable for similar positions and uses. The type is mauve-purple, and improved varieties, such as Dr. Mules, have deeper purple colouring. There are also blue, magenta and rose colours in the varieties *A. deltoidea*, *A. campbelli*, *A. bougainvillea*, *A. hendersoni*, *A. leichtlini* and others of recent introduction.

Try the combination suggested above, i.e., *Alyssum saxatile*, *Arabis alpina* and *Aubrietia graeca*; it will be a feast for the eyes and for the bees.

*Cheiranthus allioni.* The addition of this subject to the list is a suggestion of Messrs. Sutton & Sons, and a highly justified one it has proved. I have tried *erysimum*, both *arkansanum* and *peroffskianum*, and was very disappointed, both from the apiarian and from the horticultural point of view, but this other relative of the wallflower is well worth growing. It is a handsome, yellow perennial, admissible for its own sake as well as for the bees. I intend trying *C. menziesii*, also yellow, and *C. marshali*, yellow and purple, a colour combination which has been a favourite of mine since as a boy I memorised Byron's "Destruction of Sennacherib."

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## QUESTIONS, Etc., FOR BEE-KEEPERS FOR SELF-EXAMINATION.

*(Students are recommended to write their answers, and check them afterwards by reference to books.)*

37. Give as many reasons as you can why bees should be kept.

38. How may the strength of a swarm be estimated?

39. Why is the use of separators in a section rack necessary?

40. Describe the operation of driving bees?

41. What are the remedies for queenlessness?

42. What precautions in feeding should be taken to prevent dysentery?

43. What should be done when the presence of a laying worker in a hive is detected?

44. How is sanitation secured in a hive, (1) by the bees and (2) by the bee-keeper?

45. Compare the utilities of carbolic fumes with those of smoke in subjugating bees.

46. State briefly the life history of a worker-bee from the time the egg is laid until the bee flies from the hive.

47. Describe the spiracles and tracheæ of a bee.

48. Criticise in the light of modern bee-keeping the old saying, "A swarm of bees in July is not worth a fly."

J. L. B.

## BEES IN FRANCE.

How very much I should have liked to head this little article with the old title of "Derbyshire Notes." But, alas! for more than two years I have been separated from my bees, only seeing them at the rarest intervals. The causes are the war, and the service I have been, and am, rendering to King and Country.

Much of this service has taken place in Ireland, where, I am sorry to say, what few bees I was able to find were kept in the most wretched state that it is possible to imagine. I must not, however, conclude that this is the general Irish system. The district I was serving in was backward in many other respects besides in apiculture.

But to leave that. I am now in France, and have been there for some time. Of course, I have kept a look-out for bees and bee-keepers wherever I have been—and I have moved about considerably. At times I have caught passing glimpses of apiaries as I have rushed along the main roads of this beautiful country, either in a heavy lumbering motor-lorry or in one of Mr. Henry Ford's automobiles (sometimes). But only three times have I been able to get into intimate touch with a French apiarist.

Here, as everywhere else, the war casts its shadow, and in talking to the bee-keepers I have found that the one who was specially interested in "les mouches" was away at the war, so any conclusions I may arrive at may not be entirely just. It seems to me, though, that our gentle cult is in a backward state here. Only once, when rushing by on a car, have I seen an apiary of frame hives. The apiaries I have visited have been composed of skeps or box-hives. The honey is still taken from the bees by the cruel ancient method of suffocating them at the end of the season. Modern methods seem to have been heard of, but initiative is lacking to put them into practice.

It has interested me to find that the same superstitions as exist in rural districts of dear old England exist here. For instance, if a member of a family dies, the bees must be informed of the circumstance, and a piece of crêpe must be tied to the hive. Memories of happy times spent wandering amongst bees and bee-keepers at home came back to me vividly when once again I heard these quaint old ideas set forth with so many authentic instances to back them up.

It will be seen that up to the present I have not had the good fortune to find a truly up-to-date and enlightened bee-keeper, although I hope to do so. I know that such do exist in profusion and that apicultural societies are doing good work in educating bee-keepers and spreading a knowledge of scientific apiculture. But by reason of war, I have been tied to beaten tracks and strictly limited in my searches, and therefore I do not wonder that I have not found them.

I should not call the part of France that I have seen a really good bee-country. It is too highly cultivated—wheat, oats, rye, barley and sugar-beet seem to be the chief crops. Of course, there are patches of clover, lucerne, sainfoin and buckwheat, but these do not make up for our good old English hedges, meadows and pastures. Such do not exist here. I should think that hives which are strong in early spring would pick up a fair harvest from fruit bloom, for many cider-apple trees are to be found everywhere. I am afraid that the one little English pronoun "I" appears more often in this article than any other word. As it is more of a personal narrative than anything else, I ask for indulgence.

My thoughts fly forward to the time when once again I shall be at home with wife and children, with bees in the apiary and my bee-books close at hand, when peace shall once more reign on the earth, and when instead of beating my sword into a ploughshare I'll be able to make of my bayonet a tolerably efficient uncapping knife. Till then I can only live in the memory of apicultural delights. To assist this memory, to make it more vivid and the pictures it calls up more real, now let me turn to Maeterlinck's "La Vie des Abeilles" which accompanies me "partout."—D. Wilson, Belper.

## THE TWO PERILS: DYSENTERY AND THE WEATHER.

It is difficult to say which of these two perils is to be feared most, considering that they are more or less interdependent, as malignant dysentery in favourable weather is practically unknown, and, should it ever occur, it need not cause much concern, as there is then a high prospect of its abatement with judicious treatment. In fact, recovery from malignant dysentery has been in some cases fallaciously attributed to the effects of certain chemicals, whereas, as I have suggested before, the favourable influence of the weather has been apparently underestimated in such instances. It is sensible, of course, to say that, so long as infection is guarded against, the ill-effects of bad weather are greatly diminished; on the other hand, the harmful effects of cold, damp weather in reducing the vitality of the bees and in predisposing them to infection should not be forgotten. Even in the absence of infection, severe cold and excessive dampness are responsible for many fatalities amongst bees, sometimes erroneously at-

tributed to "Isle of Wight" disease. "Of the general causes which predispose to infection, *cold* and *wet*, especially if combined, are perhaps the most potent, but the method in which they act is still uncertain. *Starvation* and *malnutrition* are also important, and even in slight degrees have a very decided effect on immunity." Thus writes Dr. D'Este Emery in discussing questions relating to human bacteriology, and the same factors appear to operate in bee infections. Hence the hopeless state of an infected colony, exposed at the same time (through thoughtless preparation for wintering) to a severe cold and excessive dampness, might be easily imagined. Such severe weather will leave a colony in a semi-dead condition, too stupefied and chilled to feed, and with the combination of infection and malnutrition or starvation, in spite of the presence of ample stores, the tragedy is complete.

For economical reasons, as well as from consideration of the influence of prolonged cold weather in preventing the cleansing flights of bees for a long time, it is desirable to bring down their food rations to the lowest possible minimum, by maintaining the discouraging factor of a suitable low temperature to their surroundings, but this precaution is sometimes overdone, and the bees are thus compelled to live occasionally in a state of *malnutrition*, preceding either infection or starvation. It would be equally harmful to unduly overfeed the bees, when circumstances call for caution and discretion regarding the degree of stimulating them. My critics wrongly imagine that I have not taken into consideration these important points when I advocated the use of *artificial heat* in the apiary. I shall do my best in future contributions to show in the plainest language the many useful applications of artificial heat, and that, far from being harmful to sick or healthy bees, it is most beneficial to them when correctly applied. Others have advanced views against its application which, in my opinion, do not agree with any physical law. I shall deal with these views also in due course. Suffice at present to say that I attach a great importance to the influence of cold, damp weather in predisposing a colony to infection, and that, for this reason, I advocate using mild artificial heat for defeating this harmful factor of the weather. I welcome in addition the advice which some of your correspondents give regarding sheltering the hives and preventing draughty ventilation, just as I cannot support those who imagine their wisdom in not only leaving their bees to put up with the hardships of winter, but in intensifying their misery!

(*To be continued.*)


## PECULIAR EFFECTS OF A STING.

[9776] In these strenuous and fiery times one is tempted very much to seek, through the medium of the B.B.J., a little wisdom of the wise on the above topic, especially when there are many scientific and practical men writing in its pages, such as A. Z. Abushâdy, in his energetic researches for toxins and antitoxins, septics and antiseptics; while "Kettle" ever remains at boiling point, bubbling over with his interesting and racy yarns of the doings of bees and their keepers. The ever-repenting hostess of "Deborah," always making firm resolves to do better the "next time." My desire is to know what is best to do under circumstances which I will now try and describe. When stung by a bee, no matter in what part of the body the point of the needle is inserted, the effect is always the same. From five to ten minutes afterwards there is first a tickling feeling commencing in the palms of the hands and soles of the feet, followed almost immediately by a queer sensation of dryness and tightness of the lips. Then appears a rash on the face, which spreads all over the body. The colour is like the embers of a burning fire, and whether it is of the same nature or not, one thing I know, it is accompanied with a terrible and awful itching; and however unmannerly it may be considered, one cannot resist or refrain from a vigorous rub, rub, rub. The temperature rises, to what extent I do not know, since I do not possess a clinical thermometer, but during its height the breathing becomes a little laboured. I may say what I have found out to get the quickest relief is to rush off to the sacred precincts of the bath and indulge in plenty of water containing bicarbonate of soda and soap. There I undergo a massaging and rubbing to my heart's content. Gradually the sting effects begin to subside, the temperature and breathing becomes normal, and the itching disappears, but the colour —the redness—remains. So much so when I put in my appearance amongst society again, neighbours and friends always want to know where I have been. To such queries I can only retort by saying I have been having an artificial holiday-week at some seaside resort, all within the space of an hour and a half, excepting the colour, which remains an hour or so longer.

Should this fall, or, rather, should the eyes of a doctor (in the craft) fall upon

this inquisitiveness, could he, or anyone, give a theory explaining why the virus of the bee's vaccine is carried by the blood so rapidly and has these peculiar effects. I may say, physically speaking, I am inclined to belong to Pharoah's lean kine, "rather thin," and in appearance I should say rather anæmic, but one who enjoys pretty good health. A reply from anyone would be very interesting, not only to myself, but perhaps to others who may be affected somewhat in like manner.—I remain, yours sincerely,

ANXIOUS INQUIRER.

## "YADIL" AND "ISLE OF WIGHT" DISEASE.

[9777] May we be allowed to express our thanks through your columns to Mr. Duke for his kindly remarks on our "Yadil" antiseptic?

Our knowledge of bee-keeping is not extensive, the final product affording us greater interest, but by studying the BRITISH BEE JOURNAL during the past few months we are learning a lot.

We would like to point out a few of the factors of "Yadil" antiseptic, in the hope that they may be of interest to your readers.

"Yadil" was originally designed for internal and external use on the human system. It must not be confused with disinfectants, which practically all depend on either caustic or toxic properties for destruction of infecting organisms. "Yadil," whilst practically equal in power of killing Bacteria to pure phenol, depends on its chemical action on these, and not on a destructive action. It is not in any way poisonous or caustic, and can be handled with perfect safety even by children. Even the concentrated solution will not injure the cell tissue of the flesh. The fact that it is prescribed by medical men for internal use in teaspoonful doses provides excellent proof of this. This should prove of the greatest value in treating with the delicate organs of so small an insect as a bee.

In closing, we would, as chemists, like to add our support to Dr. Abushâdy's article against the employment of organic arsenical compounds of the nature of salvarsan. These have been employed with some success in human use, but their use is confined to intravenous, intramuscular and hypodermic injections, and they are highly poisonous when taken by the mouth.

The preparation of the injections alone entails skilled chemical knowledge, and injections have to be made within a very short time of preparation as oxidisation sets in, and renders the preparation still more toxic.

We think, with Dr. Abushâdy, that such dangerous compounds should be left entirely out of consideration.—P. pro. Clement & Johnson, PIERCE ARNOLD, F.C.S.

## "LET US BE HONEST."

[9778] In connection with the correspondence under the above heading, would it not be as well if "reputed pound" and 14-oz. honey bottles were eliminated from the bee appliance dealers' catalogues?

All bottles of foreign make seem to be unobtainable at present, so that the best time to deal with this matter would seem to be when bottles are to be next offered for sale.

I may say, as a bee-keeper, that this seems to me the most dishonest thing that I myself have suffered from. One experience of many may show my meaning. Some years ago I used to sell to a grocer about 3 cwts. of honey in 1-lb. jars, each season, until one autumn he asked me to reduce my price, as he had an offer of honey at ½d. per lb. less than mine. Instead of doing this, I sold my honey to a rival grocer in the town. Later I went to have a look at the cheaper (?) honey, and found it to be put up in 14-oz. bottles!

I naturally asked the dealer what he intended to do when his customers asked for a "pound" of honey. I judged from his surprise that he was quite unaware that he was selling under weight, and he assured me that he only received 112 *bottles to the hundredweight.*

Comment seems needless, and your title, "Let Us be Honest," applies not only to dealings between bee-keepers themselves, but also, surely, between bee-keepers and the general public, and I maintain that "reputed pound" or 14-oz. bottles ought to be unobtainable.—A. W., Birmingham.

## ROBBERS—THE WET PACK.

[9779] Re Mr. Hamshar's observations in "Jottings," p. 283.

Briefly, robbing is itself strenuous business. That which will stop it quickest is no disadvantage to the new hand, and if it involves no sacrifice of bees, it is safe enough to satisfy most people. But if "hardly safe" is intended to apply to the operator's person, then my experience reveals no risk whatever.

As to something stronger than water, that element, when immediately drawn from a deep well, has a "strength" hot-headed bees recognise in a twinkling.

An old sack hardly means a mat. Between them there is a great difference, and one hardly looks for suffocation on a hot day, under a shade and a cooling

temperature. The price of peace, via the "Wet Pack," I put it to Mr. Hamshar, is refreshingly cheap, and accomplished remarkably quick.

My own experience of other methods does not induce me to spend time over them. I am a busy man all daylight, and much beyond that, in addition. Prompt settlement of difficulties is, therefore, a necessity. Carbolic or Izal, weak or strong, and even crude creosote painted thick on entrance and approaches, fail to stop determined cases. A wet sack enfolding the whole hive front is better. But though the best of past methods, it does not stop the trouble, and the commotion which continually goes on is a storm centre attracting all prowlers and potential robbers, never missing in a big apiary when a stoppage of the spring honey flow occurs. If the robbers are merely baulked and not disabled, then the operator may see hive after hive attacked, and the safety of every hive less than full strength involved. No, Mr. Hamshar, give me the "strenuous" Wet Pack an easy first.

Then to "tar" the rascals with a sprinkling of flour, and sprint around a big apiary to trace the source, will not assist much, when, as is often the case, more than one stock is in the trouble. And who dare use flour in an apiary now for any purpose whatever?

In short, to handle a case of robbing in a large apiary, and in many of a less pretentious definition, by any other method than the "Wet Pack," would leave the worker with no time to attend to anything else for the day. That robbing is a perennial, many bee-keepers will well know. The forage character of the district is the chief factor in spring robbing, assuming careful management in the apiary work, and for spring robbing, the "Wet Pack" was put forward. Stop it quickly and you stop much.

By all means use the simplest and easiest methods to deal with trouble, but don't forget that the efficient one is the test, and best of all. To widen the choice for readers of the JOURNAL was the reason for giving the "Wet Pack" the chance of publication. Bee-keepers, then, use that which gives most satisfaction. Circumstances alter cases.—M. ATKINSON.

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## DEALING WITH DISEASE.

[9780] To bee or not to bee—that is the question? "To bee, of course," exclaims the enthusiastic one, who, after deliberation, had decided that to emulate Mrs. Wiggs was not the best way to personally become a patriotic producer. Rather than sacrifice the tiny lawn and the flowers she would use those few saved pounds and buy hens. At this physcological moment Mrs. Baynes, the intensive poultry lady, appeared, and to her seductive arguments Enthusiasm forthwith succumbed. The house and six Leghorns became a fact, and for the past three months an average of five eggs a day has resulted. Five eggs a day at present prices are not to be sniffed at. No wonder Enthusiasm asserts "Of course, we'll bee," adding "the care of bees will take up even less of our precious time than hens. There will be honey for hospitals, prisoners' and soldiers' parcels, and for the kiddies. I have read that honey is served in tubes to Japanese soldiers when on active service to increase their power of endurance. The infant welfare people will chortle, for honey helps to build up children's constitions, and being predigested by the bees, is so much better than the excess of sugar of pre-war times, and present-day jams. I'll write for catalogues immediately and find out the damage."

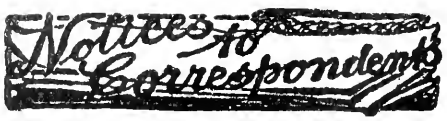
"Steady," says the Experienced One. "I, too, keep intensive Leghorns with success. I also keep bees, so far with success, but ever over me hangs, like the sword of Damocles the hideous dread of 'Isle of Wight' disease. To start bees costs money, as say our American friends. To see your beautiful colony, value £5, and swarms derived therefrom destroyed by the disease may materialise any day. I have just visited an expert's apiary, where only three of fifty stocks survive, and another friend who last year had thirty-five stocks is left with one. All caused by the dirt and carelessness of other bee-keepers.

"Legislation is the only real and sufficient cure.

"Anthrax and foot-and-mouth disease amongst animals have been stamped out, but the precious industry of honey production still cries for State aid. If only the Government would use D.O.R.A. to empower County Councils to make bye-laws on apiculture by insisting that traffic in bees from affected areas should cease, and that the disease should be reported immediately on appearance, I would increase my hives and help by giving swarms and advice to would-be apiarists."

"What a revelation," exclaims the Enthusiastic One. "I have a few more dollars to invest, but none to fool away, and your example I follow; *but*, we won't rest until public opinion compels the power behind D.O.R.A. to act, and when the war ceases central legislation for apiarists will probably follow automatically.

"And, now, how to set about it? That is the question."—E. G. LOCKYER.




*Correspondents desiring an answer in the next issue should send questions to reach this office NOT LATER than the FIRST POST on MONDAY MORNING. Only SPECIALLY URGENT questions will be replied to by post if a STAMPED addressed envelope is enclosed. All questions must be accompanied by the sender's name and address, not necessarily for publication, but as a guarantee of good faith. There is no fee for answering questions.*

"VERACITY" (Wexford).—*Wintering queries.*—(1) Do not give the bees syrup now. If there is not enough food stored in the combs for winter use candy. You may put on a couple or three pounds, when finally packing down for winter, and renew the supply as it is consumed. One pound of candy will probably equal about 1½ lbs. of honey.

(2) It is a good plan to spray the combs with one of the remedies for "Isle of Wight" disease when packing for winter. Use the solution warm. Bacterol, Izal, Flavine, or Yadil may be used.

*Prevention of Swarming.*—There is no *absolute* prevention apart from making the stock useless for honey production. The best method of checking swarming will vary according to circumstances, and the skill of the bee-keeper. Giving plenty of room, in advance of requirements, and removing combs of brood and bees from colonies that appear likely to get out of hand for the purpose of making nuclei, or for strengthening weak lots; plenty of ventilation, and having young queens in the hives, is generally effective.

MISS L. M. LEA WILSON (Middlesex).—*Wintering outside or under cover.*—We prefer leaving the hives outside. If the ground is very damp, stand the hive legs on a couple or three bricks each, and keep the ground under and around the hive free of herbage. The syrup will be nearly all sealed before very cold weather comes. (2) Yes, if you have left it so that a cake of candy can be given if necessary without undue disturbance of the bees. Also put a couple of balls of naphthaline in the hive. (3) We prefer to leave the combs up to the front. (4) See reply to "Veracity."

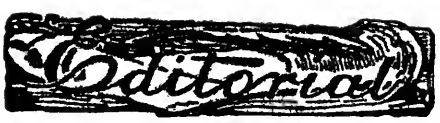
E. L. BURT (Essex).—*Yeasts?*—We do not know that anything has been published concerning the yeast germs found in bees. Some work on investigating them was being done, but the war has stopped it.

J. M. (Bedford).—Thanks for the suggestion, but we have more work now than we can deal with, and it would also spoil the whole idea of the thing.

*Suspected Disease.*

"BORN ON A FRIDAY" (Oxon).—(1) Hybrid Italian worker. (2) Yes. (3) Native, or possibly Dutch. (4) You can do very little at this time of year. Lift the hive off the floorboard, scrape the latter down, and apply a strong solution of some disinfectant and water, with a brush, allow to stand a short time, then dry off the surface moisture and replace. Spray the bees and combs with one of the remedies, and put some naphthaline in the hive.

"TIMWORTH" (Bury St. Edmunds).—The brown substance was pollen. The brood was quite healthy.




## OWNERSHIP OF SWARMS.

We are indebted to Col. H. J. O. Walker, and also an anonymous friend for the following notes from the *County Courts Chronicle* of Oct. 1. Col. Walker remarks that this is probably the highest price ever claimed and awarded for a runaway swarm. It will also be noticed that the plaintiff lost sight of the bees for some time, but there was good circumstantial evidence that the swarm claimed was from his hive.

GELSTON *v.* KING.

*Bees—Property in Swarm.*

This case was heard at Basingstoke County Court, before his Honour, Judge Lailey, K.C., on July 5, when judgment was reserved. After hearing evidence as to value,

His Honour delivered the following written judgment at Basingstoke on August 23:—This case presents one of the many little domestic problems which crop up in Hampshire, and, the point raised not being quite an everyday one, I took time to look into the authorities. The subject-matter of the action is a swarm of bees, the value of which the plaintiff claims to recover on an allegation that he has been deprived of his bees by the tortious act of the defendant. The facts are these:—On May 28 there was on plaintiff's premises a hive of bees. On that day the bees swarmed and the plaintiff hived them. On May 29 the bees left the new hive and settled on the next-door neighbour's hedge. On plaintiff attempting to retake them, about 5.30 the same evening, the bees flew away. The direction they took was observed by plaintiff's son, and plaintiff learned soon afterwards that they had settled a short distance away, in the grounds of a house called Downsland House. The Downsland House premises are let to the defendant, and he is in possession of them, but the house was on May 29 unoccupied, the defendant residing on the opposite side of the same road. Plaintiff, being unable to obtain access to the Downsland House premises, went over to the defendant's residence and asked to be allowed to take the bees. Defendant stated that on the bees settling upon his premises he had sent to a bee-keeper living near, and that with his help the bees had been hived, and suggested that the trouble of hiving ought to be paid for. Plaintiff at once expressed his willingness to pay, but defendant declined to let him have the bees, saying by way of excuse that he must communicate with the man who had helped hive them, and to whom he stated he had given them, and he told plaintiff to see him again the following evening. Plaintiff did so, but defendant then point-blank refused to let him have the bees, became abusive, and forbade plaintiff to enter the Downsland House premises, where the bees still were. The result was that plaintiff was unable to retake the bees and lost them. Their value I assess at £3 3s. So much for the facts. Then as to the law: Bees are not covered by the rules applicable to chattels. They are not mere chattels, but are things *feræ naturæ*, and the subject, not of absolute, but of qualified ownership. The law affecting them is thus stated in 2 Blackstone's Commentaries, p. 392: "Bees are *feræ naturæ*, but, when hived and reclaimed, a man may have a qualified property in them by the law of nature as well as by the civil law. . . . Animals *feræ naturæ* are no longer the property of a man than while they continue in his keeping or actual possession: but if at any time they regain their natural liberty his property instantly ceases; unless they have *animum revertendi*, which is only known by their usual custom of returning. . . . The law extends this possession further than the mere manual occupation; for my tame hawk that is pursuing his quarry in my presence, though he is at liberty to go where he pleases, is, nevertheless, my property; for he hath *animum revertendi*." The learned commentator instances also carrier pigeons, adding: "But if they stray without my knowledge, and do not return in the usual manner, it is then lawful for any stranger to take them." In Lord Halsbury's Laws of England (vol. 1, p. 799) the matter is dealt with as follows:—"Trespass or trover will lie for taking . . . bees from a hive. Bees are *feræ naturæ*, and there is no property in them except by reclamation. Thus, if a swarm settle on a man's tree, no property passes until the bees are hived; when hived, they become the property of the hiver; and if a swarm leaves the hive, this property continues in the hiver so long as they can be seen and followed." Applying the law as stated above to the facts of this case, in my opinion the plaintiff at the time he first went to the defendant on May 29 had not lost his rights in the bees. They were, in Lord Halsbury's words, "seen and followed" in the sense that there was no loss of identity, nor anything in the nature of abandonment, and I think that is sufficient. The case is very near the line, but in my view the short interval of time during which the bees were out of plaintiff's actual vision does not defeat his claim. This demand for

the bees on the evening of May 29 ought to have been complied with, and I give him judgment for £3 3s., with costs. If defendant desires to appeal he can have leave.

## A DORSET YARN.

One sees many fields of charlock and mustard in flower during the train journey to London. Though the bees are left behind in Dorset, one's thoughts are with them as field after field of bee flowers are passed.

The exhibition of home-grown fruit of the R.H.S. was the attraction to London. A very fine lot was staged from all parts of the United Kingdom; even Ireland had some of the prizes.

How many of our people realise that without the aid of bees an exhibition such as staged last week would have been impossible. Our men of science have proved over and over again that many of our choicest varieties of fruit are incapable of self-fertilisation. It all proves to me that bees and fruit must go on together on our fields at the Violet Farm.

After a visit to Covent Garden to see the salesman who sells our few violets, was able to catch one of the fast Bournemouth express trains home again. One does not like to be away from the farm long together, as the work can never be made up. The Government has sent to work in the fields some soldier labour. The last one came while we were at the R.H. Society's meeting on Tuesday. He is willing enough, but before he joined the Army he worked in a jam factory, and is not what most tillers of the soil would call a skilled one at agriculture. Still, we must carry on till some of my sons come home from the war.

We were pleased to get a visit from another member of the Kent Association. Mr. Warren came when we were busy. I guess he was tired tramping round to see the bees and fields. We seem to get a good many now to see us. One came from Geelong, in Australia. He said he had read about me, and had made up his mind when next in England to visit me. He showed me a report of a lecture, or yarn, on bees which had been copied in the Australian Press. These Colonials are shrewd fellows. His advice to me was "Boom it! When you have a going concern such as you have, with bees, flowers, and fruit, boom it well. You will soon make your pile." If to boom anything is to inflate our home for what it is not, then we will not "boom it!" We have read somewhere, "Good wine needs no bush." We are happy, do not go short of the comforts of life; we have no wish to inflate in order to sell our stuff. Still, if all visitors wrote such glowing appreciations as Mr. Turner wrote of our farm, one would soon have "swelled head." There are plenty of other tillers of the soil, such as we, who do their land well, only they have not come into the limelight. It is not the farmer that makes this part good for the bees, but because we are quite close to the sea, and it never gets so cold. The season is longer here than in the North; the land never gets so much frost in it close to the sea. One lady writes me she had been in Dorset, and was told that it was not a good place for bees, so there is difference of opinion about Dorset.

On Saturday, October 12, bees were working the ivy blossom on the hedgerows. They were collecting pollen, but they seemed to be running their tongues over the surface of their peculiar flower, as if they were getting something good, as all the segments of their abdomen were in motion, as they always are when feeding. Yet where the nectar can be is beyond me, as there is a clear surface beneath the anthers, like a bald head. But I know there is nectar, as wasps and two-winged flies are also there after it. What a lot we have still to learn of bees and flowers, and this one is a curiosity: little bunches of green, which, when weather is fine and warm burst open with their five pollen anthers, all perfect. The great number of insects make one stop to see them. Yet that morning it was raining in torrents: but when the sun came out these flowers burst their calyx and exposed the seed organs for fertilisation.

Quite early this (Sunday) morning our bees were out quite a distance across the fields. It was a few flowering broad beans that were the attraction before nine o'clock.—J. J. Kettle.

## HOW I TOOK A SWARM.

(*Continued from page* 324.)

There was plenty of light to climb up by, because I had by now got to know my branches; but, as the foliage shut out the moon, I could have seen nothing of the bees had I not had my glow-lamp. However, my providence had forearmed me, so I switched it on, to find that though the bulk of bees had gone, there was a substantial cluster left out more or less above the board.

I did not like to brush them this time, because if I got them on wing in the dark they would be apt to settle all over the place, which would mean probably a good many stings for me, as I should be sure to put my hands on them as I moved; also I should probably have lost a good many of them. So I decided to try the smoker. Again I was glad of my foresight in bringing up a plentiful supply of

paper in my cartridge bag, because the first filling was practically burnt out. However, luckily, I was able to refill. Then I had to get round the difficulty of blowing in the right direction and at the same time holding the glow-lamp so that I could see where the bees were. Luckily, the difficulty was not insurmountable, and by working slowly and patiently, in a comparatively short time I had got the bulk of the recalcitrant cluster to walk into the skep, and decided to lower the skep on to the board and have the stragglers, which I did.

I then came up against the most serious difficulty I had had to face. This was how to get at the cloth which was spread across the holes in the fork and under the board, so that I could pull up the corners and tie them over the top of the skep. It took some manœuvring, but ultimately was accomplished, and, aided by two straps which I had brought with me after dinner, the skep and board were fairly securely fastened together.

The next thing was to tie my long cord to the top of the parcel, so that I could lower it down, because the distance between the branches I had come up by was much too great for me to be able otherwise to get the skep down, to say nothing of the danger of plenty of stings from the stray bees that were crawling about the cloth, should I attempt to take it down in my arms.

It was not easy to pass the string under the bulky parcel while at the same time avoiding a fall from my perch, nor was it easy to tie a safe knot where required without tangling the length of cord I had cut off. However, patience, was ultimately rewarded, and by about 10 p.m. the skep was safely landed on *terra firma*, and, feeling that I had safely accomplished my object, I could descend, trusting to take the swarm home. I left the swarm in the skep for the night, just lifting one side to give the bees air, and as I had a hive ready for such an emergency I was able to get them transferred and be in for breakfast by 7.30 next morning.

One word of warning. I lost my seven stocks last year from "Isle of Wight" disease imported with a stray swarm which I took, and, in my lack of experience, placed among my own hives. The swarm within a fortnight disclosed that they had the disease badly, and from them it spread to all my six healthy stocks, and I lost them all.

This year I have placed the stray swarm's hive well away from my other tenanted hives—only two, I regret to say—and they shall stay there till I am satisfied that they are not infected with any disease. If they show signs of infection I shall destroy them; otherwise my other stocks are sure to get robbing the hive, and so catch the infection.—J. R. B. Branson (Capt.).

## QUESTIONS, Etc., FOR BEE-KEEPERS FOR SELF-EXAMINATION.

(*Students are recommended to write their answers, and check them afterwards by reference to books.*)

49. What aspect should a hive preferably face? And why?

50. State the requisites of an efficient roof for a hive.

51. Why should the ground around a hive be kept clear of long grass, weeds, etc.?

52. What does "piping" heard in a hive indicate?

53. How do bees recognise their own hive when returning from a flight?

54. What is the objection to placing a quilt of wool or felt next to the frames?

55. Describe pollen.

56. What should be done (1) to prevent and (2) to check robbing?

57. Compare the advantages of nucleus swarming with those of natural swarming.

58. What qualities or characteristics should a bee-keeper cultivate in himself to enable him to control his bees comfortably and profitably?

59. What ills or evils to bees are attributed to feeding with sugar derived from beet?

60. Make notes for a 15-minute lecture on the influence of weather on honey production. J. L. B.

## THE BEE GARDEN.

The Official Lists (*continued*).

By A. Harwood.

*Corydalis cava* (syn. *C. tuberosa*), hollow-rooted Fumitory. Purple flowers from February to May. There is a white flowering variety (*C.C. alba*). Some of the fumitories are indigenous to Great Britain, *C. claviculata*, a white climbing one, being often seen growing on roofs of houses and on walls in the North of Scotland. It is, indeed, often called Wall Rue. *C. capreolata* (Rampant Fumitory) and *C. officinalis* (Common Fumitory) are also natives.

*C. solida* (syn. *C. bulbosa*), a lover of damp and shady places, is a garden escape, as is also *C. lutea*, a pretty yellow flowering plant 6 in. to 1 ft. in height. Similar to the last-named is *C. cheilanthifolia*, while *C. nobilis* differs in height (1½ ft.) and in having a dark purple spot in the centre of its yellow flowers, tipped with white. This variety, which comes from China, is a very handsome one, well

worth growing. There is a newer form, *C. thalictrifolia*, also worthy a place, if only for its delicate fern-like foliage. With the exception of *C. bulbosa*, which bears pink flowers, all the others are yellow. *C. Wilsonii* is the deepest-coloured of these; its height is 9 in. By planting different varieties, bloom can be had from April to October. All, save *C. bulbosa*, are partial to light sandy soil and are good rock-garden plants. With the exception of *C. thalictrifolia*, which is doubtful as yet, all are quite hardy. Plant in March.

*Cynoglossum* (Hound's Tongue).—This is a relation of the Borage, like it in having blue flowers. *C. Blue Gem* is the newest form. *C. amabile* is light blue; *C. nervosum*, a perennial, is of a richer hue. They flower in spring. *C. furculum*, also a quite recent introduction from India, which under favourable conditions reaches 3 ft. high, flowers in June. For annual varieties sow seed in spring. Divide perennials in spring or autumn.

*Deutzia crenata* and *D. gracilis*.—These are really shrubs, but are eminently suitable for small gardens, since their comparatively small size and neat habit fits them for a place at the back of herbaceous borders rather than in a big shrubbery. *D. crenata* seldom exceeds 6 ft. in height, while *D. gracilis* attains but 2 or 3 ft. The flowers, borne in racemes or panicles, are white. *D. staminea*, a 3-ft. subject from the Himalayas, is very sweet-scented and distinct in flower form. Its variety (*C. S. corymbosa*) is a stronger grower (5 ft.), with larger flowers.

*Erica carnea* (syn. *E. herbacea*), Winter Heath, probably the most popular of the cultivated hardy heaths of compact habit. It is covered with bright pink flowers in early spring, sometimes coming into bloom in January and continuing until the end of March, during which month it is a mass of rosy-red. *E. carnea* varies in height, according to soil, aspect and other conditions, from 9 in. to 1½ ft. *Erica vulgaris* (syn. *calluna vulgaris*), ling, is the source, or at any rate the principal source, of heather honey in this country.

Nearness to moors or commons covered with heather is not given to all beekeepers. Those who do enjoy this privilege doubtless know more of its value than the writer, whose sole experience in this direction has been, when on holiday tramps, to lie basking in the sun among the wiry plants springing from the black, sandy soil, and listen to the hum of the bees, the chirp of the field crickets and the cries of the birds. With *C. vulgaris* is generally found *E. tetralix* (the bell heather), but not nearly so abundantly; nor does the contribution of this latter to the honey press compare either in quantity or quality with that yielded by the ling.

While we cannot all be heathens, it is possible for every owner or occupier of a garden to include some of the heaths in it and to have one or other of them in bloom all the year round. The heaths are excellent for edgings and also for massing under deciduous trees and shrubs, or on slopes. In addition to *E. carnea*, there are *E. ciliaris* (Dorset Heath), *C. vagans* (Cornish Heath), and *E. stricta*, with pink flowers; white forms of *C. vulgaris*, *C. carnea*, *C. cinerea* (Scots Heather), and *C. tetralix*, deep-red ones of all of these, that of *C. vulgaris* being known as *C. V. Alportii*. There are, further, the South European heaths, growing with heights varying from 2 to 5 ft.

(*To be continued.*)

## CORRESPONDENCE.

***The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.***

### IMMUNE QUEENS.

[9781] I have read with interest the recent articles by A. Z. Abushâdy, "The Urgent Task," *re* use of Vaccine for the immunisation of the queen bee against "Isle of Wight" disease.

The possibility of this occurred to me some twelve months ago, and I also remembered that in the case of infectious diseases, such as small-pox, etc., one finds that, once the patient recovers, the very fact of having had the complaint seems to confer immunity for a time at least.

In the autumn of last year I had three stocks badly affected and I tried removing all stocks, and then spraying and feeding with syrup medicated with a remedy then being lauded as infallible in your paper by one of your correspondents. The result was, however, that the bees dwindled away, and by the end of February this year only a handful of bees remained in each stock. In each case I found the queen alive, and I was able to introduce these queens to sufficient bees shaken from the combs of healthy stocks, and so by adding a comb or two of brood started them afresh.

These three have been the strongest and

best of all my bees this season, and are now very strong and healthy.

Is there anything in it? One fact makes me doubtful. That is, no matter what one does to a badly-affected stock in the way of disinfecting, etc., if they have contracted the "real" "Isle of Wight" disease they are doomed to die sooner or later, so that it follows that so long as the queen remains on the affected combs her brood take the infection and die. However, once the queen is removed and given a fresh start, might it not be that she has become so affected as to confer a slight degree of immunity to her brood, sufficient perhaps to enable them to resist ordinary outside sources of infection?

I am keeping these three stocks under close observation, and until now they have remained perfectly healthy.

Have other bee-keepers tried this, and, if so, have any stocks, while headed by such queens, been known to contract the disease?—A. W., Birmingham.

## "LET US BE HONEST."

[9782] It is, I think, only right to bring before bee-keepers facts which will give them some encouragement not to be for ever doubting brother bee-keepers' honesty.

It so happened that I lately had dealings with a certain bee-keeper from whom I purchased a stock which on the following day showed signs of the "I. of W." disease. Having consulted with an expert, he agreed with me that it would be far better to destroy the colony for the sake of my healthy colonies, and in that way save the situation. This I did with sulphur, after having removed the hive to a distant part of my grounds some days before. The ground I have had dug up and had the hive disinfected with a strong Izal solution and the inside painted again, and when I can get some white paint I hope to paint the inside of the hive to make it again fit for a future colony. I had written to the bee-keeper telling him of my suspicions, and, later on, the destruction of his bees. To this he most kindly replied, expressing his regrets, and enclosing a cheque for the full amount, including the carriage of the bees. Now, why should he trust me or take my word, for we had had no previous dealings in bees? I could not help feeling that he had acted just as one would expect any other right-minded bee-keeper would wish to act. Each week's number of the BEE JOURNAL gives to bee-keepers great encouragement to go on in their interesting and fascinating work, and daily learning some fresh lessons from the most interesting of God's creatures; and if only all bee-keepers will pull together, then any spirit of bitterness will soon cease to exist. All depends upon each bee-keeper to make bee-keeping a success either as a hobby or a profession.—REV. ALEXANDER HAY-HALLEY.

## ANOTHER NOVICE'S EXPERIENCES.

[9783] The perusal of the experiences, not to say adventures, of your correspondent "Novice" in the JOURNAL a few weeks ago would, I fear, deter many would-be bee-keepers from taking up this absorbing hobby, and one feels it a duty to present the other side of the picture of possibilities, if only to show the "would-be's" that there is another and more hopeful side to the craft for the beginner.

I must confess that at the beginning, after reading back numbers of the JOURNAL, Maeterlinck, Tickner Edwards, Simmins' "Bee-keepers' Guide Book," etc., one felt somewhat impressed, if not timorous, by the space devoted to and predominance of warnings and experiences relating to "Isle of Wight" disease and swarming troubles, etc. However, I eventually took the plunge, made a W.B.C. hive from Mr. Gee's design from the Kent B.K. Association, and, on—

June 10, 1917.—Bought four frames hybrids with a 1916 queen (which extended to, and wintered on, 10 combs); manipulation practised from time to time; sprayed with "Bacterol"; fed 14 lbs. candy; and successfully wintered, although hive was molested on three occasions.

Easter, 1918.—Eventually settled at the end of my allotment.

April 22.—Clean sheet foundation put in centre of brood nest with view to following method of queen-rearing detailed in "Guide Book."

May 2.—One super put on; 8 shallow frames filled with foundation.

May 4.—Queen cells having been started, artificial swarm and nucleus made, but failing to find the queen from the uncapped cell in main stock, after carefully looking through twice, on each of two manipulations, and having meanwhile got Mr. Smith's pamphlet on "Skyeraper Hives for Swarm Control, and Honey Production," together with a sample of Flavine (which I used), decided that honey production to reimburse expenditure was of primary importance. So on

May 22.—United both lots on 20 frames in two brood chambers, after dusting with Flavined flour.

May 25.—Three supers on.

June 5 (Red-letter Day).—Took out one shallow comb of capped honey for the "guid wife's" birthday. Two brood chambers and four supers on at this time.

June 9.—First super, 27 9-10 lbs. capped honey taken. Local expert judged this

"an excellent sample." All sold at 2s. 6d. lb., customers providing jars.

July 1.—Another four-frame nucleus made and given queen-cell (not successful).

July 10.—Ditto, ditto, ditto.

July 14.—Two supers, about 56 lbs. taken.

July 17.—Stock divided again.

July 20.—One super, 25 lbs. taken.

July 27.—Examined stock, and saw newly hatched queen biting at queen-cell next to her own, and for five minutes watched this little drama, with the bees getting underneath the queen to lift her clear and prevent her stinging the occupant of cell. Other cells cut out and given to two nuclei. Fortunately, herein was my only parallel with "Novice's" case, having virgin queens galore as the cells were taken out.

August 4.—Queen laying in nucleus.

August 11.—Queen laying in main stock.

August 20.—Divided old queen's stock, introducing young queen bought from a friend, and before feeding up intend uniting these and killing old queen (which I am sentimental and grateful enough to hate doing).

Sept. 2.—Last super of 19 lbs. taken.

Total yield, about 150 lbs. light honey, about half of which has been sold without difficulty at 2s. 6d. lb. (without jars), enabling me to pay all initial outlay, plant (including fine second-hand extractor), and candy for feeding, and good prospects of starting next season with three strong stocks, headed by 1918 queens, providing the preventive methods employed against "Nosema apis and Co." are effective.

In conclusion, Messrs. Editors, my thanks are due to you for the guidance and help received through the pages of the JOURNAL (Mr. Kettle's articles, too, I always enjoy), and trust that this recital of my experiences may be the means of inducing others to take up seriously this most interesting occupation.—ANOTHER NOVICE (Bristol).

## PECULIAR EFFECTS OF A BEE STING.

[9784] I was much interested in the letter (9776) under the above heading in your issue of the 12th inst., more especially as the effects therein described coincide to a large extent with my own experience. Perhaps it will be of interest if I try to describe what happens to me under similar circumstances.

About ten minutes after manipulating, the palms of my hands and my lips itch violently, the lips turning blue. The face becomes covered with a rash which gives it a fiery appearance, and is also accompanied by itching. My legs and arms lose all power of support, a violent feeling of sickness completes my prostration, and I generally sprawl on the hearthrug, when retching takes place, although I do not vomit. Then comes oblivion. I am unconscious for about half-an-hour. Soon after the return of consciousness I begin to get better, and in two hours from the beginning of the attack I am quite myself again.

Now comes the strange part of my story. I do not attribute these attacks to stings. I have had four of these attacks, and on two occasions I was stung; on the others I was not stung. And I noticed that the attacks were not so acute on those occasions when I was stung. My opinion at that time was that some odour, or influence, from the hives was responsible for the trouble, but the doctor said, "Nothing of the kind; your nerves must be in an awful state." Well, Sirs, I took bromide of potash, and I have not had a recurrence of the trouble all this year, although I have had several stings. I may add that I am still a bee-keeper, and, all being well, intend to extend operations next year.—THOS. E. EVANS.

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[9785] In reply to "Anxious Inquirer's" letter (9776, October 10), the following facts may be of interest:—

The veins pour the blood, coming from various portions of the system, into the right auricle of the heart. This contracts and drives the blood into the right ventricle, from which, by passage through the lungs, it is purified, and passes on by the pulmonary veins to the left auricle. The left auricle expels it into the left ventricle, which forces it on into the aorta or great artery, by which it is distributed all over the body. After passing through the capillaries in the various tissues, it enters the veins, and again goes on to the right auricle. The complete circle is accomplished by any particular drop of blood in about half-a-minute.

The last sentence will explain to your correspondent why the effects are so quickly apparent. To turn to the cause, formic acid is largely contained in the fluid injected. This particularly affects the muscles and nerve centres and acts as a stimulant to the heart in small doses. It is rapidly absorbed by the blood, taken into circulation and distributed over the body.

With this, as with other drugs, certain systems are more susceptible than others to its influence.

Regarding treatment, I would suggest the use of liquid ammonia applied on a pad immediately. This will have the effect of neutralising the formic acid and forming ammonium formate, which is non-irritant.—PIERCE ARNOLD, F.C.S.

[9786] I read with much interest the letter of an "Anxious Inquirer" (9776), as stings have a somewhat similar effect on myself—rather worse, in fact. Soon after the infliction of a sting, a tingling sensation occurs in throat and lips, my face becomes bloated, a rash comes out over the whole body, and my heart beats furiously. After twenty minutes or so of this, my strength begins to fail, pulse becomes almost imperceptible, sight dim, and face ashen, and a cold sweat supervenes. These symptoms usually pass off within another twenty minutes. The effect of the last sting received was even more serious, as within a short time I became quite unconscious, and vomited when consciousness returned. This decided me to consult my doctor on the subject, but before I had a convenient opportunity of doing so (he resides some distance off) he was called up for Army service. The only remedy I have found of any use is brandy: sal volatile does little or no good. Like "Anxious Inquirer," I am thin (weight 7st., height 5ft. 8½in.), but not strong, and shall be very glad if any reader with medical knowledge can give a reason for these unpleasant effects of stings, which may lead to the discovery of some means of avoiding them. I have kept bees for about fourteen years; but only during recent years has a sting served me as described above.—"FORMIC ACID."

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## BEE STINGS AND BLOOD-POISONING.

[9787] In replying to "Anxious Inquirer" I would like to suggest that he might find it beneficial to drink some bicarbonate of soda in water before operating with bees. This has had good effect in some cases where the person was very susceptible to insect stings. Menthol salicylate, obtainable in collapsible tubes, is useful to smear on the hands to prevent stings, and to apply after being stung. I hope this will be helpful to others as well as "Anxious Inquirer."—A. W. SALMON.

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## "SUPERSENSITIVENESS" TO THE BEE TOXIN.

[9788] The symptoms of which your correspondent complains in his letter (9776), entitled "Peculiar Effects of a Sting," indicate "anaphylaxis," or "supersensitiveness" to the bee toxin. It would be entirely out of place to give here the various hypotheses and theories advanced in explanation of this curious phenomenon, and interested readers must be referred therefore to works on immunity or to an advanced text-book of bacteriology.

In all probability, a gradual immunity would be established in due course in most of the affected persons, although the period of immunisation is bound to vary in different susceptible bee-keepers, according to variation in the governing factors.

The best advice that could be given under the circumstances is: (1) To avoid being stung, not only by careful, firm and gentle manipulation, but also by wearing a veil and gloves, at the risk of some inconvenience and of shocking expert friends. . . . What matters in bee-keeping is the correct management of the bees, that would entitle one to a merited success. A simple amateur bee-keeper with his gloves and veil might know how to treat his pets better than some experts. Moreover, it should be remembered that septic thrombosis might result from a sting, and therefore it is highly advisable that no risks should be taken in the case of a susceptible person by not protecting the face. An occasional sting through the gloves would aid immunisation in a careful way, and when the effects of a future sting appear comparatively trivial the gloves could be discarded. (2) It is wiser for those who continue to remain highly susceptible to the effects of stings to give up active bee-keeping and to be content with the work of supervision, as over-protection of the hands (*e.g.*, by wearing two pairs of gloves) makes one *quite clumsy* to a degree that would induce stinging, instead of preventing it; and it is not correct to say that the harmful sequelæ to a sting in anaphylactic subjects could be overlooked. (3) As local remedies for bee stings appear to be valueless, on account of the manner in which the poison is injected, there is nothing that could be done except to treat unpleasant symptoms. It is not kind to suggest a hypodermic injection of an experimental drug in an already tortured person, except, perhaps, the hypodermic injection of 1 c.c. of brandy or dilute alcohol (in place of strychnine, etc.) in a case of heart failure, when medical advice should be *immediately* sought. This represents, however, a *rare* incidence, and even the condition of your correspondent does not appear to be very severe. Rest, and fresh cool air, the application of cold fomentations to the site of the sting, and a refreshing drink ought to be helpful. As an alkaliser of the blood, potassium citrate (in doses of from ½ to 1 tablespoonful, dissolved in a glassful of sweetened water) might be tried.—A. Z. ABUSHADY.

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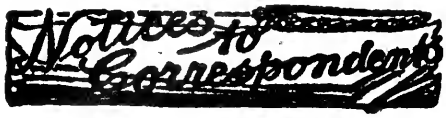
## NORTHUMBERLAND HONEY SEASON.

A correspondent, writing in reference to the honey season in Northumberland, says he finds as a result of inquiries that flower honey is very scarce. Some of the

swarms only made themselves up in the frames before being taken to the moors, where the prospects are none too promising. In places the heather is certainly good, but short in growth. It is thought the yield may work out at a fair average. The price of new heather honey, it is expected, will be 4s. per lb.—From the *Newcastle Daily Journal*.




***Correspondents desiring an answer in the next issue should send questions to reach this office NOT LATER than the FIRST POST on MONDAY MORNING. Only SPECIALLY URGENT questions will be replied to by post if a STAMPED addressed envelope is enclosed. All questions must be accompanied by the sender's name and address, not necessarily for publication, but as a guarantee of good faith. There is no fee for answering questions.***

E. W. MILLER (Middlesex).—*Bees becoming vicious.*—The queen has mated with a drone of a different variety from herself. Bees from a first cross between Italian and Native are usually gentle, but should queens from this cross again mate with a Native drone, the result is, at times, extremely vicious bees. The only cure is to requeen.

"BEGINNER" (Finchley).—*Using infected hives.*—It will be safe to use these if they are thoroughly disinfected. The best method is to scorch out the inside with a painter's blow lamp. Wash the other parts with a 5 per cent. solution of some disinfectant, such as Izal, Bacterol, or carbolic acid. When thoroughly dry give the ontside a couple of coats of good oil paint. If a painter's lamp is not available, wash the inside out with boiling water and soda, then, with a brush, apply a solution of one part disinfectant to two parts of water, and leave in an airy place to dry.

S. B. (Hindhead).—*Packing for winter.*—It is a matter of opinion. We prefer to leave the spaces between brood chamber and outer case empty, but covered over the top by the quilts. If you do fill them in use chaff, or cork dust, paper, or dried leaves may also be used. The material must be quite dry before using.

When inclement weatber has confined bees to the hive for a week or more, it may be moved to any fresh position desired without losing the flying bees.

W. DAVIDSON (Burton).—*Importing queens.*—You may import them as early as they can be procured, which will probably not be before the middle of May.

A. F. HARDY (Hants.).—The bee was a hybrid Italian worker.

*Honey Samples.*

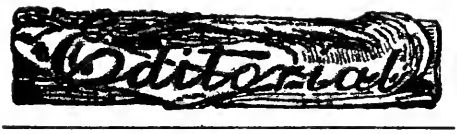
A. L. HOMER (Stourbridge).—The honey is mainly from clover, but the flavour has been spoilt by smoke.

F. MCKENZIE (Essex).—The mild honey is from sainfoin and clover. The other we take to be a mixture of English and foreign honey, the strong flavour being due to eucalyptus.

*Suspected Disease.*

A. E. P. S. (Sussex).—The pieces of comb were infected with foul brood.

K. M. W. (Retford).—The cause of death was "Isle of Wight" disease. Better suffocate the few remaining bees, and burn them and the contents of the hive. The hive should be disinfected.




## BRITISH BEE-KEEPERS' ASSOCIATION.

The monthly meeting of the Council was held at 23, Bedford Street, Strand, London, W.C.2, on Thursday, October 17, 1918.

Mr. W. F. Reid presided for a portion of the time. Upon his departure for another engagement, Mr. G. Bryden took the chair. There were also present Messrs. J. N. Smallwood, G. J. Flashman, G. R. Alder, W. H. Simms, F. W. Watts, J. Herrod-Hempsall, J. B. Lamb; Association representatives, G. Thomas (Gloucester), W. Sanderson (Northumberland), F. W. Brown (Mid and West Herts), Rev. A. C. Atkins (Sussex), W. M. Vallon (Staffs), and the Secretary, W. Herrod-Hempsall.

Letters of regret at inability to attend were read from Miss M. D. Sillar, Sir Ernest Spencer, Rev. G. H. Hewison, Messrs. C. L. M. Eales, G. W. Judge, and E. Walker.

The minutes of Council meeting held on September 19, 1918, were read and confirmed.

The following new members were elected:—Mrs. L. C. Plunkett, Mrs. J. D. Washbrough, Mrs. Trevor Corbett, Messrs. R. H. Miller, C. J. Ashworth, P. A. Mongredien, E. Anfenast, F. W. Duke, J. Cassells, T. Cleeton, G. H. Jones, A. Wood, and P. W. Wood.

The report of the Finance Committee was presented by Mr. Smallwood, who stated that payments into the bank for September amounted to £2 2s. 6d. The bank balance on October 1 was £112 6s. 8d.

The report on the lecture test for final certificate held earlier in the day was presented by Mr. F. W. Reid, and it was resolved to grant certificates to Mrs. M. A. Saint and Miss A. Argall.

The report on preliminary examinations held in Scotland and at Doncaster were presented, and it was resolved to grant certificates to Miss A. Macdonald, Rev. G. H. Hewison, Messrs. A. Cockburn, R. Cruickshank, C. M. Fullerton, J. A. Johnston, and J. A. Thomson.

After considerable discussion, Mr. Smallwood proposed, Mr. Vallon seconded, and it was unanimously carried that in view of the serious damage caused to bee-keeping by the prevalence of bee diseases, and as the Government are apparently becoming alive to the importance of this industry, not only as affecting the fruit supply of the country, but also in regard to the production of honey, the Council of the British Bee-keepers' Association hereby decide to draw up a form of petition to the Government impressing upon them the urgent necessity for taking legislative measures to prevent the extension of such diseases; that the committees of bee-keeping associations be asked to obtain the signatures of all bee-keepers in their districts to such petition; and that bee-keepers in districts where there are no bee-keepers' associations be earnestly requested to support this appeal.

A letter was read from the New Zealand Bee-keepers' Association asking to be furnished with particulars of the Association's examinations, and the Secretary was instructed to send the same.

Next meeting of Council, November 21, at 23, Bedford Street, Strand, W.C.2.

## A DORSET YARN.

Sunday, October 13, bees seemed to have come into their own again. In Dorset the weather was warm and bright: they were out in the fields before 9 o'clock: all day they were over the violets: they alighted on the flowers as one carried them in one's hands, but they did not get much from them, because they do not stay long enough, and there is not that movement of the abdomen there is if there is plenty of nectar. They took the rasps over most assiduously: I see they are carrying white pollen away from them. Round the hives it was like massed bands, so great was the hum of so many bees: how they love the sunshine! I think they must have been leading out the late reared workers into the sunshine so that they should know their own homes when the older bees are gone under. It was quite exhilirating to see them, the noise was like swarming: as the church worshippers came by the farm one asked if they were swarming, so great was the hum. There was no hum of drones to vary it, and it was no song of robbing, but just the glad song of contentment. As the bells rang for church, calling the worshippers "Come and worship: come and worship," so the bees had the old rhythm, "Come honey bee with thy busy hum, to the fragrant tufts of wild thyme, come" It was music, music everywhere, or else it was the music in our hearts: music of joy and happiness that there was news going round that at last Germany was giving in under pressure of our armies; that soon our three sons would be home again to the land of their birth, where we have "Kept the home fires burning." One of our soldier sons has been through from Mons till now. Another, in the Dorset Yeomanry has been with the regiment

all through: we have only seen him once before he went to the Dardanelles where every officer and 60 per cent of the men went down. He was on the western frontier of Egypt where his horse was shot under him, and through the Holy Land with the Camels' Section. Oh! what a glad time it will be when "safe, safe at last, the Harbour past," and they are with us once again. And he that has paid the price can never come back, but we can go to him when life is over for us. We shall have the music of the heavenly host, as we have the music of our bees—am running away from the point, as one often does; our thoughts wander so much as we get older.

We have taken off the last lot of sections from hives that were a distance away in the fields; had taken them down near a two-acre field of apples and gooseberries; some Lanes Albert apple trees did not fruit well: the bees did not go so far from the farm, or as there was plenty close home, they would not go. I had the hives down near them: there were both bar-hives and boxes with holes in top to let the bees through to sections; they had the sections full, and the space between the outer case and section racks was filled also. The boxes had the most surplus outside; they had not uncapped the sections, but had used a lot of the outside honey, which shows me it is a very bad plan to leave sections on late. If there had not been any outside surplus they would have used the sections, so long as it was warm for them to move freely; we must do the best we can with them this year; hope for more time to give them next. A call came on Saturday, "Send on more honey," so while the sun shone we unloaded them, and packed them up for the winter. The brood chambers must have had close on a half-hundredweight of honey in them by the weight of them on lifting. Many visitors tell me they have always to feed in autumn, as the brood chamber has but a narrow border of honey on the tops of combs. Ours fill the brood chamber with honey; it must be the heather and more flowers than are in other parts.

I notice in the fields where rye grass and clover has been sown with corn crops this season, that many native wildlings are in full blossom just now. Some of them attract the bees, but with so much wet they cannot be long out gathering honey, yet they bring back pollen of all shades of colour; one likes to look round them at noontime when coming in to dinner and close to the hives. It is what we do every day in summer. When we hear them they lure the hungry man away instead of him going in to dinner.—J. J. KETTLE.

## QUESTIONS, ETC., FOR BEE-KEEPERS FOR SELF-EXAMINATION.

*(Students are recommended to write their answers, and check them afterwards by reference to books.)*

61. What distinguishes the honey bee, *Apis Mellifica*, from the other kinds of bees in this country?

62. Describe the construction and use of the Porter bee-escape.

63. What, approximately, is the proportion of water (1) in nectar and (2) in honey?

64. Compare the cappings of honey cells with those of drone and worker cells.

65. If a pint of honey solution (for making mead) weighs 1 lb. 5 oz., what is its specific gravity?

66. How do bees, put into an empty hive, start making comb when not supplied with foundation?

67. What indicates the proper time each season for putting the first super in a hive?

68. How is a nucleus worked until it becomes a stock?

69. What might lead to the balling of a queen?

70. What are the physical characteristics of bees' wax?

71. Define thorax, metamorphosis, transitional cell, corbicula, pupa, and chitine.

72. Describe in close detail the eyes of bees.

J. L. B.

## THE TWO PERILS: DYSENTERY AND THE WEATHER.

*(Continued from page 333.)*

As to the peril of "Isle of Wight" disease, it is a sign of stimulated progress that a growing number of your readers are beginning to interest themselves in scientific experiments for combating it. For my practical inactivity in this direction I need not make an apology, for I cannot transform the small garden of my residence into an experimental apiary, to the additional disadvantage of my neighbouring bee-keepers, and I am compelled therefore to be content with advancing theories and suggestions for others commanding better facilities than myself to work upon. I take this opportunity also to remove the misconception that I am doing any research on "Isle of Wight" disease. The fact of the case is that I was approached some months ago by some influential apiarists with this suggestion, but hardly did I commence my arrangements when their promised help failed, owing to unforeseen and un-

avoidable reasons. The work had therefore to be abandoned from the commencement. From this experience I was convinced of the necessity of the creation of a "B.B.K.A. Research Fund," not only for the methodical and organised research on bee diseases, but also for the progressive investigation of other matters relating to bee-culture. In fact, it would not be too much for every leading beekeepers' association to have its special research committee, supported by a special fund, and I hope the inspiring example of the K.B.K.A. will be followed by others.

The question of the influence of an inferior winter food in lowering the stamina of the bees has received sufficient attention both here and in America, yet, nevertheless, no suggestion or attempt has ever been made regarding making the artificial food of our bees as near as possible to their natural food. According to H. G. Greenish, F.I.C., F.L.S., "pure honey consists chiefly of dextrose and levulose, together with water, in which these are at first dissolved. It also contains small quantities of volatile oil, formic acid, cane-sugar, dextrin, proteids, wax, pollen grains, and often fragments of dead insects, etc. It yields from 0.3 to 0.8 per cent. of ash containing traces only of sulphate and chlorides, and usually exhibits slight larvo-rotation (– 2 deg. to – 20 deg.)." Now, without disputing the ability of bees to thrive on such a compound sugar as saccharose, I should like to observe that it is only sensible to supply them with the other essential constituents of their natural food, of which we deprive them, and which might be responsible by their absence for lowering the stamina of the bees (*avitaminosis*), a condition which might be similar in its pathological cause to that of any deficiency disease met with in human beings, from deprivation of fresh natural food. By this compromise, we need not feed them on honey, yet we might be able to keep them with safety on this medicated *artificial honey*, more than we are able to do with confidence at present. Bearing this point in mind, I am giving one of my colonies, for the sake of experiment, the following syrupy mixture for their winter stores:—1 lb. of candy plus ½ pint of water, ½ teaspoonful of common salt, ½ teaspoonful of orange syrup, ½ teaspoonful of peptone (an easily assimilated product of protein digestion), and 2 teaspoonfuls of "Yadil" antiseptic (to act as a preservative, as well as a preventive to infection of the bees).

One of your correspondents suggests the trial of *bicarbonate of soda* in "Isle of Wight" disease next spring, and relates some experiments. It should be observed that the beneficial influence of the warm weather has not been excluded in this case, just as it has not been excluded in the many accounts of "cures" that one reads from time to time in the Bee Press. The most suitable time for experimental purposes in connection with "Isle of Wight" disease is the present; therefore the opportunity should not be lost, and, if it is too late for making use of the spraying method, it is not late for medicinal feeding.* Sodium bicarbonate is not an antiseptic, although it is a stomachic. Consequently, although it might be found to give temporary relief in some cases, the use of antiseptics could not be discarded when the removal of the source of infection, both within and around the hive, is desired in addition. It is interesting to note, in this connection, contrary to the suggestion of your correspondent, the beneficial effect which the bees seem to derive from the addition to their food of a small quantity of malt vinegar. "Yadil," which is slightly on the acid side of reaction, and is incompatible with strong alkaline salts, did not seem to do any harm to my healthy bees when administered to them for a long time as a preventive; and, moreover, it appeared to benefit sick bees, as already reported in the JOURNAL. Still, one should have an open mind, and should heartily support every sensible appeal for a useful investigation.—A. Z. ABUSHADY.

* This article was received several weeks ago.—EDS.

## "A REMINISCENCE."

Sheffield has not inaptly been described as an ugly picture in a beautiful frame, and in all directions across this beautiful framework run roads, some of which, I think, are almost without rival.

Would you like to see a bee-keeper who simply radiates with "bee enthusiasm"? Then come with me about 8 a.m. on a nice bee morning, and let us loiter along one of these unrivalled roads which creep out to Derbyshire, and presently we shall see a slightly-built, keen-looking figure pushing his cycle easily along the road, and wearing an expression that one loves to see when a man's mind is content; and why not? Is he not going to attend to the wants of his beloved bees? He overtakes us at last, and greets us with a glad note in his voice. "Good-morning; grand bee weather, this." (There, didn't I tell you? His mind is full of bees.) We observe that we are taking a quiet stroll into Derbyshire—angling for the invitation which we know will come—and, of course, are at once offered "a look round the apiary, if we care to do so."

We accept the invitation with pleasure, and in a little while, just as we cross

from Yorkshire into Derbyshire, a sharp twist of the road gives us our first glimpse of our friend's apiary. (Out of regard for his modesty we will call him Bee Enthusiast).

Never have I seen so snug an apiary. Can the reader imagine a splendidly-surfaced road, overhung by stately trees, an old-world country hostelry (the Whirlow Bridge Inn), ivy-clad, facing a sharp bend of the turnpike, and hidden away in this bend of the road one sees a score or so of hives, gleaming in their sunny whiteness through the trees? Descending a little path, the roughness of which would deter the uninvited, we pass down the dingle, and crossing over a noisy little streamlet, apparently all-eager to reach its mother, the Sheaf, we step out upon an emerald lawn. Here are the neatly-arranged rows of hives, some of which are storified for surplus, and others which an outsider would term "natty little things," are used for queen rearing.

For our friend has a firm belief in the teaching advanced by the B.B.J. that young queens pay.

We are taken to a tall-looking hive which would rank as a skyscraper. Our B.E. tells us with much justifiable pride that here is a queen on fifty standard frames. What hard labour is that queen committed to! This hive is literally packed with bees, and our visiting companion, who is innocent of bee matters, gasps, and wonders how such a huge population escapes being smothered.

But here our B.E. explains that the secret of honey-gathering is to feed solid in September, and, having thus got a good start, it depends upon the proportion of foraging bees over nurse-bees. Is it, therefore, to be wondered at that he can tell us of his 200 lbs. surplus?

A truth I had felt subconsciously was here put very vividly to us, for when explaining the above our friend observed that we have to fight for every pound of honey up north, whereas in the south the kinder climate yields her sweets less reluctantly.

Conversation ran to swarms, and my pride in my own 5 or 6 lb. swarm collapsed on hearing that the skyscraper had given a swarm which so much overflowed a large skep that a larger box had to be requisitioned. I wonder what price it would have made on the market?

We were then shown the inner working of those little twin-framed queen-rearing nuclei which are shown in Mr. Cowan's book. Here were splendid Italian queens, the capabilities of which could easily be imagined. Some were the White Star strain and others Phelps Goldens, Millers and Forehands three-banded Italians, all were big and vigorous. Here we were told how the district is flooded with White Star drones to ensure as far as possible correct mating of queens.

Whilst looking at an imported American queen we were astonished to see the bees immediately ball her. In dismissing the ball, my friend was stung pretty well. I smiled as I thought how his patients, who have suffered in his surgery, would feel a certain amount of satisfaction that this time B.E. was enjoying a probing.

One of the American queens from Forehand was 34 days in mail and arrived safely, not even an attendant bee being dead. This queen commenced to lay two days after receipt. Her constitution must be very strong. I wonder if any of your readers can quote a similar case?

When the carbolic cloth was applied to quieten one fairly nasty stock, I was amused when I thought of the diversity of men's vocations. Here one was carefully subduing little bees, and perhaps a mile or two away, at some village feast, another man would be subduing lions.

However, we mustn't belittle the bee habit, for certainly they can show a very determined front when so disposed.

I was fortunate enough to secure a surplus queen, daughter of one of the White Stars, and I have a hive now crowded with her progeny, and should have a splendid season with her next year.

Conversation wandered off to "Isle of Wight" disease, and we were told how a stock badly affected had been pulled round with one of the above queens, B.E. believing the basis of cure to be young queens—and these bred for stamina—and no drugs.

After going the round of the hives we deposited our veils, etc., in the honey-house, had a splendid tea at the adjoining and, I am told, very ancient farm, the ancestors of whose proprietor have lived here for generations. We then continued our stroll, thinking deeply of all we had seen and heard. We entered the apiary with a slight attack of bee fever, but came away with the disease at its height. Surely in future seasons we shall not be content with single-brood chambers and old queens, but shall endeavour to emulate our friend, and, as he puts it, "fight for every pound of honey around." However, perhaps more another time when we have tried our experiment.—W. S. TURNER.

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MOTHER BEE NURSERY RHYMES.

Dishonest Horner sat in a corner,
Scraping his sections clean;
He stuck in his thumb, and then, looking glum,
Said, "Well, I'll put that in between."

B. M. P., in *Gleanings*.

## SAVING DISEASED COMBS.

May I give my experience in dealing with combs taken from stocks that died through "Isle of Wight" disease? Like many more bee-keepers, in trying to stamp out the disease, I have burnt nicely drawn-out combs time after time. This year I have dealt with them in the following way:—

Early spring.—I got a good-sized bath, large enough to take brood frames, made a solution of Bacterol; and in this solution I placed each frame of comb, and with a good garden syringe I forced the solution into each cell, then placed each comb on cage of extractors, and shook out over bath until little of the solution was left in combs

I classified these into three grades:—

No. 1. Combs quite clean; no excreta marks, and empty of honey when taken from hive.

No. 2. Combs more or less soiled with excreta, but otherwise as No. 1.

No. 3. Combs out of which the honey had been extracted, but, as this is usually more or less candied when taken from the hive, much of it was left in combs.

I dealt with these combs as follows:—

Hive No. 1. I placed a swarm in May on the clean combs.

Hive No. 2. Placed a swarm on the combs (more or less soiled) in early June.

Hive No. 3. Placed a very strong cast on combs, each having honey that could not be extracted, because more or less candied. In this case a severe test as to whether honey from diseased stock is the medium in passing on the disease.

All these have done well, and have shown no trace of "Isle of Wight" disease during the season, and are now packed up strong in bees and well stored for winter.

In early June I had a swarm sent to me, and this was placed upon foundation. In a fortnight crawlers appeared; but bees were working well, and I let them go on for another fortnight; but as they got worse I decided to kill them. I shook off the bees from combs, ran them into a skep, and burnt the lot. They had worked out the ten combs, and they contained brood in all stages and plenty of honey. These combs I quickly sprayed with Bacterol, so as not to chill the brood. I then put them into a super, and this I placed upon a strong swarm (hived the same day on foundation) with excluder under the super. The bees from swarm quickly came through excluder, hatched out the brood, and filled up with honey. In three weeks I took the super off well filled and placed a box of shallow frames in its place. (Please note the uniting of bees hatched out from combs from diseased stock with healthy swarm.)

Call this No. 4. Close observation failed to find a trace of disease all through the season, and this lot has gone into winter quarters strong in every respect.

The brood combs from No. 4 super, after being extracted, and whilst dripping wet, were placed in hive and a strong swarm (second) run on to them. (Call this No. 5.) This lot has done well, no trace of "Isle of Wight" disease, and bees packed up in good form.

In early June I had a cast from a stock caught last year as a runaway swarm. After a few days the cast, *which had been hived upon foundation*, showed signs of the disease, and, as they got worse, I decided to kill them, and did so in the same way as before. The queen had mated early, and the bees had drawn out foundation, and a good patch of brood was already on several of the seven combs. These were at once sprayed with Bacterol, placed in super, the shallow frames taken off No. 4, this super taking its place.

No. 6. On July 29 I had a late swarm sent to me. I took off the super of brood frames from No. 4 (the brood not all hatched out), and placed the swarm on combs just as taken off. This lot has been fed and packed up; no trace of disease, and a strong lot.

To date of writing (October 5) no trace of disease.

The six hives have been placed right away from any other bees (thirty-four lots in all), so as to avoid, as far as possible, all risks in carrying out experiments.

Bacterol has several advantages; the bees like it, it does not stain, and if it comes in contact with honey, does not strongly flavour it, and, so far, seems to have made the combs safe for use.

It will, I think, be noticed that several theories are crossed. If honey from stocks diseased is a source of danger, then No. 3 ought to have gone under. If brood fed by diseased bees pass it on, then No. 4 had brood from two hives added to its healthy inmates, and apparently no evil results follow. Nos. 1 and 2 are blacks, the rest hybrids with strong Italian markings.

The season has been splendid for swarming, and, of course, the opposite for honey gathering; but we bee-keepers are saved by hope, and look forward to 1919 as the year of victory in more ways than one.—C. H. Dyche, Flackwell Heath, Bucks.


*The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.*

## THE IMMUNITY OF QUEENS.

[9789] The question of the immunity of the queen bee does not appear to receive sufficient attention from your readers. Your correspondent (9781) who contributes a thoughtful letter in your issue of October 17, is an exception.

It is generally stated in manuals of bee culture that the queen bee is nearly always the last to become affected with the disease, and is one of the last inmates of the hive to succumb to it. No explanation, or at least no satisfactory explanation, is ever given for this strange fact. To my mind, the reason for this apparent immunity is as follows. The queen bee is accustomed to the habit of continuously residing in the hive, which she never leaves except on exceedingly few occasions. She is always "nursed" and attended to, and she is obliged to cleanse herself *inside* the hive, irrespective of atmospheric conditions. This is a very important factor in the preventing of disease, as she always gets rid in a *regular* manner of waste products, which, if allowed to accumulate, would contribute to the production of *toxæmia*. The fatality of malignant dysentery appears to me to be due chiefly to this *toxæmia*, which is often a consequence of a severe infection. On the other hand, the worker bees habitually cleanse themselves whilst on the wing, and if prevented from doing so by prolonged bad weather, they fall victims to the toxic effects of accumulated waste products, irrespective of the additional infection, or otherwise, with a harmful organism. Once a bee is sick, she is mercilessly dragged out of the hive by her sister workers. In the case of the queen, it is quite different, as, should she become infected during favourable weather, there is every likelihood of her survival and of the infection not affecting her motherly function, because two important factors ensuring recovery, or at least good resistance to the infection, are guaranteed for her, namely, continuous devoted attention, and good feeding, unless the colony is severely affected with the disease. Should she become weak, however, and is superseded by the combined will of the colony, this occurrence is rarely noticed, except in cases where the original queen has a distinctive feature (*e.g.*, clipped wings), and is observed only by those who look upon the brood chamber as an open book, that should be leisurely and profitably studied whenever possible. Should she, on the other hand, become ill and weak during the cold months, when she is not laying, and when the colony is satisfied with clustering, there is no risk, of course, regarding her being superseded, and, moreover, she will always be in the centre of the cluster and still receiving the best possible attention. Hence she has *always* a chance of recovery, or at least of fighting the infection for a long period, unless she comes from a susceptible strain. The immunity of the queen bee to infection is therefore, in my opinion, *not real in the majority of cases*, except possibly in the recorded instances of "carriers," queen and workers, which otherwise are apparently quite healthy. These are said to belong chiefly to pure Italian bees. In these cases of *true* immunity (whether partial or so-called complete), not only the queen, but also her progeny, are apparently immune to malignant dysentery. Such instances afford illustrations of *natural immunity*, which is hereditary. Generally speaking, no complete natural immunity against "Isle of Wight" disease appears to belong to any strain of bees so far experimented with, and the question of *enforcing* this natural immunity of selected strains by artificial means appears to merit consideration. Similarly, it is worth while to consider *the artificial immunisation of susceptible queens*, irrespective of the general conception that *acquired immunity* is not transmittable to the progeny. Science is continuously changing, correcting, or modifying previous ideas; hence such a conception should not prevent research on this important matter, the clinical details of which I need not trouble you with at present, considering the slow and almost stationary rate of our progress.—A. Z. Abushady.

## FOREIGN v. NATIVE BEES.

[9790] Respecting the discussion that has been going on in the British Bee Journal as to the merits and demerits of the foreign races of bees and their crosses in comparison with the "Blacks," the following may be interesting, showing what the former can do as regards honey-gathering in what appears to have been in most parts a poor season.

After an excellent season in 1914, the

end of 1915 found me bee-less from the effects of "Isle of Wight" disease. I thought it wiser to wait a year before starting again, and in May, 1917, bought a small swarm of so-called "Blacks." They must, though, have been partly Dutch to judge from their swarming proclivities, as in July they came out before even they had drawn out all the foundation in the brood-box, and I also had a cast from them. When the progeny of the young queens appeared, I could see that they must have mated with drones that had a good deal of Italian blood in them, as they were plentifully marked with yellow. Needless to say, they did not store sufficient honey to winter on, so after killing the old queen and uniting one of the swarms to the old stock, I fed them with syrup made from Bacterol candy. They wintered well, required no spring feeding, and so I started the season with two good stocks.

The first swarm from No. 1 came out in mid-May, and went straight away. No. 2 stock swarmed a week afterwards. To prevent further swarming, I took away all their brood combs and united the bees that were then on them to the swarm on the old stand, and gave the brood to No. 1 stock.

No. 2 has given me 140lbs. of surplus, and on July 17 they swarmed again. Swarm was hived on a fresh stand. A cast came out a week later, which was returned after queen cells had been cut out. (I may add that the plan usually successful with Blacks, by returning cast early next morning, does not seem to work with cross-breds), and on examination at the end of August, I found the stock still quite strong and the young queen laying well.

I found out in July that the young queen in No. 1 stock was a drone-breeder, but despite this, with the addition of the brood from No. 2 these gave me 80lbs. of surplus, and, at the end of the main honey flow, I united them to the swarm from No. 2. In September I found that both lots had a fair amount of stores, but required some feeding.

Early in the summer we had good bee-weather; but July was the wettest, I understand, for twenty-five years in Wilts, and from August 23 till now, October 12, it has been unsettled. I may add that I am not overstrong, and have no one handy to help me, so can't always do as I would, so think under the circumstances that you will agree that it was a good performance of the cross-breds.

They are pretty awkward to handle at times, but one can put up with that as they are so satisfactory in other ways. —ALFRED STRATTON, Overton, Marlborough, Wilts.

## THAT SKEP.

[9791] It is seldom we have a season pass without some discussion on the skep. I don't remember seeing anything this year so far. I, therefore, venture to put a word in for it.

There are some who favour the skep even in these enlightened days of bee-keeping, and there are others who condemn it, even to trying to get the law on those who venture to have a skep on their premises. It is fortunate for these people that it does not come under the far-reaching "Defence of the Realm Act."

No, Mr. Editor, I am not a skepist myself, but have a great respect for a colony of bees in a little straw hut.

I look on the skep as I look on the monks of old. Although they outlived their usefulness, we have a lot to thank them for.

They were, to a great extent, responsible for keeping alive religion and education, during the dark ages, and from their old foundations has been built up the finest system of religion and education that the world has known.

The skep and the old bee-master have kept bee-keeping alive under great difficulties in times past, and from it has been built up such a system of modern bee-keeping and food-producing in honey as the world has never seen.

I rarely am without a skep in my garden. There is something mysterious and fascinating about it. It is its mystery which is fascinating.

One watches the bees working from a skep, and one conjures in one's mind as to what they are really doing, and the condition inside: but one can only guess—its closed door beats one every time. This makes it fascinating. There are other mysteries about the skep. The best text-books condemn keeping bees in a skep, but they frequently advise you to start bee-keeping with driven bees.

Also, in August and early September you may find a number of advertisements of driven bees for sale and wanted. (Where do driven bees come from?) There is something yet to be said for the skep if properly worked, but if left to its own sweet will it may easily become a danger to modern bee-keeping.

I started the year with my usual one skep, almost invisible amongst the frame-hives. Early in the spring it became strong and showed signs of swarming. I decided to make a nucleus from it, and did so by placing a frame of brood and eggs in a hive and filling up with frames of foundation, then placing this hive on the stand of the skep and removing it some distance away.

The result was the new hive received

all the flying bees (a great portion of which at this time would be young ones). They reared a good queen and are now a very promising stock.

About three weeks later the skep did swarm—a nice plump swarm, which I hived on a new stand. This swarm did so well that I made a nucleus from it on the same lines as in the first case, except I gave the nucleus a ripe queen-cell with its frame of hatching brood. It also did well, and will come into profit next year.

Now to return to the old mother-stock, namely, the skep. Alas! misfortune had befallen it. About the end of July I suspected something was wrong, and on examining them I found them queenless. The skep was heavy with honey and contained a good quantity of bees. Being fortunate with previous increase, I decided to try again, although the season was getting a little late for queens to be mated, there being very few drones about. I prepared two nucleus hives of five frames of comb each, one comb in each hive containing brood and a ripe queen-cell which I was fortunate to have. I decided to drive the bees and run half into one nucleus hive and half into the other, shut them up for two days, then liberate them. I now find the queens have mated and are laying. With the help of a comb or two of stores and a little feeding, I hope to bring them through the winter.

To again return to the old skep. I cut out the old combs, and those containing honey I have broken up and deposited in the mead pot, to be made into mead.

The result of the year's working is as follows:—One nucleus stock made in May. One swarm in June. One nucleus stock made from swarm, early July. Two nucleus stocks from driven bees, end of July. About 10 lbs. of honey for making mead.

On the debit side must be placed:—Loss of old stock in skep; and, say, 12 lbs. of candy for feeding last two nuclei.

I think this is a very good record for one humble skep. The bees are natives.—W. Ion. Healey.

## A NOTE FROM SURREY.

[9792] I thought the following dialogue, overheard in France, might amuse your readers:—

Tommy: "Compray - Beesting - Buzzz-zzz!"

Fermière: "Non."

Tommy: "Beesting-Buzzzz-zzzz!"

Fermière: "Ah, oui, les onions!" exit.

I began bee-keeping this year with poor results, but hope to learn by experience with the kind help of a local bee-keeper. I hope my interest may soon overcome my nervousness. I have not thought it wise to handle them myself on this account, and the stings I have had on three occasions have not made me any braver, though I long to tackle the fascinating subject in more than theory, and I find your Journal most useful, and feel particularly envious of your brave "Novice" from Bristol, who, I greatly hope, will give us an account of his experiences in 1919.

I am making an alphabetical referendum of loose sheets of the useful hints I find in your articles and replies to correspondence, and would like to send my Journals out to a brother bee-keeper in France or in hospital, if you can tell me of one.—Emma M. Lindley.

[Can any of our readers give the name of a soldier who would like to take advantage of the kind offer of our correspondent? Eds.]

## NOTICES TO CORRESPONDENTS.

We are sorry these are unavoidably held over till next week. We also take this opportunity of apologising for delay in answering letters and despatching orders. Our only helper was taken seriously ill early last week. Since then we have been single-handed, and, in addition, have been unwell ourselves for a couple of days. We hope to catch up arrears of work shortly, but for the present have more than we can successfully cope with.


## A ROLL OF HONOUR.

Although bee-keeping is considered a minor pursuit, we venture to say that it has provided more fighting men than the usual average of any industry. To place on record the part the members of our craft have played in the present war we propose to make a "Roll of Honour," and shall be pleased if our readers will forward us the NAMES and ADDRESSES, together with the REGIMENT and RANK, of any bee-keeper serving his King and Country at home or abroad; also if killed or wounded.

We print a further list of names to those sent in, and shall be pleased to have other names as soon as possible.

Lce.-Cpl. E. N. TUNMER, the Rifle Brigade, Ipswich.

Rfm. CYRIL C. TUNMER, 2/17 London Regiment. Killed in action, August 24, 1918, in France.

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It is with deep regret I send you news for your "Roll of Honour" column of the death of my son. I sent you his name when he joined His Majesty's Forces, then with the R.A.M.C. He volunteered in March, 1915, but was rejected owing to eyesight; later on he volunteered again, with result, R.A.M.C. After three months' service a call was made for a number of single men for the infantry; he at once transferred, going to France in June, 1916. December, 1916, found him at Salonika, when he was soon up to the Macedonia front against the Bulgars. June, 1917, was landed in Egypt, and went through and took part in the taking of Jerusalem and the Mount of Olives, the latter place being captured at the point of the bayonet. Many privations and experiences with others of our brave armies did he go through. On Christmas Day last he went into the old part of Jerusalem. He again left Egypt in June, 1918, coming back to France, where he fell, doing his little bit, on August 24. He was a keen bee-keeper, and his great objects were experimenting and shows. He had been a bee-keeper eleven years, though his age was only 25.—ALBERT E. TUNMER.

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Will Mr. W. S. Turner, the writer of "A Reminiscence" in last week's BRITISH BEE JOURNAL, kindly send us his address as it has been mislaid, and we have a communication for him.—EDS.

## A DORSET YARN.

A bee-keeper writes me: There is no room in the B.B.J. for the articles sent by him and others in his district, why should not the JOURNAL add to its size? Our paper is small certainly: our Editors might see their way to enlarge it, if so much matter relative to bees is kept back. One letter advises me to stop my contribution to it altogether to give others a space.

In my opinion, any writer who has anything to tell us just now to safeguard our bees from "Isle of Wight" trouble should be given all the publicity possible, but if he has a remedy to sell, he should advertise in the JOURNAL—that is sound business. One who advertises largely has taken part of my yarns to add to his business publicity in the JOURNAL. A man who keeps on losing his bees and tries no remedy to save them is not wise, and each specific will be tried in turn by practical bee-keepers, to see if they will do what they claim. I know a horticulturist whose son, a chemist, sent his father all specifics likely to stop rust in carnations, trying each one on different lots of plants. He found that Condy's Fluid was the cheapest and most efficacious, though it did not stop it re-appearing. As I have written before, he who has a good remedy for himself and does not give his fellow bee-keepers an opportunity of acquiring it, is not playing fair; no man should live entirely for himself. Many of us have not the ability of finding out these specifics, as our race in life has been in the arduous fields of labour, and have had very little time for study. But we can all purchase these specifics if they are made known to us by advertisement. I have met bee-men who speak well of most of the remedies that have been brought to our notice through the advertisements in the JOURNAL.

We have within a stone's throw of our bees, trees of Laurustinus in full bloom. There isn't a bee to be found on them, though, nearer Christmas, when other flowers are gone, they will be on in crowds. This plant is flowering very early this season. Each time I pass I look for our little friends on them, but not one have I seen. Though they go later, it shows to me that there is little to be got from them, and other wildings now in blossom have a great deal more. They are on the violets each day it is warm: but not so many as one would expect. They have a preference for the flowers as they are bunched up for sale, which shows me that they depend somewhat on sight in their search for nectar. I wish they would work violets more in summer, when the flowers are very small, and have no

coloured petals of any size; but I have never seen them on the plants then; another proof that sight is a great factor in their choice of food plants. One of the great men of America was led to take up the study of plants and bees by watching and dissecting violet flowers, as he ate his dinner when at work in the fields. He saw how peculiar the seed organs were formed, that the nectar was in the spur at the back of flower. Bees cannot get to it only with the tongue. That is the reason so few new varieties are introduced; they fertilise themselves, and the seedlings that grow are like the parent plants. We have grown many seedlings, but they have not been better than the parents, only in one instance, and that was the work of the yellow ant—at least, I assume it to have been so, as they were very busy on the plants in one place. The seed pods developed abnormally; a proof that fertilisation was perfect (all large flowering violets do not seed freely). From this lot of seedlings one was very large and had an extra line of petals inside, which, like Joseph's coat, had many shades of colour—purple, red, rose, and pale blue—those in the centre of a large dark blue flower made it look very conspicuous. The last meeting of the Royal Horticultural Society gave me the coveted "Award of Merit," with a silver medal for a group of them. It was at that meeting I had the pleasure of meeting the clever writer of "The Bee Garden," Mr. Harwood, for the first time, who, beside being a practical bee-keeper, is a keen horticulturist, as his writings show. He spends the best part of the day in the City, but without a doubt his heart is with his bees and flowers. As a memento of our meeting he has sent me from the B.B.J. office "A Modern Bee Farm." He told me the writer was a kindred spirit, and that I should take great pleasure in reading it. I shall soon have quite a bee library, as well as one on horticulture. The Dorset tiller of the soil will always be under a great obligation to Mr. Harwood for his thoughtful generosity. We who live "far from the haunts of men," and cannot go to the free library for aught we want, fully appreciate these valuable sources of knowledge.

J. J. KETTLE.

## SELLING DISEASED BEES.

In consequence of the high prices prevailing for stocks of bees, many unscrupulous persons have been tempted to dispose of diseased bees, regardless of the consequences of spreading disease.

A case was recently brought to the notice of the South Staffs. and District Bee-keepers' Association by some of its members, and it was decided to back them up and test it.

In doing so they felt that although they might lose, they would gain by getting the publicity that is required for putting a stop to such evil practices.

In case of failure it had been decided to appeal for subscriptions to other Bee-keepers' Associations, and readers of the BEE JOURNAL, for the necessary funds. Happily, this was not needed, but they believe, had this been necessary, the required assistance would have been forthcoming.

The following is a newspaper account of this particular case, taken from the Wolverhampton "Express and Star," and it is hoped that the publicity given in the BEE JOURNAL and other papers will make future vendors more cautious when disposing of their bees.

This Association having done its duty, and scored a success, trusts that other associations will investigate and test any similar cases that happen in their particular districts.

Such cases as these prove the need for legislation, that will make such transactions impossible.

A. E. TAYLOR.

### OF INTEREST TO BEE-KEEPERS.

At Wolverhampton County Court, his Honour Judge Howard Smith tried a case of interest and importance to persons engaged in honey production.—Mr. W. A. Foster said he had agreed with his friend, Mr. Pritchard, that one case out of three should be fought out, his Honour's decision to be taken as affecting the series.—Sidney Wakefield, a man employed on munitions, and residing at Sandyfield, Sedgley, sued for the recovery of £4 paid for bees warranted "disease free," but found, so it was alleged, to be otherwise.—His Honour observed that the phrase might be interpreted "disease gratis."—Mr. Foster replied that the object of the defendant—Mr. Bradford, residing in Sweetman Street, Wolverhampton—in so wording his advertisement in the *Express and Star* was to lead people to understand that his stock and swarms were free from disease.—Plaintiff said that soon after accepting delivery of the bees he noticed there was something wrong. Calling in an expert he found they were affected by "Isle of Wight" disease, and he had them destroyed.—Mr. Pritchard: Did you also destroy the hive?—Plaintiff: No, sir. —Jos. Price (bee inspector for the county of Stafford), having inspected the bees fourteen days after the purchase, expressed the opinion that the disease had been present in the hive for at least three

months. The malady being highly contagious, the presence of such a hive in a district like Sedgley was a public menace. Calling at the defendant's premises, he found he had done away with his bees because his son stated they were "not doing well."—Mr. Robinson (a local bee expert) said the plaintiff's prompt and decisive action had prevented the spread of the disease, no other case appearing in the district.—Defendant, A. E. Bradford, said he had kept bees successfully for the greater part of eleven years. There was not the slightest indication of disease in his stock when he inserted the advertisement, or when he dealt with Mr. Wakefield.—His Honour gave judgment for plaintiff for £3 5s. and costs.


HIVE ROOFS.

Our national poet sung that November's surly blasts lay fields and forests bare. Recently, before that month arrived, we have been having a series of severe gales, and I hear of hives being blown over for want of a little timely aid being given to steady them up. Whenever hives are placed in exposed situations, where the roofs at least are liable to be displaced during a strong gale, they should be fixed or weighted down or tied down to guard against disaster.

Perhaps the readiest means of safeguarding them in an emergency is to place fairly large stones on one or both sides of the sloping roof, and, as they are generally readily available, they serve the purpose efficiently for a time. They may be picturesque in a way, but they are not very ornamental. Bricks may be used instead of the stones, and they are neater. Both are, however, objectionable as permanent roof protectors, inasmuch as, lying more or less flat on the wooden roof, they keep the surface they cover damp, and thus help to wear out the roof before its time.

A second means of guaranteeing the stability of the roof is to run a strong cord round the hive, below the floor-board and above the top. Fasten this with a running knot, so that it can be easily slipped whenever any investigation of the hive interior is necessary. A fault in this form of fastening is that the cord contracts with damp and expands with drought.

To get over this use instead of the twine a good, strong, fairly pliable wire in the same way. Don't make it overtight, as it may then cut into the sharp edge of the roof and produce a fault. Perhaps stronger wire of the lighter fencing type might be better. Cut to length, bend the two ends in the form of hooks, and let the two ends clasp each other, then twist round with pliers.

The well-known device, illustrated in the "Guide Book," provides a trustworthy means of steadying roofs. Fix one end of a strong cord (a thin wire may be substituted if deemed best) to a peg driven into the ground at one side. Bring the cord or wire across the centre of the roof and tie the other end to a heavy brick left hanging at a point just clear of the ground. This affords an easy and convenient means of removing it for a time when one desires to remove the roof for any purpose of examination.

Hives in pairs can have a wire fixed at either end of the mutual stand, passed over both hive roofs, and at a point midway between the two hives the wire may be heavily weighted with a cement brick, thus keeping all solid. By a simple adjustment the whole may be kept firmly down so that there is no fear of the contrivance failing to act.

*Better.*—Looking back recently and taking a wide survey of the whole field of apiculture, the thought struck me that there was a high tone of confidence and optimism pervading the apicultural press both at home and abroad. Editors and contributors strike a high note regarding the present and future status and success of the industry. One editor characterises the present as a day of *Betters*—better bees, better equipment, better bee-keeping, better bee-keepers, better training, better knowledge, better markets, better prices, better appreciation of our profession and of the importance of honey—better *everything*."

As in this country, the bee-keepers on the other side are awakening to realise the fact that we should all be up and doing. Apiculturists, like agriculturists, should put their best foot foremost and rear more bees and raise more honey. Like corn, honey is a valuable food. Bee-keeping should boom as it has never done in the past. Every backyard should be turned into a small apiary, and no allotment should be without a few bee hives.

Here is what one single hive did this year. It gave a surplus of 147 well-sealed and marketable sections which were all sold at 3s. each, the profits being thus over £20. Here is a suggestion well worthy of being taken up. Let us next

season present our first swarm to some boy or girl relation, and so double the number of bee-keepers in the country. I have promised mine!

*Stings.*—A sting *pulled* out necessitates pressure being brought on the poison sac by the finger and thumb used in gripping it, and this pressure ensures that the contents will find their way into the wound and thence all through the system. Therefore, use no pressure, but endeavour to get the leverage below the sac, and to get it either of the two following methods may be practised. Get the open blade of your knife, or a similar appliance, below the bladder and so prize the sting out without any pressing of the sac, and then only a minimum of the venom will find its way into the wound, and so into the victim's blood. The thumb nail serves the purpose admirably whenever the sting is in any available part. A good many of the stings got are in the hands and wrists. In this case rub the hand smartly at an angle over the clothing, and nine times out of ten you will find the sting gone and very little pain affecting the part. This habit once acquired, the sting is summarily disposed of almost instantaneously, and before the poison has had time to do anything like effective injury. Many of the advised "cures" which are mainly relied upon depend almost wholly on the speed with which they are applied. If time is taken up hunting for them, the interval has allowed the poison to be conveyed into the system, and then no appliance will prove effective. Anything used to do good must be administered immediately.

## THE BEE GARDEN.

### The Official Lists (*continued*).

By A. Harwood.

*E. arborea* (or Tree Heath), 4 to 5 ft. high, bears sweet-scented flowers, white with the faintest tinge of pink; *E. codonoides* (syn. *E. lusitanica*), the Portuguese Heath, 4 ft. high, bears its pure-white flowers at the same time as *E. carnea*. A hybrid of the two last-mentioned (*E. C. Veitchii*) is a grand introduction, being extremely beautiful and of easy culture. *E. mediterranea*, 4 to 5 ft. high, bears in profusion from March to May.

There are many other varieties well worth growing, and their culture is by no means so difficult as is commonly believed. I will quote on this point one of the leading authorities in this country: "It is commonly believed that Rhododendrons, Azaleas, and others of the same family cannot be grown without a rich, peaty soil. We beg, however, to add our experience and give our opinion that such conclusions are fallacious, and think not only can they be grown without this advantage, but that materials in every way suitable can be abundantly procured on most estates or parishes in the country. Isolated cases of failure, we know, occur after every care has been expended in preparation of soil for them. In the absence of a good turfy, peaty soil, which we freely admit is the best, take the top spit from pasture land or old turves, the thickness of the spit being regulated by its composition, the more turfy and fibrous the better; this, mixed with leaf mould and well decayed manure from melon frames, well mixed but not chopped too fine, is a very suitable compost. Many districts, more particularly those of a light, friable loam, are admirably suited to their growth."

I would only add to this a caution against the presence of lime in any quantity, and my own strong opinion that nearly every loss of a heath is due either to this or to loose planting. The soil round the roots of heaths can hardly be rammed too hard.

*Helleborus niger* (Christmas rose).—This well-known plant, subject of some of Mr. Kettle's always interesting 'yarns,' owes its specific name to the blackness of its fleshy roots. The flower is a pure white, produced, according to situation, soil and weather, from late November to early February, but most generally round about the festival whence it derives its popular name.

Perhaps the best opportunity for a Londoner to see it in perfection is afforded by a visit—on a fine Sunday in late December or early January—to Kew Gardens, where, under the trees just beyond the rock garden, it abounds and makes a splendid show at that time. Lasting a long while in water as a decorative cut bloom, it is well worth a place in any garden. Though quite hardy, heavy rains at the flowering season damage the blooms, so that it is advisable to give the plants when in bud the protection of a hand light or cloche until flowering has ceased, when this shelter is no longer required. I used a bottomless box covered with a sheet of glass in default of anything more elaborate, and found it answer perfectly.

Hellebore is well worked by bees during the few hours of genial weather often experienced about Boxing Day. Sometimes I have noticed great activity then among my stocks, which were crowding Christmas Rose, Winter Aconite, Laurustinus, and Ivy bloom. *H. niger* prefers a shady position, and is increased by root division. It resents disturbance, but when well established makes fine clumps.

QUESTIONS, ETC., FOR BEE-KEEPERS FOR SELF-EXAMINATION.

(*Students are recommended to write their answers, and check them afterwards by reference to books.*)

73. How long does a worker bee live?

74. How is worker comb distinguished from drone comb?

75. What combs taken out of a hive should not be hung on a comb stand? And why?

76. When, in each year, may drones first be found in a hive?

77. How does a newly emerged queen first employ herself?

78 Should a queen take wing while a frame is being examined, what is best to be done?

79. What circumstances lead to the construction of a large proportion of drone cells in a comb?

80. From what sources do bees obtain propolis?

81. What circumstances must be avoided or guarded against during manipulation in order to prevent irritation or annoyance to the bees?

82. Describe nectar, and explain how it is converted into honey.

83. Explain, in detail, how bees commence making comb in a hive not furnished with foundation.

84. Make notes for a 15-minute lecture on the feeding of bees. J. L. B.

## JOTTINGS.

### HOMES OF THE HONEY BEE.

Being stationed at a watering station, I was very pleased to see some bees drinking at the irrigation streamlets. And as, excepting for a solitary bee in a window, these are the first I have seen in Palestine, they were a source of pleasure, but little did I imagine until after three days' sojourn, that the colony was only a dozen yards away in a native yard. The hive was composed of an uncouth lump of mud, and was extremely hot outside. We are considering ventilation. These bees had nothing but the tee hole, and were apparently very docile, allowing me to peer right into the hole, with hardly any stoppage of work. After a week's absence I find they have been, I suppose, butchered, and the hive prepared for a fresh lot. A plate is covered into the back to allow of easy attack. I am unable to find out what happened, or what honey was secured. I'm afraid if I had been here it would have been futile attempting to save them, with the present state of forage, as the honey flow seems to be at its best in March and April. How these people propose to re-stock, I don't know.

A. H. HAMSHAR.

## CORRESPONDENCE.

*The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.*

### EFFECTS OF BEE STINGS.

[9793] If I am not too late to be of any use to your correspondent (9776), perhaps my experience might be helpful to him. When I started bee-keeping, in the days of long ago, if I got two or three stings I suffered severely. Generally I had to go to bed, but next morning I was all right. When I was bowled over it was mostly by being stung about the face and neck. Then my face became red and burning, all the veins in my body would stand up in knots about the size of peas, and the itching over my body was fearful. I asked one old bee-keeper what to do, and he advised homœopathic treatment in the shape of about two stings every night for a week. I did not try it, but I got cured very quickly. One night in August, 1884, I was messing about the garden, when I knocked over a hive. I surveyed my work for about half a minute, then I picked it up and put it back on the stand. It did not take me long to do that, but hundreds of bees were at work on me all the time. Fortunately there was no one living near us, so I got my people to throw out a change of clothing, while I got into a state of nature as quickly as possible, the only way I could get quit of the avengers. When I got dressed again, I went into the house and gave them an account of my adventure. In a few minutes I became quite pale, then I gradually turned blind, and was blind for about five minutes. The only remedy applied was a drink of raw whisky. In ten minutes from the beginning of the attack I was better, and in half-an-hour I was sound asleep for the night. Next morning I was a bit swollen and sore, but no other bad effects, and I soon found that all the bad effects of stinging were gone. The cure has been permanent, and although I was for ten years without bee stings, they have no bad effect on me now. I hardly advise my experience as a remedy. It might be dangerous; but it also might be a cure.—J. C. A., Grangemouth

## EXPERIENCE WITH "ISLE OF WIGHT" DISEASE.

[9794] I would like to give my experience to the many readers of your JOURNAL with reference to "Isle of Wight" disease.

Last September I had 14 stocks, and immediately after taking 800 lbs. of honey they got the disease. In a week, or 10 days, the whole lot were affected. I sprayed eight or nine stocks twice, and some three times, with "Flavine," the others with "Bacterol," but to no purpose; although the bulk of them lived through the depth of winter, they gradually died off later, with the exception of one, which worked vigorously until the middle of May, then there appeared the usual crawlers.

Then for two months I tried all sorts of would-be cures, but to no avail, until I was recommended to try salts and sulphur, 1 oz. salts, ½ oz. sulphur, dissolved in an 8-oz. bottle, and to give two teaspoonsful in 1 pint of syrup; that was no good, so I took 1 oz. salts, ½ oz. sulphur, dissolved them and mixed them into some syrup, 1 pint in all, took a paint brush and splashed it over the combs, removing one or two out of the hive, and separating the others so as to be able to give them a complete soaking. They were in the habit, after dropping on the ground on fine days, of crawling back up the leg of the hive, and just at that time, one fine day, hundreds were on the ground, when a thunderstorm drowned them, and for the last 20 days there has been no appearance of crawlers, while the colony is working splendidly, and storing honey. I cannot say if the thunderstorm or the salts effected the cure, but to all appearance they are cured.—J. YEOWART.

## A FRENCH PRIEST AND HIS BEES.

[9795] The following extract from a letter I have received from a soldier in France may interest your readers:—J. J. KETTLE.

"I have been to see two apiaries since I came out here, and the last of these was kept by an old Catholic priest in a very sketchy fashion. He was a most engaging and humorous old fellow, as brown as a nut, and as fat as butter, only more so. All his supers were bars an inch and a quarter wide, crammed tightly together, and he used his vestry doorkey to prise them up and show me the fatness of the land!

He complained of losing many swarms, and of rain when they could settle to work, but still hoped for a good harvest, and made quaint delighted grimaces over the weight of his hives, lifting them at one side to estimate the amount of honey each contained, and translating his grimaces into *kilos* subsequently! The heavier they were the fuller he blew his cheeks out, and the tighter he screwed up his eyes, and the more deeply he grinned. You would have been charmed with him, I am sure.

"He had 25 to 30 hives in all—most disreputable-looking objects from a British bee-keeper's point of view—but told me that he got an average yield of 20 kilos per hive, which I thought, privately, rather poor, though with hives of this kind I should have expected less.

"I never knew, till I watched them on the field where we were parked this summer, that bees worked on buttercups. It is a grand country for them. The wastes are covered with clover and small vetch-like growths—almost like a moss—which the bees work hungrily upon. The Scabeous and thistle, too, and many wild flowers I have never seen in England.

"I should very much enjoy a walk with such an adept in botanical lore as yourself about here. There are so many wild blooms about which I never knew existed, but which you would doubtless know.

"They have a hive at the Battery I hear, but, I am afraid, no one sufficiently expert to move them properly on a lorry, and the moves have been frequent during the last few months. I heard that they are dying away, and I shall try to make a trip there to see. I cannot learn whether they are a swarm found or a stock, but if they have been shut up for moving by someone who did not know sufficient to pack them, doubtless the bulk of them are now drowned in their own wax and honey."

## THE FANCY OF BEES.

[9796] It is surprising to note that, in these days of enlightenment, one of your correspondents ventures to say that bees "like" *Bacterol*, the predominating odour of which is due to formlin and iodine. Having experimented with a good number of antiseptics, including *Bacterol*, *Flavine*, *Izal*, *Dioxygen*, *Formalin*, and *Yadil*, I feel quite safe in asserting that the bees have *no* fancy whatever towards any of these antiseptics, and that they *readily* take to water medicated with *any* of them. Again, one notices that a certain antiseptic is considered of advantage, because it is odourless; whereas, in fact, this is neither an advantage nor a disadvantage, as I could not discover in the honey the odour of such preparations as *Bacterol*, *Yadil*, *Izal*, etc., when used in the preparation of spraying solutions. Another strange suggestion is that a colourless antiseptic, such as *Formalin*, is a disadvantage, because it is difficult then to judge the

strength of solutions! Presumably the writers of such remarks imagine that, on account of the war, there is a scarcity of measures! In fact, I would consider the colour of *Flavine* a disadvantage, as it is not compatible with cleanliness, but even this disadvantage is not worth considering for a moment, had *Flavine* proved to be of exceptional value in "Isle of Wight" disease, which is not the case, to judge now from the results of its trial, in comparison with such previously-used antiseptics as *Izal* and *Bacterol*. In my opinion, fancies of the above description, which are unjustly attributed to the bees, are, like the additional views discussed above, only the fancies of the bee-keepers themselves, who should be guided instead, in the selection of a suitable antiseptic for their general use in the apiary, by scientific data and experiments *alone*. They should consider these data and ask the experts of their Associations to experiment, on their behalf, with these antiseptics, instead of following the suggestions of irresponsible advisers, so that any conclusions arrived at by them would be both well-considered and impartial, and would merit a greater attention than the conclusions of: A SIMPLE AMATEUR.

## QUERIES AND REPLIES.

*Queries reaching this office not later than FIRST POST on MONDAY MORNING will, if possible, be answered in the "Journal" the following Thursday. Those arriving later will be held over until the following week. Only SPECIALLY URGENT queries will be replied to by post if a STAMPED addressed envelope is enclosed. All queries must be accompanied by the name and address of the sender, not necessarily for publication, but as a guarantee of good faith. Correspondents are requested to write on one side of the paper only.*

### QUEEN TAKING CLEANSING FLIGHTS.

[9081] I have read with interest letters in your correspondence column from beemen giving various experiences in bee-life, but have never yet seen anything re the above heading. We read in bee-books that bees in a healthy state always void their excreta in the open air, and never inside the hive. On October 15 I was standing by one of my hives, when I noticed a queen alight on the flight-board and rapidly enter the hive. Now what I should like to know, had this queen been taking a cleansing flight along with her progeny? Could any readers (including Editors) who have had the same experience explain the above matter.—P. LYTHGOE, Padgate, near Warrington, Lancs.

REPLY.—A queen does not take cleansing flights, as, in consequence of her only feeding on honey and chyle-food, the fæces are liquid and of a pale yellow colour. We have seen them ejected by the queen, and, according to Vogel, they are sucked up by the workers. The queen flies out usually for mating purposes, and we have known young queens take flight from nuclei when these were opened and bees disturbed.

### TROUBLE IN UNITING.

[9082] I had a small lot of driven bees sent me which I united to a nuclei of five frames, and with bad results. On receipt of driven bees I put them in three empty combs, first spraying with a weak solution of Izal: in the centre comb I also poured a little syrup medicated with Izal. I took this precaution in the event of any disease. Twenty-four hours after, as the weather was warm and bees flying freely, and no crawlers about, I united as above stated. I took alternate combs out of each hive, shaking the bees into a new hive, well flouring both bees and combs from a dredger. I had first found each queen, securing the one from the nuclei and caging. As I could not visit them for a few days, I allowed the bees to eat her out, opening both ends of cage and filling same with candy, closed the hive up snug and left them. I visited them again in five days and was surprised to see a tremendous lot of dead bees thrown out—estimated the number practically equal to the number of driven bees. The queen was out of cage. My opinion is this:—The driven bees arrived with their stomachs empty, and were fed on syrup medicated with Izal. They were united with their stomachs filled with medicated syrup, which I assume gave them a distinctive odour, and which would cling to them for days, whereas the other bees had been feeding on pure honey gathered, and hence the trouble. Besides losing all these bees, and assuming the queen bee was released early, and while the trouble was on, I assume I have run the risk of losing her also. My only consolation is experience gained, and which I wish to pass on to other brother bee-keepers. I shall be pleased to have your esteemed opinion, and thanking you for past favours.—A. FRY.

REPLY.—The cause of the trouble was feeding the medicated food and uniting too soon afterwards. The bees should have been left for about three days, or

even longer, to allow them to use the medicated syrup and settle down. Probably a little Izalised syrup fed to the other stock would have averted the trouble. There was a risk of losing the queen, but she may be all right.

## Notices to Correspondents

"T. O. D." (Wellingborough).—*Equalising stocks in the spring.*—(1) If any colonies are very weak unite them to others of medium strength. Early in April feed those that need it, or take away combs containing stores from those that have an abundance, and give to those that need food. Towards the end of April brood may be taken from those having more than four combs of brood and given to those with less. Brood that is on the point of emerging from the cells should be chosen. (2) No; follow one of the methods given in the "British Bee-keepers' Guide Book," or in "Queen Rearing in England."

"S. B." (Hindhead).—*Utilising unfinished sections.*—You will be able to keep them through the winter if they are stored in a dry place, and they may be fed back to the bees in the spring.

E. W. Miller (Middlesex).—*Requeening.*—It is getting very late to requeen now, but it is still possible to do so. First remove the old queen, and 12 hours later put the new queen in an introducing cage over the frames. The bees may be allowed access to the candy 12 hours later. They will eat this away, and liberate the queen in 12 to 24 hours.

"Novice" (Crowborough).—*Moving bees in the summer.*—They must not be moved more than a yard each day they are flying, or less than about two miles, or the flying bees will return to the old stand. If you wish to move the hive 50 yards, do it when the bees have been confined to the hive by cold weather for a week or more during the next four months.

"J. H. N." (King's Heath).—*Queen cast out.*—(*a*) The bees will at times ball the queen after manipulation, especially if she was recently introduced and of another variety. This is probably what happened in your case. (*b*) In this case you most likely overlooked a queen cell somewhere, or it may have been simply the bees' "cussedness." (2) There is still just time to requeen. (3) The bees will not come out all right in the spring without a queen. Some of them may survive, but they will dwindle rapidly, and by the time you can get a queen they will be too weak to be worth requeening, even if they would accept one. Let the next queen remain caged for a longer time, say, three or four days. If they then reject her, the only thing left is to unite to another colony.

"Novice" (Yarmouth).—*Dealing with vicious bees.*—(1) See advertisement. (2) If the bees are so bad, you might try chloroform, but it needs using very carefully. Put a piece of sponge in the smoker, and pour on it a small teaspoonful of chloroform; blow the fumes in at the entrance until two or three bees buzz out on their backs. Then you will have about two or three minutes for manipulation before the bees become lively again.

R. Redgath (Berwicks).—You can get the candy from any appliance dealer who stocks it, or direct from Messrs. Jas. Pascall, 100, Blackfriars Road, London, S.E.1, but they do supply a less quantity than five 1 lb. cakes. Your letter does not make clear what happened to the bees. We are unable to make out if the hive has been robbed, or if the combs are broken down. You can only find out if the bees are queenless by examining the combs.

"E" (Tunbridge Wells).—A completed queen cell would not be just ready for an egg, but would contain a more or less developed queen. Perhaps a queen had emerged from the cell and the cap being accidentally pushed back in its place had been sealed up again. The cell is most likely one you had overlooked and the queen is all right.

Putting combs outside near the hives for bees to clean causes a lot of excitement in the apiary at a time when there are very few flowers from which nectar may be gathered. Having cleaned out the combs the bees will attempt to get more honey from other hives, and the whole apiary be in an uproar. If combs are placed out of doors to be cleaned they should be as far away from the hives as possible.

"Miller" (Stockport).—(1) Keep it closed. (2) The queen will only deposit drone eggs in drone cells. The plan you suggest will work, but the combs will be patchy.

P. Foster (North Wales).—Read as many bee books as you can, and study your bees. You will not get the knowledge from one book only. A good selection would be: "The British Bee-keepers' Guide Book," "The Honey Bee," "The A B C and X Y Z of Bee-keeping," "Wax Craft," and "Queen Rearing in England."

"G. P." (Southampton).—"Bee-keeping Simplified," post free for 7½d. from this office.

*Suspected Disease.*

Miss A. Tritton (Lincs.), "P. G." (Renfrew), J. C. Fisher (Stourbridge).—The bees were affected with "Isle of Wight" disease.

"A. H. J." (Selby).—The comb contained both foul and sour brood. The bees were affected with "Isle of Wight" disease.

"C. B. C." (Amersham).—The trouble is "Isle of Wight" disease. There is no fee, thanks.

"Eastdean" (Sussex).—The bees appear to be natives, and are suffering from "Isle of Wight" disease.

"C. L." (Hants).—We do not find disease in the bees sent.

D. Baird (Yorks.).—Both samples of bees had "Isle of Wight" disease.

"Anxious" (Chesterfield).—The bees are suffering from "Isle of Wight" disease, but it does not appear to be far advanced. Medicate any food given them, and keep the hive supplied with naphthaline and Apicure. It is too late in the season to do much in the way of treatment.

"Wimbledon" (Surrey).—The insect was not a bee, but a drone fly. It resembles a drone, but has only two wings—a bee has four. The bees with yellow bands are probably Italian hybrids.

## A ROLL OF HONOUR.

Although bee-keeping is considered a minor pursuit, we venture to say that it has provided more fighting men than the usual average of any industry. To place on record the part the members of our craft have played in the present war we propose to make a "Roll of Honour," and shall be pleased if our readers will forward us the NAMES and ADDRESSES, together with the REGIMENT and RANK, of any bee-keeper serving his King and Country at home or abroad; also if killed or wounded.

We print a further list of names to those sent in, and shall be pleased to have other names as soon as possible.

Sergt. G. C. HILL, D.C.M., M.M., Sherington, Bucks.—Royal Engineers. Sergt. Hill has also been twice mentioned in despatches and awarded the Russian Médal of St. George, 1st class.

Pte. EDWIN C. WILSON, Westfield, Cupar, Fife.—Black Watch. Killed in action, September 19, 1918, in France.

Pte. E. C. Wilson was the youngest surviving son of the late Mr. J. H. Wilson, classical and modern languages master, Madras Academy, Cupar, Fife. He had been in France with his regiment for over two years. He was a regular reader of the "B.B.J.," and was always pleased to discuss bee-keeping with soldiers who had similar tastes.

## A DORSET YARN.

The 1st of November bees are still in the fields while we work. When lifting two orders of our perpetual raspberry, 500 canes in each order, they seemed to resent us lifting them, as flowers were still on some of them. Most of the late fruit is now ripe, but it is sweet music to him who loves his bees to have them with him as he works. There is plenty of forage for them yet. The Arbutus, or strawberry tree, is now in its beauty; they do search this plant. I saw one in the doctor's garden at Broadstone, with many hundreds of bees over it, but only one big bumble-bee. I assume that they are mostly gone into their winter quarters. There must be a lot of sweets in this, yet to look it over there does not seem to be much in the flower itself. A small white pendulus, bell-like blossom, with seven or eight anthers inside it, formed round the stigma, they are formed in clusters and look very pretty, as there are so many on the branches; being white, they show up clear among the dark evergreen leaves. I have seen this tree in Berkshire and Surrey very fine, but in the Bournemouth area it grows very freely.

The Bournemouth Bee-keepers' Association had a very pretty exhibit at the Winter Gardens on Tuesday and Wednesday. A fine observatory hive, which seemed very crowded with bees, sections beautifully filled, and glass supers beautifully built over, and run honey in screw-top bottles. The numbers that stayed to look proved how interesting it was, but the observatory hive of Mr. Dolomores was the greatest attraction.—J. J. KETTLE.

## QUESTIONS, ETC., FOR BEE-KEEPERS FOR SELF-EXAMINATION.

(*Students are recommended to write their answers, and check them afterwards by reference to books.*)

85. Draw a rough sketch showing "the right way up" of foundation for sections and frames.

86. What is the width of the passage usually left by bees (1) between sealed brood combs and (2) between sealed honey combs?

87. To what uses may skeps be put with advantage in a modern apiary?

88. What can be done to hasten the clustering of a swarm?

89. In what circumstances is it advisable to extract honey from combs in the brood box?

90. What are the utilities of excluders and the drawbacks involved in the use of them?

91. What are the advantages and disadvantages of working for extracted honey instead of section honey?

92. Describe the construction of a brood box, particularly with reference to the holding in them and placing of frames.

93. How should filled sections be stored to keep them in good, marketable condition?

94. For what purposes is it advised that a queen's wings should be clipped, and when and how is the operation performed?

95. Describe minutely the structure and functions of the honey-sac of a bee.

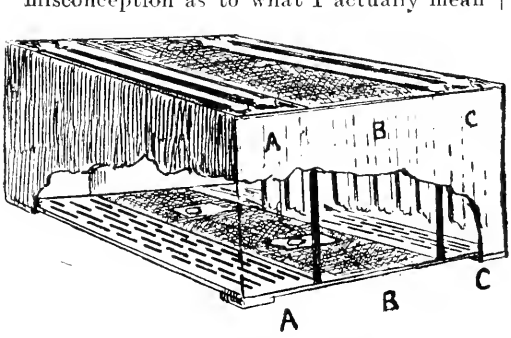
96. Give a history of the invention and development of the movable frame.

J. L. B.

## INTENSIVE BROOD REARING.

By Dr. A. Z. Abushady.

To stimulate brood-rearing, the use of artificial feeding has long been practised with sure results, provided the right time is chosen. The writer has repeatedly suggested the use, in addition, of *mild* artificial heat applied in a judicious manner, as, in his experience, it appeared to be a powerful factor in inducing early ovipositing by the queen and its prolongation during the autumn. I shall not deal here, however, with this subject again, as I intend later on to show the practical possibilites of artificial heat and how use could be made of it *to revolutionise some of our present methods of bee culture*, as soon as industrial conditions permit. One of your correspondents agreed to the value of artificial heat in the nursing of sick bees, but most of your readers do not even realise this point, and nearly all of them are under a misconception as to what I actually mean by the utilisation of artificial heat. For this reason a reconsideration of this subject (with some illustrations, if need be) at a future opportunity might be advantageous.




BROOD HATCHING CHAMBER.

I propose here to show by a simple inexpensive method how to intensify brood rearing, as distinct from inducing its commencement or prolonging it. This method necessitates the employment of a second brood chamber, which might be called, from its primary function, "*the brood-hatching chamber*," and depends on the utilisation of the *natural warmth* of the hive, as distinct from any artificial aid. The same natural heat could be utilised for *artificial queen-hatching*, independent of the attendance of any bees, but I do not propose here to examine the possible utility of this free source of useful heat. I was led to consider this subject seriously from reviewing the fact that, once the brood has been capped over, it is no longer in need of the attendance of the nursing bees, except for the purpose of incubation, although I admit that they sometimes aid by rarefying the cappings, and by assisting the hatching bees to emerge from the cells. On the other hand, many hatching bees *independently* emerge from their cells, unless deserted by the incubating bees, e.g., in case of a side frame in unfavourable weather. Far from giving assistance, I once noticed (in my observatory hive), two adult bees laboriously engaged in re-capping a cell and imprisoning an apparently well developed hatching worker! I could not understand the significance of their task, but I have appreciated from other sufficient observation the possibilities of *independent-brood hatching*. Experiments with capped worker cells, drone cells, and queen cells have all confirmed this view. Using test tubes, and employing artificial blood heat (37 deg. C.—98.6 deg. F.) I succeeded in securing the hatching out of all the occupants of the three types of cells, and since then I have employed artificial heat in this manner for *artificial queen-hatching*. I shall discuss at a future opportunity, however, the commercial and practical possibilities of queen rearing by this method.

The *brood-hatching chamber* to which I refer consists of an outer casing similar to that of the brood chamber proper, and of an internal brood-hatching box of practically equal dimensions to the stock box of an ordinary W.B.C. hive, but differently constructed, as seen in the accompanying diagram. It is intended to be placed over the ordinary brood chamber, *i.e.*, between the latter and the supers without utilising a separate queen excluder, and as it is estimated that by its employment brood rearing would be accelerated to a degree of from 50 to 100 per cent. *at the lowest*, it will be seen that the use, in its presence, of an ordinary second brood chamber is quite unnecessary. It consists of three compartments, A, B, and C. The central compartment B, is intended to take five standard frames. Its floor consists of perforated zinc fitted with two Watts or Porter escapes, and is covered with a perforated zinc shutter or frame. It is separated from the side compartments, A and C, by wooden walls, each of which having a small hole with a zinc shutter for establishing or preventing intercommunication when desired. Each of the side chambers is made to take two standard frames and two fillets, and is fitted at its base with an ordinary zinc queen excluder or a wooden substitute. Their tops, on the other hand, are not covered, thus permitting the adult bees to ascend through them to the supers.

The uses of this chamber are multiple, the following being some of the principal objects:—

(1) *To Intensify Brood Rearing.*—

Frames of capped brood to the number of five are removed from the brood chamber after ascertaining that the queen is not on them, and placed in the central compartment, B, preferably, but not necessarily, after shaking off most of their covering bees, leaving a few on them to attend to the small proportion of unsealed larvæ and to the developing eggs. They are replaced in the first brood chamber by either drawn out frames of comb or frames fitted with full sheets of foundation. After a period of about ten days, the hive is opened and this chamber is inspected. Considering that, for physical reasons, *the brood-hatching chamber* should be enjoying a reasonable degree of warmth ascending from the brood chamber proper, the sealed brood should have received adequate incubation and should mostly have hatched out by then. These young bees will find in their compartment a sufficiency of stores to help themselves to, they will be able to communicate with the other bees through the perforated zinc, and finally, with the exception of the drones (which could be hindered by laying a sheet of queen excluder at the bottom of the central compartment, B), will be able to find their own way down to the brood chamber in due course, through the Porter escapes. Even should they not do so, no harm could possibly arise as these young bees do not fly before the lapse of no less than a fortnight after their hatching. These comparatively empty frames could then be returned (with their covering bees, if any) to the brood chamber and replaced by frames of capped brood as described above. By continuously following this procedure every ten days or so, the additional gain, as regards brood rearing, is quickly increased, without making use of a second brood chamber (to which the queen may or *may not* go), the queen is kept active, and the nursing bees relieved of an unnecessary duty. This practice could be continued from mid-spring till the end of the summer, when wintering is commenced.

(2) *To Insure Natural Winter Supplies of Good Quality.*—This is the function of the side chambers, A and C, besides their acting as parts of an ordinary super. Many bee-keepers, who believe in the superiority of natural food for bees, must have felt greatly disappointed this year in not securing a sufficiency of it, owing to the unfavourable circumstances of the weather. Hence the advantage of guaranteeing the winter stores before gathering any surplus. These side chambers fulfil this important task. Since they accommodate standard frames, as soon as these are filled with honey and capped over, they should be removed for temporary storing and replaced by empty ones, and so on, until the desired number is secured, any filled frames beyond these would belong to the surplus. The reserved standard frames containing the stores could be returned *later* to the bees in the brood chamber, in place of undesirable frames, and, if any amongst these contain sealed brood, they could be treated as described above, thus terminating brood rearing before finally deciding to remove the brood-hatching chamber in preparation for wintering.

(3) *To Prevent Swarming.*—Apart from giving more space by fitting the hive with this additional chamber, the temporary imprisonment of the queen for a fortnight or so in the central compartment, B, during the critical swarming period, might act as a preventive. The queen will never lack attendance in this compartment, since rapidly hatching bees will be regularly emerging, and she will be able, moreover, to exercise her function of ovipositing.

(4) *To Relieve a Colony of Excessive Drones.*—Young drones hatching out in the central compartment, B, will not be able to leave it if a sheet of excluder zinc is fitted to its base, and they could be collected later on and destroyed or utilised elsewhere. This is better than the employment of the cumbersome drone-trap, which hampers the bees at the entrance of the hive.

I submitted this plan of intensive brood-rearing to several authoritative bee-keepers, and they all agreed that, *theoretically* at least, it sounded reasonable. I intended to try it this season *practically*, but owing to the over-occupation of the manufacturers of bee appliances, I was not able to get the necessary chamber constructed, simple as it is. I hope to be able to do so next season, and to report on its merits or otherwise. Had we been fortunate enough to possess a "*B.B.-K.A. Research Committee*," one would have found accessible facilities for carrying out such an experiment, and for the commercial development of any practicable idea to the advantage of the Association, should the original inventor have no particular interest beyond the advancement of bee culture, as in the case of the writer.

## SPAIN.

### Production of Honey.

According to an article recently published in the Barcelona *Boletin del Consejo Provincial de Agricultura y Ganaderia*, there are some 1,600,000 beehives in Spain.

These are practically all in the districts

of Valencia, Aragon, Valladolid, Guadalajara and Mallorca; there are very few in the other provinces. Their production is estimated at 13,000,000 kilogrammes of honey, valued at 26,000,000 pesetas—not including the value of the wax. If these 1,600,000 hives were exploited on modern lines instead of the antiquated methods of apiculture at present employed, it is said that their annual production would be worth 60,000,000 pesetas.—*Board of Trade Journal.*

N.B.—To-day's (November 2) rate of exchange on Spain is Ptas. 23.40 per £ sterling.—A. F. H.

## NATIVE *V.* FOREIGN BEES.

Now that the season is over and all our bees are—or should be—snugly packed up with plenty of stores to last them through the winter and spring, I think I would like to give an hour's leisure to writing a little as to the question of the respective merits of British Black and Italian bees.

During the past summer several letters have been published in the BRITISH BEE JOURNAL on this subject. Practically all the writers take a very decided line, backing either one of these breeds or the other.

Personally, I feel sure, a good first cross between Italians and British takes a good deal of beating, and I believe that many bee-keepers are disappointed with these "hybrids" because they are either not a first or even a second cross, and also because, in many cases, what they believe to be an Italian-British cross, is nothing more or less than an Italian-Dutch cross, than which I imagine there can be few worse combinations.

Now it is usually claimed by the champions of the British bee that they swarm less, and that although it is admitted that the Italian is a faster breeder, the British get more honey, because, not filling the hive with an excess of brood, a greater proportion of the honey gathered is stored as surplus.

The advocates of Italians contend that the greater the quantity of brood, the more bees there are and the more bees, the more honey they will store.

The other element that comes in is swarming. Now my experience goes to show that a very large quantity of brood does not predispose a stock to swarm, provided that honey is coming in well, because if there is a very large area of comb covered with brood a large number of bees hatch out every day, thus giving the queen all the room she may require without going on to new areas of comb. On the other hand, a queen in a stock having a small quantity of brood has, if she is to increase her colony, to spread out and often gets blocked up, and swarms.

I am presupposing that the queens are of a really good strain.

The most fruitful source of swarming is the backward stock in which the queen is trying to spread her brood nest, just at the time the bees are, so to say, impeding her by bringing in honey. Therefore, all backward stocks should be united in early spring. They can be divided again with success and will produce two colonies far stronger than if left to fight their way separately. Especially if the queens can both be kept—one in a nucleus.

So much for the theory that Italians are prone to swarm excessively on account of their prolificness. It is like blaming the champagne for breaking a bottle not strong enough for it when bee-keepers complain of their bees breeding too fast. They cannot do so.

Of course the above refers only to the best British-bred Italians. I would not trust those that are imported at all. They may be all right; on the other hand, they may not.

It is certain that the British bee is less able to withstand foul brood than the Italians, and also the "Isle of Wight" disease. (What a name for a disease!)

A gentleman writing to this paper some weeks ago said, if I remember rightly, that he has no use for the Italians. The bees he used to have years ago were no trouble, never swarmed or had any disease, and year after year, without the least trouble, he had takes of honey—moderate certainly, but sure—but that now his bees are always swarming, and at the end of the season he has supers full of brood and no honey. May I say at once, that anyone who expects to have good results from bees without trouble will be disappointed, also, anyone who indulges in hopes of a certain yearly good result will be almost certainly disappointed.

As a moderate honey gatherer, the British bee takes a lot of beating, I admit, and perhaps there may have been some strains of it in the "good old times" that were almost non-swarmers. I doubt it, and probably so do your other readers, but I admit it is possible. But even if it is granted, bees that only get 20 or 30 lbs. of honey are of no use now. We want 70 to 100 lbs., and that is not done by bees that breed little, and are disinclined to swarm.

On the whole, then, I am in favour of the Italian, pure, if possible, or a first cross, and I believe that much of the dissatisfaction with Italian bees is caused either by the use of poor foreign strains or by bad management. Too much stress cannot be laid on the fact that there are Italians and Italians. Have the

best—they are the cheapest *always*—and keep them forward in spring by uniting if necessary. If this is done, there are not many who will go back to the blacks, especially as these are nearly, if not quite, all crossed with Dutch.

The introduction of Dutch bees was in my opinion, one of the greatest disasters we have had to contend with. They are utterly worthless, I believe. I have had them swarm out of a 10-frame standard hive where they had only drawn out about half the combs. I can honestly say that, though I had many stocks of them when they first came under notice, I have never had a single pound of surplus. A neighbour had eleven swarms from one stock of them in a couple of months!

As a comparison—Italians *v.* Blacks—some seven weeks ago I purchased two stocks of bees with the view of making my stocks up to a level 30. On receipt I began to feed with Canadian rapid feeder. I fed these and some of my own Italians at the same time. These feeders hold about 10 lbs., and whereas my own bees emptied them in a night, the bought stocks took almost a week. I hope they will work better than this at honey. If not, they will soon get re-queened.

I hope this letter may induce others to give their views. I cannot help noticing that practically all the larger takes of honey reported are from Italians.

Personally, since I was being devastated with "F. B.," I have never had any pure British bees. Those mentioned above as bought are not pure.

R. B. MANLEY.

## SKYSCRAPER HIVES.

### HOW TO WORK THEM TO THE BEST ADVANTAGE FOR HONEY AND INCREASE.

*By Julian E. Lockwood, Model Apiary, Hunstanton.*

Since my article appeared in the JOURNAL *re* Native *v.* Foreign Bees I have received considerably over 100 letters asking me to give a detailed description as to how to work the Skyscraper hives to the best advantage when using the Italian bees. With the permission of the Editors I will, as briefly as possible, describe my system during the honey season.

If the hives are examined towards the latter part of April, the bees will be found to cover, say, 6 or 7 combs if they have wintered well. I at once contract the bees with the division board to the number of combs they cover. A slow feeder is then placed on the hive, whether the bees are actually in need of it or no. A frame of wired foundation is then inserted into the middle of the brood nest, and in about a week or ten days' time this will be nicely drawn out, and full of larvæ and eggs. Another frame is inserted as soon as the last one is drawn out, and so on until the full complement of 10 combs is covered by the bees. When the brood box is quite filled, and there is brood in all stages of development in most of the combs, I at once double the stock, by placing a brood chamber with wired foundation, or drawn-out combs, underneath, but I do not put the queen excluder between, unless queen-cells are required. In this case the frame of comb with the queen is removed, and placed below, with the excluder between the two boxes. In about 10 days the top body box will be found to contain queen-cells, and can be shifted to another hive with the adhering bees, or as many as are required. If the bee-keeper will sport a few shillings on a fertile Italian queen, it will well repay him, and this division will soon be ready for supering. If a brood box cannot be obtained I generally place a shallow frame box containing 10 frames either underneath, or over, the original brood box. (It makes little difference which way it is put on.) When the queen is laying freely in each box supers can be added, with or without the queen excluder. When the excluder is not used I have known a good Italian queen to keep one brood box and two shallow boxes well filled with brood, and the result is an overwhelming population with little or no desire to swarm. When the honey flow is in full swing the supers must be added quickly, and if possible removed as soon as the combs are all sealed over. If left on the hives there will very soon be a hive standing 6 ft. high, which will require a chair to stand on to look in at the top super. Not only that but they become very cumbersome to manage. I saw a similar hive at Mr. Smith's apiary at Cherry Hinton, near Cambridge, last June. It was a proper old skyscraper, and though I stand over 6 ft., I could only just see level with the top super. All the supers were absolutely packed with bees, and a continuous stream going and coming. By working on these lines I reckon to use up a good young queen in three months, and I always requeen every year. I have also found in many cases that the bees will often supersede of their own accord about the middle to the latter part of July. On only one occasion did I have a swarm issue from my skyscraper hives and this was because I ran short of supers.

Now just a word of warning to those who have shown their desire to follow this plan. Unless in a good honey producing locality I should advise beginners especially to leave it alone, for if the honey flow is poor, or of short duration, the enormous population will consume more honey than they can store in the combs. I hold that

Norfolk, and Cambridge are the best honey-producing counties in England. Sanfoin fields abound everywhere, and when this is the case the skyscraper principle can be worked to the bee-keeper's advantage and great profit.

Many inquirers have also asked me what type of hives I work on these lines. Much as I dislike the British frame I am compelled to use it, as it is the standard for the country. I therefore use W.B.C. hives of the best make, but brood boxes answer the purpose just as well in summer.

If increase is required, all one has to do is to take out three frames of brood and bees and form a nucleus, giving a fertile queen the same night. If this is made early in June, and helped on with about two frames of hatching brood, they will be ready for supering in about a month from the time of making. Another very good way is to remove one of the brood bodies with adhering bees (preferably that with the most hatching brood) to a new location. If the division is made at midday, and the old queen left on the old stand, a fertile queen should be inserted in the queenless lot by direct introduction after fasting the queen for 30 minutes. This should be very soon ready to receive supers. By making a little increase on these lines the parent colony has no desire to swarm, and as it is literally teeming with bees suffers very little for the loss of brood and young bees taken away. I never dabble about with virgin queens when I divide my colonies, for I find that a little outlay on a good select tested Italian queen soon repays itself from the surplus honey which will be obtained.

I must again impress upon my inquirers (and beginners especially) that I am referring to my own district, and cannot say what would exactly happen to a hive so worked in a poor locality. In conclusion I should like to point out to readers that in these times of high postage rates and shortage of labour that it is only fair to enclose a stamped addressed envelope and make the questions as brief as possible when writing to a stranger for advice. Will readers cease writing to me for bees and queens, as I have none for sale, only possessing 30 stocks myself.

## WANTED.—RECIPE FOR MARROW JAM.

I wish to make some vegetable marrow jam, using a mild-flavoured granulated honey in lieu of sugar. Will someone who has done this successfully be kind enough to detail the process, bearing in mind that it is desirable to use only as much honey or ginger as may be necessary to ensure good-keeping quality?—H. J. O. WALKER, Lt.-Col.

# CORRESPONDENCE.

*The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.*

## THAT SKEP.

[9797] I was very much interested in your correspondence (7919), p. 351. Now, I am not a skepist myself, but there is something about it that I cannot understand—that is, as regards the bar-frame hive and the skep hive. What I cannot understand is this. How is it that the "Isle of Wight" disease always breaks out in the bar-frame hive—at least nine cases out of ten. I think that I see as many bees in one year as any other man; I have an area of 18 miles radius, and get into all the nooks and corners where bees are located. The "Isle of Wight" disease has cleared out many apiaries around this district, and every case that I have come in contact with, up to the present, is with the frame hive, and I have about a dozen skepists of whose bees I have the management, and not one has any trace of the disease. I should like this problem solved, and I am inclined to think that there is something wrong somewhere—that is, between the frame hive *versus* the skep. I have made it up in my mind that I am going to try and solve the problem, as I am going to do away with the bar-framed hive and go back to the old straw hut, at least for a year or two. I have at the present time two old sugar boxes. Each contains a good strong colony of healthy bees, and this coming season is their third year's existence in the boxes, and to-day (October 28) working for all they are worth, carrying in pollen from a field of late mustard which is just at hand, and the frame hives are dormant, some dead and others dying. How is it? I always read Mr. Kettle's yarns with much interest, and I notice by his yarns that he has his bees in other than frame hives, and I should like his views on the above subject. Perhaps he will be able to throw some light on it, as I will own up that it puzzles me, and I have had half a century amongst bees. I have been a reader of

the B.B.J. at least 35 years, and I am as proud of it to-day as ever I was, and I have seen it said in the back numbers that the straw skep is a sealed book. So it is, to a certain extent, but on the other hand it can be worked with good results if properly managed. When I go my rounds it gives me joy to get amongst the skeps, where the bees are healthy and working with a will, but when I visit the bar-frame bee-keepers' hives I have my "duck" knocked off to find some of them dead, and crawlers all over the place, and I really think that there is no real cure for it. I have apparently cured it for a time, but it breaks out again, and if there is not something done bees will soon be a thing of the past. I have several skepists that would like the frame hive, but under the present circumstances I don't give any encouragement to start with them. I should like to see other old bee-keepers' views on the above subject, to which I am sure our Editors will give publicity.—E. J. THOMPSON.

## SAVING DISEASED COMBS.

[9798] I have read with interest the article under the heading above in your issue dated 24th October from Mr. C. H. Dyche, as the swarm received by him in early June came from my apiary. The hive it came from I will call No. 1, in which there has been no sign of disease up to now; No. 2 swarmed May 28, though 42 sections were on, so I removed all brood, replacing it with foundation and putting the sections on again.

On June 9 crawling began. I sprayed flying and crawling bees, the ground round hive and the outside of hive with a solution of Bacterol, and twice I drenched inside of hive with it, but there was no improvement. This continued till the 23rd, when I removed the sections and sprayed bees and combs with Flavine, to no purpose.

No. 9, 300 yards distant, also failed to recover under similar treatment, though it had a 1918 queen. These two stocks were then moved to a new stand, well sprayed with Flavine, and No. 9 placed on top of No. 2 with a view to their union. As there was still no improvement and they had been confined three days in order to compel their use of the Flavined food, I decided to sulphur them, and I did so one evening when flying had ceased. Next evening I went to open the hive to clear and burn contents, and was surprised to find two good seams of bees in each lot, so I removed surplus frames, united bees, and, as it was getting dark, left them, after opening slides to enable them to fly. Next evening I went to lift hive off floor-board to clear dead bees and give floor a cleaning, but the bees had done it for me. Then I decided to spray combs which had been removed with Bacterol, of course uncapping all sealed cells, and placed them behind dummy till bees had cleared them of honey, when they were gradually used till the hive was full. There has been no sign of disease in this stock since.

No. 5 was formed of brood, and queen cell from No. 2 has given me 30 heather sections, and is now on 15 combs, and appears healthy. I should add that the combs not required to fill up the sulphured hive were given to No. 5.

Another stock which swarmed two days after I saw crawlers has shown no sign of disease since.

My experience seems to me to show:—First. The disease appears to be mostly in the older or field bees, and that these can only be treated when no food can be obtained outside, as they will ignore artificial food, and honey is often out of the question. This would be support for the idea that a young queen is better than an old one. Second. That there is no need to destroy good combs or brood, because if they are infected they can be easily dealt with. I am in close accord with Mr. Dyche: his experience is much like mine.—W. MIST.

## EXPERIENCE WITH "ISLE OF WIGHT" DISEASE.

[9799] I always read with deep interest all notes in THE BEE JOURNAL giving experiences with "Isle of Wight" disease, and if you think it sufficiently interesting to your readers I will give mine.

In common with most bee-keepers in this district I have been a great loser by this plague.

Some five years ago, after trying all the supposed remedies I could hear of, I lost all my bees, but after a season's rest I commenced again with four fresh stocks and clean appliances, and have had but little trouble since, but this trouble again appeared under the following circumstances:—

The first Sunday in June this year a hybrid stock gave a large swarm, which was hived on clean standard frames and a rack of partly drawn-out sections and placed on the old position, the stock afterwards being broken up into three nuclei.

The weather at this time being splendid, neither were fed. For a short time the swarm worked well, then developed the "Isle of Wight" disease, and a few days later the old stock showed the same symptoms. I treated the swarm with "Flavine" for about a fortnight, but, finding no improvement, destroyed them.

With the old stock I used "Bacterol,"

and, thinking there was an improvement, changed them into a clean hive. They recovered, and are now a strong stock. The other two nuclei have kept perfectly healthy and done well.

From this experience it would appear that "Bacterol" is a cure, whilst "Flavine" is not; but is it so? I am inclined to the opinion that the conditions were not the same in the two lots, for whilst the swarm consisted of the older bees and old queen; the other contained young bees and a young queen.

Here, I think, is the secret of most of the recoveries. The young queen, under most favourable conditions, was able to master the complaint, and so survived.—W. N. CARTER.

## TREATMENT OF "ISLE OF WIGHT" DISEASE.

[9800] Many years ago, as reported in the BRITISH BEE JOURNAL, a hive with a foreign queen showed signs of above disease, and was sulphured at once, which was quite successful. Last year two others were similarly treated, but not with the same result for this year the disease appeared again. Now was the time to *try* a remedy, so I procured both Bacterol and Flavine, and decided to use the latter, which was sprayed on the alighting board five days in succession; symptoms were developing all the time. I turned to, opened up the hive, and sprayed thoroughly everything, which was repeated three or four days later, and the colony was saved and the crop good.—J. M. BEST, Trewoon Apiary, St. Austell.

## BEE STINGS AND BLOOD POISONING (9787).

[9801] Mr. Salmon mentions menthol salicylate as useful to smear on the hands to prevent stings. Would he mind verifying this, as it has been suggested that it might be methyl salicylate.—J. L. B.

## PRESS CUTTINGS.

### A NOVEL BEE HUNT.

BY BEEKEEPER.

The high prices of stocks and honey have this season made the hunting of stray swarms, self-hived in hollow trees or roofs, an exciting and profitable game, and amongst the stray colonies which have succumbed to the bee-hunter is one which for five years at least has occupied the top of one of the lofty columns surrounding the smaller of the Leighton Gas Company's two gas holders. A small opening between the top of the column and the heavy metal cap gave the bees entrance to their novel hiving place, and before they could be got out and induced to accept a modern bar-frame hive as their future home the metal cap had to be removed. Conical in shape, and weighing, with its load of honey and bees, something like a couple of hundredweight, it could not be handled. It had to be raised and then lowered with block and tackle to a suitable place for clearing, and, before the bees could be driven, the hunters were helped to as many stings as the most ardent bee-hunter could desire. The most delicate part of the operation was the removal of four screw bolts which secured the cap to the top of the column. After having been in position some twenty years these resisted the blandishments of the stoutest spanner, and needed the gentle persuasions of a hammer and cold chisel. Everyone knows how quickly bees resent the slightest jarring of the hive. But there was no other way of moving the bolts, and passers-by watched with some interest a venturesome member of the party sitting some sixty feet from the ground, astride the slender girder connecting the columns and slowly hammering out the bolts, whilst around buzzed a horde of angry and irritated bees. The lowering of the cap also provided some excitement, the brushing of the comb against the top of the column as the cap swung free rousing the bees, in spite of the free use of smoke, to the wildest fury and forcing the hunters for the moment to capitulate. A mass of loose comb and bees fell on the heads of the men hauling from below, and they, too, received a fair dose of formic favours. After a night's rest the bees tamely allowed themselves to be driven by the usual methods, and hived on six full frames of brood, and two of honey cut from the cap and fitted into standard brood frames. They are now working merrily in their new home and defending it quite as furiously against robber wasps as they defended their old home against the bee-hunters. The cap, of course, yielded up an accumulation of honey, but that is another story.

Another Leighton Buzzard bee-keeper has secured a stock of bees from between the floor boards of a Heath bedroom. The occupier of the house has had several swarms from this colony, but was quite willing, on being promised the honey, to let the hunter have the stock, if he could get it. Several floor boards had to be removed before the queen could be captured, but both occupier and hunter seemed satisfied with their share of the evening's amusement.—From *The Leighton Buzzard Observer.*


## REVIEW.

*Practical Queen Rearing*, by F. C. Pellett (4s. 6d. net).—To those who are interested in queen rearing this book will prove most useful. The author has visited many of the largest queen-rearing establishments in America, and gives the best methods in use at those apiaries. The directions given are brief and concise, but clear. The book is small, but the writer has managed to cover a lot of ground and to give much very useful information in a small compass. Chapter I., a description of the characteristics of the various races and varieties of bees, will be of great service. It is published by the *American Bee Journal*, printed on good paper, bound in cloth, and has many good illustrations.

## A DORSET YARN.

A wonderful autumn for bees in Dorset. Still whole fields of charlock: even as the men pull the mangels the bees are round on the charlock flowers. They are now on the laurestinus; the blooms smell quite strong as one goes by them. Flowers are still in great profusion in our area, and with some bright days the bees are everywhere. We have not yet the robbing song, which is a surprise to me, as the Italians last year preyed on the late swarms and cleared them out very quickly. They, like the Germans, delighted in looting their neighbours that were weaker than themselves. Our lot looks like wintering well; I find, when one only touches the roof to look in, there is the quick roar of sound that shows they are ready to defend their homes against all comers, and soon are hurrying outside the entrance to take action. One of my neighbours says his are not so well this autumn; they were very clean and strong for two years. I wanted to buy some of them for a Devon bee-keeper, but he would not part—it was well for the would-be purchaser that he would not. We are not far from the sea; the air is very moist in autumn. I have an idea that moisture has a lot to do with bad wintering; a dry shed to cover them will be a great advantage. The learned Ealing doctor has advanced that, as has another of the writers in the JOURNAL (who writes too little). The dryness of everything round must be better for them; weather like we have had lately—wind blowing, rain over the hives, even though they are rain-proof, must make for moisture inside. The hives I have now are larger, so as to have a greater air-space round the brood chamber, which in my opinion adds to the dryness of brood box. We have found that air-space in the larger hives makes this.

In reading that exhaustive work, "The A B C and X Y Z of Bee-keeping," by Root, one is struck with the diversity of food plants. The States are so vast. From the frozen St. Lawrence river to the Gulf of Mexico gives them such a great variety of plants, where bees in our temperate area have only a limited lot to feed on, and some of them, like the lime, only a short time. The orange groves in the States must be beautiful, and the honey from them must be delicious. The food plants in Dorset are all that tend to make good honey, though some is nicer to the taste than others. We are just now using shallow bars that were put on in August, which we consider to be mostly heather, but we have noticed that the honey from gooseberry and raspberry is very tasty, or it may be thought so, as it is the first we get in the year, and we have only been able to get it by giving drawn-out sections that were only partly filled the previous season. For our own use early next season we shall use shallow bars, but must have the wires run longways of the frame and not laced at angles, as we do the standard frames in the brood chamber, as it is difficult to cut the comb clean out of them. Many who see our bees, and taste the honey, go away with a desire to keep bees, because of the delicious taste of the honey. We tell them that not all the wealthy people in the country have better than ourselves. Still, without a doubt it is a great luxury, for I took a few sections to the R.H.S. meeting on October 22, and visitors begged for some of them at 4s. each. I was not keen to sell, as we always like to have on hand some of the best for our own use. One gentleman gave me 24s. for six of them; he came from Bonnie Scotland. I need not have taken any of them home. Some ladies openly accused me of "profiteering." I had to advise them that I had them for exhibition, and had no wish to sell what we wanted for ourselves, and if they wanted cheap honey they must keep bees to gather it for them, as we do in Dorset. One lady (I should presume she was an old maid) asked if it was "maiden" honey. I assured her that every bit of it was gathered by maidens; if she could prove it was not I would give them to her. I rather fancy she thought I was, to use a slang term, "pulling her leg." Yet, without a doubt, by her dress and speech, she must have had a costly education. The Dorset tiller of the soil had to give her a short lesson in natural

history. "How very interesting!" was the rejoinder.

My youngest son has just had a form to fill up. Each county is anxious to know what Service men would like to follow farming as an occupation after the war. I hope all our bee-keepers who have gone to the Army will fill one up, and get fixed on the land while the owners of the soil are agreeable to the scheme, as then our craft will come into its own again. I told my son to fill up for 50 acres. He will be able to make a comfortable living from them; a bee-man, even if he is minus one arm, will be able to work on the land. On a neighbouring farm, the farmer has only one hand and a hook, yet no man with two sound arms can beat him in breaking-in young horses to farm work.

All our bee-keepers in the United Kingdom ought to form a limited company or co-operative society in £1 shares, to help settle the bee-keepers on the farms. I can help my son with a cow or two to start, but many others will not be able to start without a little help from someone. The State ought to settle a lump sum on the maimed heroes who are broken in the war, but there will be many who will be broken in health, by the exposure of campaigning whom the State will not help at all. If it can be arranged by the National B.B. Association, I will start with ten shares of £1 each. If no one begins it can never be done. I hope the owners of the soil will never get back to the same individualistic groove as it was before the war, when pheasants and partridges, deer and hares were thought to be more value than the man who tilled the soil for the nation's good in growing food for man and beast.—J. J. KETTLE.

## A MODEL APIARY.

I.—THE APIARY AND ITS SURROUNDINGS.

On the northern bank of the Royal Dee, some 20 miles from Aberdeen, amid some of the most beautiful and picturesque scenery in Scotland, stands Glassel, the property of A. H. E. Wood, Esq., who has been long known to readers of the BEE JOURNAL as a prominent and successful bee-keeper, as well as a generous donor to the funds of the B.B.K.A. and local Associations. The apiary merits the appellation forming my heading better than any other I have seen either north or south within the bounds of Scotland. Situated in the midst of a richly wooded area, not far from the Dee, it commands a magnificent view of almost the whole river valley from the far-distant Cairngorms down to the lesser hills near the City of Aberdeen, and it embraces splendid views of Lochnagar and other classic scenes.

It is fast becoming the Mecca of bee-keepers all over the North-East of Scotland, for they flock to it annually from far and near. Last year 350 members of the Aberdeenshire and District Bee-keepers' Association, of which Mr. Wood is the chairman, and this year over 400, have visited it during successive weeks of the active honey season, and no one leaves it without carrying away pleasant memories and a higher ideal to work up to. Here they see everything of the best. Apiculture is carried on along the most advanced lines, while the system of management, as well as hives and appliances, are perfect, and as specimens are well worthy of imitation.

The *surroundings* of the apiary are all that could be desired. Willows are abundant, sycamore trees are numerous, profusely-blooming lime trees are everywhere, while rich fields of white clover, wherein the bees revel all the summer long, occupy a large part of the near foreground, and, to sum up, heather spreads its wealth of purple bloom on the not-distant Hill o' Fare. It will thus be seen that here is an ideal site for an apiary. The owner places his chief confidence in the wealth of white clover during July, and in the bounteous flow from the lime blossom in August for surplus honey. Working as he does for extracted honey, heather is viewed as a secondary source of nectar.

The hives are of Lee's W.B.C. pattern, and are arranged in pairs all over the spacious, well-trimmed lawn, and number about 50. They are themselves a great adornment, being in every way perfect of their kind. Each stand bears a number and accommodates two hives, which are marked A and B, thus giving a quick and easy reference in keeping records. The stands are so constructed that the weight of each hive reposes on two of the four supports. The stands are painted green, and the hives a pure white. As gales blow strong in this part of the country, it is necessary to fix the roofs on firmly, and this is done by a fine flexible wire rope, which is securely tied to each end of the stand. It passes over the top of each hive, and is brought down between the hives to a stick, which is weighted in the middle with a 14-lb. block of concrete. The upper side of the stick has a hook through which the wire is passed. The front end always rests on the front bar of the stand, and is kept there by a large staple, the stick at this end having 6 in. of stiff ¼-in. fencing wire fixed in it, which lies loosely in the staple. The arrangement is so simple that a child can easily lift the free end of the stick owing to the leverage. This is all done quickly, and there is no tying or untying to be done. To save the canvas from being cut by the wire rope on the edges of the roof, a small piece of wood, about

6 in. long, is fixed on to the edge. This system of fixing down roofs is worthy of being highly commended.

The *inside* of the hive is varnished, as it has been found that this not only keeps the wood dry, but also that the operation prevents the outer surface from peeling off or blistering, as the moisture cannot be drawn through the wood by the heat of the sun.

The *porch* consists of a single board fixed over the entrance. In summer the doorway is all the width of the hive, but only ⅜ in. deep; in autumn it is contracted by slides as occasion demands. These, placed in one way, leave a half-inch opening; reversed, they can be closed entirely. In winter a second board, nearly the length of the porch, is screwed on, resting on the alighting board. In the centre a notch is cut, affording a bee space for the exit and entrance of bees. In addition, however, they can obtain easy access round the ends of the "storm door" to the true entrance. This device is a valuable saver of bee life, as it not only hinders chilling winds, drifting sleet, or snow from finding its way into the hive, but it checks would-be robbers from carrying out depredatory raids. A square of glass placed up on edge still further hinders any attempted robbing boom from proving successful.

All arrangements of the *hive interior* are the result of careful study and prolonged observation. Mr. Wood believes in ample packing overhead, and uses about as much covering all summer as he does in winter. First, over the frames in each body-box he has a *glass quilt* with a 3-in. round hole in the centre. This is set in a frame with a ½-in. bee space below the sheet of glass. Formerly a disbeliever in this system of overhead covering—indeed, an out-and-out opponent of the use of glass—since seeing the perfection of these "quilts" I am a strong advocate of their use. They are not only attractive, and afford an interesting period of observation as to the condition of the bees and brood nest, but they also add to its cleanliness. Each sheet is set into the frame in such a way that the slat affords space for the expansion of the glass, so that it never cracks, of old a grave fault. Brace combs are rarely formed, as was previously too often the case, and no dampness is ever found present. Above this quilt are placed two coverings of ticking cloth, neither of which, of course, is ever propolised. Over this lies a thick, carefully-made-up cushion of wood shavings, with a hole in the centre for accommodating a circular feeder. When this is not in use the opening is closed by a close-fitting pad. Over these are placed two to four layers of warm blanket or woollen cloths. A loose space in one of these affords room for one or two regularly renewed naphthol balls to keep out wax-moth or other vermin. It will be noted from the reproduced photograph* that hives are not placed in line, but that their fronts face almost every point of the compass. Studded thus, over a well-kept lawn, and placed between lovely beds of flowers, flowering plants, and beautifully flowering shrubs, they form a delightful picture—artistic, and wonderfully picturesque—just what a model apiary should look.

In the centre a drinking fountain has been constructed, in imitation of an ancient well-head. Supplied on the gravitation plan, the waters are always cool and fresh. They trickle down the sides, which are adorned by a number of rock and alpine plants, and then drip on to a deposit of coke before finding their way underground to a neighbouring stream. Here the bees can drink their fill at leisure, and in spring and autumn the busy, contented hum goes on in a lively key all day long, thousands of bees visiting it. This is a great source of interest to all visitors of this apiary.

The whole arrangements of the apiary form a pleasing landscape. It is believed that the special grouping of the hives not only affords the young queens a guide to their own hive when returning from their marital flight, but the bees, too, find their own hives more readily, even on a blowy day; therefore there is little drifting. The lawn faces almost due south, and every hive has a prolonged period of the sun's rays daily.

Nucleus hives are used in summer both for queen-mating and for obtaining increase, but queens are generally mated from the observatory hives, which are kept in a special shed built in a quiet spot, apart from the regular hives. Needless to say, many visitors find this one of the most interesting corners in the apiary. There six single-framed hives are kept stocked with young bees. Ripe queen-cells are put in, and as soon as the queen starts to lay she is used elsewhere, and another queen-cell is inserted; so the ball is kept rolling through the summer months. In this special shed during summer there is a Lee's three-frame observatory kept going for educational purposes, and in addition a full-sized ten-frame hive, all glass, with supers of glass. This is always kept strong, and remains there summer and winter. A record is kept of its doings, which forms interesting reading.

Hitherto the bees have been almost entirely Blacks, but at the time of my visit a good many of the colonies were under-

*This will appear in our next issue.—EDS.

going the process of being Italianised. Mr. Wood takes a direct personal interest in every operation in the apiary, and has a very full and exact knowledge of the whole field of apiculture, as his very numerous visitors fully appreciate. The chief apiarist is Miss Robinson, who is a First Class expert of the B.B.K.A., and one of the best Final Passes in recent years. That success crowns their united efforts is proved by the fact that last year they secured over a ton of honey from 28 hives, the average being 85 lbs. This year it stood at 84 lbs., even when contending with disease. The record hive last year had 180 lbs.: this year the best was 140 lbs.—D. M. MACDONALD.

## KENT BEE-KEEPERS' ASSOCIATION.

ANNUAL CONFERENCE AT ROCHESTER.

Over 70 members from all parts of Kent attended a very interesting meeting of the above Association on Saturday, November 2, at the Guildhall, Rochester.

Henry Fielding, Esq., Vice-Chairman (Canterbury), presided in the unavoidable absence of the chairman, Mr. Dewey.

Dr. A. Z. Abushady, who had promised to address the meeting, unfortunately was not able to be present, but Captain C. C. Lord, R.A.M.C. (Chairman of the Rochester Branch), kindly volunteered to read his paper, which was most interesting and instructive. Dr. Abushady remarked in his paper that bee-keeping in England seemed to be greatly behind the times, and not at all progressive. He said that in America bee-culture was considered a science and not a craft: it was run on scientific lines, and in consequence was far in advance of any other country in bee-keeping practice. Their leading principle was efficiency, while in this country economy was erroneously thought to be the key to profit. Summarising, the Doctor considered that in our quest for progress the following four principles should be thoroughly understood:—

(1) Learn to appreciate criticism and to study our international position with a view of improving our conditions, and contributing our best to the general advancement of bee-culture.

(2) To realise that the basis of the greater progress of others is science and not tradition.

(3) To appreciate that as science is incompatible with disorganisation we should see to it that our Bee-keepers Associations are perfect examples of organisation existing by deeds and not by name.

(4) To understand that apiculture is a progressive science and not a mechanical craft.

He expressed astonishment that Bee-keepers' Associations in England had not established Research Committees or apiaries for experimental and testing purposes, and urged that this matter be attended to at once if progress is to be made. He mentioned the fact that in America aluminium combs were in use, and now being tried as regards their practical use. Another point needing attention was the artificial heating of hives for the purpose of neutralising abnormal changes of temperature during winter, and so maintain in the hive a low but level heat.

As regards "Isle of Wight" disease, Dr. Abushady spoke very highly of "Yadil" in fighting this plague. He mentioned, as points greatly in its favour, that it was non-toxic, non-corrosive, non-poisonous, and a 5 per cent. solution was equal in strength as a germicide to pure phenol, or carbolic acid. Moreover, it was stable and not liable to deterioration. These were very great advantages.

Mr. J. Price, secretary of the Midland Division of the Association, spoke very highly of Dr. Abushady's qualifications and ideas. In the discussion following the reading of the paper Mr. H. E. C. Carter, of Blackheath, held that by the use of artificial combs bees would in time tend to lose the use of their wax glands.

Mr. Graham Porter (Canterbury) made a very interesting observation on "Isle of Wight" disease, saying that he had suspected some ants in his garden to be suffering from "Isle of Wight" disease, and after examination with the microscope found this to be the case. He had prepared several slides. He thought this another channel for the spread of the disease, as ants very often enter the hives.

As a direct result of the strong appeal by Dr. Abushady for a Committee of Research, it was unanimously decided, on the proposition of Councillor Waldegrave (Rochester) to request the Council of the Association to make arrangements to form such a Research Committee, with necessary equipment at the earliest possible opportunity.

The Secretary announced that the Apiary Produce Competition, which was run by the Association this year for the first time, was won by Mr. W. H. J. Prior, of New Eltham, with 161 points. Mr. G. H. Barnes being second with 153, and Mr. Bryden third with 139. Mr. Prior thus won the "Chairman's" Cup for 1918, so kindly presented to the Association by Mr. Dewey.

There followed a most interesting lantern lecture by Mr. Graham Porter on useful bee plants, illustrated by beautiful photographs from Nature, taken by himself. His explanation of the various

blooms, and how the bee gathered the nectar from them, was greatly instructive. A vote of thanks to Dr. Abushady, to Mr. Graham Porter, and to the Mayor, for the use of the Guildhall, concluded the meeting.

## QUESTIONS, Etc., FOR BEE-KEEPERS FOR SELF-EXAMINATION.

(*Students are recommended to write their answers, and check them afterwards by reference to books.*)

97. How may ripe honey in the comb be distinguished from unripe?

98. What is the most preferable site for an apiary, and how should the hives be disposed thereon?

99. In what circumstances is a ventilation hole in the floor of a hive useful?

100. Show how an ordinary lever-lid tin may be adapted for use as a feeder.

101. What is the best part of the day for handling bees generally and examining stocks, and why? Give also the exceptions.

102. For what length of time after a swarm goes out is a hive queenless?

103. What are the external indications that a colony is attacked by I.O.W. disease?

104. What are the characteristic features of the W.B.C. type of hive, and of the C.D.B. type?

105. Give a complete list of the kinds of work done by each sort of bee in a colony.

106. How may drone breeding be kept under control?

107. What is known as to the preparation and use of brood-food?

108. Make notes for a 15-minute lecture on the structure of the bee-sting apparatus and its uses to the bee and to the beemaster. J. L. B.

## BEES IN WALLS OF HOUSE.

There are two colonies of bees in the walls of our house, one on the south-east and the other on the north-west.

They were established when we took possession of the premises a little more than three years ago, and no one seems to be quite certain as to how long they were there previously.

My wife and myself did not take particular notice of these bees until this year, when it occurred to us that we might make use of them.

On June 12 we began operations with the nest in the north-west wall, as here there is a bed-room where we could hear the bees humming and also feel their heat through the plaster. The warmest spot in the wall, where we judged the brood would be, was about 3 feet 6 inches down from the ceiling. The structure of the building at this point is timber framing set 12 inches apart, lathed and stuccoed on the outside and ordinary lath and plaster on the inside.

We first bored through to the nest with a bradawl and pushed in a fine wire which, when withdrawn, was found to be coated with honey. We next prepared a piece of thin sheet iron to 12 inches wide and at a point 1 foot 6 inches down from the ceiling we made a horizontal saw cut through the lath and plaster (being careful not to let the point of the saw go far into the cavity), and through this saw-cut we pushed the piece of sheet-iron as far as it would go. (This was afterwards found to have made a perfect seal between the upper and lower parts of the nest.) We next made a small hole near the ceiling, and fixed an ordinary escape cone, then we opened the window and watched the imprisoned bees escaping.

The next day, as no more bees were coming out, we concluded they had all gone. We then cut through the lath and plaster close to the timbers on each side of the cavity from the ceiling down to the iron plate, when the lath and plaster came away in one panel, and there was exposed a double wall of comb reaching from the wall plate at the ceiling down to the sheet-iron and quite free from bees. Contrary to expectations, the comb was fairly clean, and the haul amounted to 7 lbs. of run honey, besides what we had eaten in the comb.

The next thing was to thoroughly clean out and whitewash the cavity. We then fitted three strips of wood across close to the sheet-iron, and rested on these a crate with glass front holding four ordinary sections. The sheet-iron was then withdrawn, and immediately the bees came up into the crate.

Strips of wood were then screwed on the face of the plaster to frame in the cavity and a warm curtain fixed.

For a time we thought the bees were beginning to work in the sections, but they only made good their lower comb up to the strips of wood which had been fitted across to carry the crate. We have now taken the crate and sections away, and supplied the bees with a feeder filled with syrup, and, judging by the contented hum, they are thoroughly enjoying themselves.

On June 6 the bees on the south-east side of the house swarmed, the swarm weighing nearly 6 lbs. We put them in a bar-frame hive, giving them eight frames and two more on the 14th, and on July 2 we put on a super fitted with nine shallow frames. On August 22 we removed the super and extracted 18¾ lbs. of honey, and have now given the frames back to the bees to clean up.

The bees on the south-east side could not be treated in the same way as those mentioned above, because there is a hot-water cistern fixed close to the wall, and this would have to be removed before the nest could be opened from the inside, so we we are keeping that stock to give us swarms from time to time.

We have joined the Kent B.-K.A., and feel ourselves to have made a satisfactory start in bee-keeping.

We are hoping to form a local branch of the Kent Bee-Keepers Association, and are being very much helped in this project by the kindness of Lady Edwardes, who is presenting a quanity of useful bee-keeping appliances in memory of the late General Sir Stanley Edwardes, C.B., a vice-president of the County Association and an enthusiastic bee-keeper.—T. MERCHANT TAYLOR.

## CORRESPONDENCE.

*The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.*

### "THAT SKEP."

[9802] It has always seemed strange to me that anyone conversant with the modern frame-hive should want to keep even one stock in a skep.

Surely one of the chief lessons of the war has been, that if we wish to maintain our position in industry, we must adopt the most scientific and up-to-date methods, and be continually on the look-out for improvements. Bee-keeping is no exception to this rule, and why should bee-keepers lag behind? In the frame-hive we have the basis of a thoroughly rational systems of bee-culture. In the course of time, doubtless, further improvements in design and methods of management will be evolved. Let us concentrate our attention on these, and not put the clock back by a return to a system which did not even satisfy the more enlightened of our grandfathers!

If Mr. Ion likes to keep a skep or two for purely sentimental reasons, one has no right to complain about it, though it always seems to me like the waste of a good stock of bees, which might be much better employed elsewhere. Personally, I derive far greater pleasure from manipulating a modern hive, with the vast possibilities of control it gives one, than from the mere contemplation of a stock in a skep.

Let us now consider the points which are urged in favour of the skep, that are all that can be set against its obvious drawbacks.

In the first place I admit there are a few people who from lack of energy, education, or intelligence, appear incapable of making a success of the modern system. If such people wish to keep bees in skeps why should they not? By all means let us help them, and surely we are entitled to utilise their driven bees in return, but do not let us imitate them!

Secondly, skeps are said to give early swarms. I fail to see the value of these early swarms myself. They are usually small, and experience has again and again proved that size and not earliness is the important matter, as large swarms issuing about the middle of the season almost invariably give far more surplus than even medium ones that come out early. If, nevertheless, swarms are required early in the season, confine your bees to five or six combs by means of a division board and you will get them, for the only reason why a skep swarms earlier than a frame-hive is because it is smaller.

One point only remains, by far the most important. Are bees in skeps less liable to disease? Mr. Thompson certainly thinks so, and this opinion is fairly widespread. I do not consider the question settled myself, and consider a far greater array of statistics concerning disease will be necessary before we can definitely pronounce upon it. Assuming, for the moment, that there is a *prima facie* case for the greater immunity of the skep, I agree that the problem ought to be solved, but Mr. Thompson will never solve it by doing away with his frame-hives. Instead, I would urge him to retain both types of hive, and by approximating the management of the frame-hives to that of the skeps, he might ascertain in what particular the superiority of the skep consists (if superiority there be).

Let us consider the matter in detail, and see what are some of the main differences between a skep and a frame-hive.

First, the material of which it is made. As wood (viz. a hollow tree) is the natural material for a bee-hive, we may, I think, dismiss this point at once.

Then there is comb-foundation, which is used only in frame-hives. Here we have a much more likely cause of disease. Foundation manufacturers are accustomed

to argue that the process of making necessarily destroys disease germs, but the fact remains that Board of Agriculture investigators have found *Nosema apis* in samples of foundation. Apart from this some bee-keepers think bees would be healthier if they were not discouraged from making their own wax. Will Mr. Thompson experiment with a frame-hive, using no foundation, but only a bit of natural comb as a starter?

A skep swarms more frequently than a frame-hive. Is swarming good for bees, and does it tend to keep them in health?

The right thing for those who consider the skep less liable to disease is to investigate the above points, and others which will suggest themselves, by experiment with both skeps and frame-hives. The wrong way is to abandon modern methods in favour of an antiquated, and discredited system of bee-culture.—L. ILLINGWORTH.

## BEES IN FRANCE.

(9803) If you will allow me space I would like to comment on Mr. Wilson's article "Bees in France," in your number of **October 10.**

I have had the good fortune to meet a number of bee-keepers in various parts of that country, and while in many of the country districts bees are kept in skeps and box hives, I have, for the most part, been more fortunate than Mr. Wilson in finding the men I have met highly intelligent, and keeping their bees on up-to-date lines.

My experience has been mostly in Lorraine, a country of hills, with rolling corn lands and small streams running along in the well-meadowed valleys. It is, I am told, one of the good honey-producing districts of France, though this year has been a failure almost everywhere, owing to the wet, cold weather at the time of the fruit blossom, and the drought when the clover and limes should have been yielding their nectar.

I vividly remember one apiary which I was invited to visit. There were about twenty stocks of bees ranged in a long, low bee-house, facing S.E., on the southern slope of a valley, and sheltered by a broad belt of pines. Inside the house the hives were ranged in a long row, on a couple of iron girders about a foot off the ground, and supported by concrete pillars, and then behind the hives was a corridor, of about 3 ft. in width, to allow room for manipulation. The floor was of concrete covered with sawdust (the bee-keeper owned a small saw mill), and the hives themselves were all interchangeable, stoutly made with square body box, a small lift to hold the winter cushions, a flat roof, and the corners all strengthened with brass angle plates. In the back of each body box was a neat little shuttered glass window.

This man (the mayor of his village) has kept bees for 40 years, and was most interesting to talk to. He runs almost entirely for extracted honey, which in this neighbourhood comes mostly from sainfoin and lime, with wild flowers (mainly a melilot) in the pastures. There is also a crop of a plant belonging to the mustard family, which they grow for the oil in its seed, and which is very useful, especially in providing honey from its second crop in September, though the honey from it unfortunately granulates very rapidly.

Bee-houses are very much favoured out here (rather than apiaries in the open air), I think, probably, partly because the winters are rather more severe, and a house affords additional protection from the biting easterly winds.

At present, as Mr. Wilson has said, the industry is in a lamentable condition. With all the able-bodied men away, only the most pressing of even the ordinary farm work has been able to be done, and, of course, the bees have had to be left, and consequently losses have been unusually heavy. Then in the areas which have been swept by the war, most of the hives have been destroyed, so that after the war there will be a large number of bee-keepers unable to start again unless someone should come to their help.

In this connection the Société Centrale d'Apiculture (which corresponds to the B.B.K.A.) has made an appeal to bee-keepers in the "interieure" to help their brother-bee-keepers of the invaded areas, offering to take the work of centralising collection and distribution, and has started a fund in order to assist in the transport of such gifts, and if possible also to purchase further colonies. I believe that one of the Swiss Associations is also collecting money for the same purpose.—E. G. BURTT.

## PRESS CUTTINGS.

### HUMBLE-BEES AND BROAD BEANS.

It is not generally known that while the humble-bee plays a useful part in fertilising the flowers of broad beans, it sometimes does an injury of an unusual type. The bee, of course, does not fertilise our beans for the fun of the thing: it is only an accidental result of one of the serious businesses of its life. The reason it visits the bean flowers is to obtain the honeyed nectar they contain. The nectaries being situated deep in the flower, the bee has to

force its way into it, and, being of large size is supposed by naturalists to at times find this troublesome. So it has discovered a shorter way to the hidden treasure, which is to puncture through the calyx and petals from without, and then insert its proboscis and draw up the sweet fluid from within. The result of this action to the gardener is that the embryo pod is more or less damaged by the puncturing and fails to develop properly, and so his crop is reduced. Sometimes the injured pods are abortive, at other times they grow in a distorted manner, and do not contain their full quota of beans.

Darwin held the view that the humble-bee adopted this plan as the quickest means to an end, and his contention is somewhat supported by the fact that other and larger flowers are also punctured, namely salvias, antirrhinums, and azaleas; fuchsias, larkspurs, and also scarlet runner beans are sometimes attacked in the same way.—From *Amateur Gardening*.

## Notices to Correspondents

*Correspondents desiring an answer in the next issue should send questions to reach this office NOT LATER than the FIRST POST on MONDAY MORNING. Only SPECIALLY URGENT questions will be replied to by post if a STAMPED addressed envelope is enclosed. All questions must be accompanied by the sender's name and address, not necessarily for publication, but as a guarantee of good faith. There is no fee for answering questions.*

F. KNIGHT (Carshalton).—*How long a 1 lb. cake of candy will last.*—This will depend on the number of bees and the state of the weather. An average colony that has no stores will probably consume about a pound a week, more in warm weather, and less in cold. We have known a pound taken down in two or three days, but most likely the greater part of it was liquified and stored in the comb.

L. W. (Grimsby).—*Position of queen cell.*—It would not be detrimental if a ripe queen cell was laid on its side on the top of the frames, if it was not crushed by the quilts.

F. W. POWELL (Kidwelly).—(1) We do not think there is any difference. (2) W. J. Forehand & Sons, Fort Deposit, Ala., U.S.A.; G. W. Phelps & son, Binghampton, Wilcox Street, N.Y., U.S.A. (3) Prices vary according to season and class of queen from 75 cents to 2 dollars. (4) You cannot ensure your queens mating with drones from any particular hive.

H. M. DARRAH (Buxton).—Thanks for cutting. Particulars were given in the JOURNAL at the time. It is satisfactory in some cases and not in others.

H. E. HORWOOD (Perthshire). (1) Get bees in your own district, if possible, in the spring. (2) "Bee-keeping Simplified," 7d., post free.


## A ROLL OF HONOUR.

Although bee-keeping is considered a minor pursuit, we venture to say that it has provided more fighting men than the usual average of any industry. To place on record the part the members of our craft have played in the present war we propose to make a "Roll of Honour," and shall be pleased if our readers will forward us the NAMES and ADDRESSES, together with the REGIMENT and RANK, of any bee-keeper serving his King and Country at home or abroad; also if killed or wounded.

We print a further list of names to those sent in, and shall be pleased to have other names as soon as possible.

Co. Sergt.-Major Instructor W. R. B. Ray Landsend, Chippenham.—Corps of the School of Musketry. Invalided out of the Army, after 4 years and 2 months service.

## A DORSET YARN.

Bees are still on the wing in Dorset. We have had only a few light frosts—enough to cut down the potatoes that had grown from Sharpe's Express after the lifting. The sunshine that follows light frost has brought the bees out over the fields: they fly everywhere, no matter what notice-boards there are warning man—"Strictly preserved," they steal the nectar from the choice flowers of the rich. Well it is so for the bee-keeper, for the large arbutus trees now must give them a great deal. It is pretty to see these trees, with their fruits hanging from last year's flowers. This flower is what is called a perfect one, in that both organs of reproduction are in the same flower, and not like the willow family, that has the pistiliferous flowers on one tree and the polleniferous on another tree that may be some distance from each other. In many gardens of the wealthy Genistas are planted out in sheltered places, and give a wealth of bloom late in the season, as well as in early summer.

I saw in the London area the handsome-leaved *Aralia Sieboldii* coming into flower even in this fog-shrouded area; but to see them in their beauty in November one must live south; then they are handsome indeed. The large leaves are a light green colour, and the flowers look very beautiful. They seem to attract all insect life that is on the wing late in the season. On fine days bees get their share, but two-winged flies are there in very large numbers. It is the same with perennial Asters; they, too, seem to lure all insect life to their showy flowers. We have the large-flowered violets in three fields, so we see the bees over them; but I notice that they do not pass over the small speedwell that is now in bloom (which was missed by the mowers in August), or the sweet thistle *Sonchus Arvensis*, one of the families that close up their flowers at night to go to sleep, though if it is wet they will not wake up the next day. This class of thistles are all annuals, with one exception, and are easily destroyed when small; the few that are left are as if a guiding hand spared them when small, for the bees. This is also a weather plant with the farm hands of Dorset. "It be going to rain, thick 'ere, sow-thistle bea-nt open yet." They have lived all their lives in the open fields. It is astonishing the wealth of knowledge they possess, and yet town dwellers look down on them, and, in fact, on all of us who rusticate in rural England.

Those who are going in for fruit, as well as bees, should plant up their grounds now; this is the time to root all bush fruits. The old system is still the best—apples, plums, pears and cherries 10 to 12 ft. apart, with bush fruits between. The bush fruits give a harvest while the others are growing into money. Stuff will be dear to buy now; prices are continuously going up. Fruit lands in the Wisbech district are changing owners at very high prices; we had a letter from a bee-keeper in that neighbourhood. He says: "Of one field bought for £800, the first gathering off the trees amounted to £900, without the bush fruits and strawberries." There seems to be more fruit than ever eaten by the masses. Shops in the poorest parts of our cities all clear large stocks when they can get them. It is a good sign of better health when fruit is eaten more, though it is scarce enough now. So all bee-keepers who have room to plant would do well to extend their fruit quarters, and so add to the value of their holdings. One of our Service bee-keepers, who is now on a farm at Three Bridges, has already made a start with black currant cuttings from Dorset. He wrote to me when campaigning in France. Some kind friend sent him the JOURNAL every week, so he was kept posted up with the bees in the homeland. Our great dramatist wrote, "There is a tide in the affairs of men which taken at the flood leads on to fortune." May his lead on to affluence, for he deserves it after enduring the horrors of war that we and our loved ones may live in security.—J. J. KETTLE.

## A MODEL APIARY.

### II.—The Apiary Buildings.

These consist of (1) the honey house, (2 the storerooms, (3) the extracting house, (4) the observatory room.

The honey house is a large and handsome erection. It seems to contain everything the mind of a human can conceive necessary for the proper carrying on of the industry. The fittings are wonderfully perfect and complete. The building itself is 40ft. by 17ft. There are two doors, and both of these are double. An outside one is constructed mostly of a large sheet of finely perforated zinc, and the other is the usual panelled door, the top half being glass. The provision of the two will be appreciated under varying circumstances. Both doors, and indeed every door and gate about the premises, are self-shutting, thus saving all worry and inconvenience resulting from neglect On the outside of each is a prominent inscription, "Eat Honey." Large as the room is, every foot of space on walls and cupboard doors is put to some important purpose. Even the rafters overhead are utilised as places for storing parts of hives and various appliances. Facts and figures dealing with the industry are affixed to cupboard doors for easy reference: certificates (including Preliminary, Intermediate, and Final) are on exhibition along the walls in neat frames, and various tools are hung there ready for use.

Convenient tables run along part of the sides, and commodious cupboards occupy other parts of the side walls. These last are fitted up with shelves on which repose countless necessaries connected with the industry, such as foundation of all sorts, frames of each kind in the flat, metal ends, packing material, and scores of other articles all in place, and all labelled. The centre of part of the room is occupied by a work-bench, provided with a full outfit of tools, and when honey packing is going on, when hives are being put together, when frames are being fitted, or when parcels of candy are being dispatched, this and the various tables are found to be indispensable. At other times, when members of Aberdeen B.K.A. are expected, these are used for a display of all kinds of bee literature. Samples of every bee-paper in the world in the English language are on exhibition, and copies of British and American bee-books are displayed. Visitors are keen on inspecting these specimens.

The space below tables and benches is fitted up with a series of drawers of various sizes, forming the resting-place of those small tools and fittings which would otherwise go so easily astray. Nails are found in some—nails of every shape and size, from the tiniest tack to the largest size required. Each small case bears a label showing what it contains, or the box shows it exposed to view; therefore there is no hunting for anything. "A place for everything and everything in its place" is a rigid rule which saves much valuable time. As all drawers, cupboards, shelves, etc., are carefully labelled, there is no need for one enquiring of another where any tool, appliance, or implements are deposited.

Spare parts of hives are stored away ready for use in any emergency, so that, if called upon, a good many additional hives can be fitted up in the shortest of time. Every part of every hive has a place for itself, and everything can be found in its place ready for use. As every part of every hive is interchangeable, it will be seen how important it is to stick to one model.

The honey house is heated in connection with the house supply, so that the temperature, even on the coldest day, can be regulated at pleasure. One special cupboard can be heated independently, and this is used for experiments in ripening honey. As the building is of wood, *fire extinguishers* are placed at various points along the walls, and the place is also lit by electric light. A very useful large sink, with hot and cold water, occupies a place in one of the windows.

A smaller room, an annexe of the honey house, is found handy for melting up wax, preparing candy, and manufacturing syrup. It was interesting to observe all these processes going on. An American "New Perfection" paraffin stove, with two burners, was seen at work. Over one flame a large copper boiler was melting up "chopped" candy cakes, about 40lb. at a time. Everybody passing, even some of our own vice-presidents, stirred the mass to keep the contents from burning and to expedite the process. Over the other flame was a pan melting already rendered wax, to secure nice, clean, presentable cakes for sale. Here, too, the huge boxes of candy coming from London are unpacked and the contents transferred to the smaller parcels forwarded to individuals, or the larger cases dispatched to the district secretaries to distribute among the members. In converting the candy into syrup a little less water is used than that recommended in the usual formula, the desire being to feed it in as consistent a condition as possible, to save the bees the labour of evaporating the

excess. Ample stores are fed to every colony at the end of the season until each brood box weighs, bees and all, 45lb. About an average of 15lb. of candy is fed each autumn to get this weight, the rule being to carry out "spring feeding" in autumn. Very rarely is any spring feeding done in this apiary. Candy is very highly valued all over the three counties embraced in the Association, and many weak stocks are preserved yearly by its use. Owing to the present high price of bee candy, if bought in small quantities from makers, Mr. Wood, during the war, undertook to supply all members applying to district secretaries or direct to himself, and to order in a large quantity in order to get it cheap for members. Last year over four tons were thus distributed; this year over six tons were ordered and distributed from Glassel or by local arrangements.

*Store combs* in this apiary are specially well cared for, and as soon as they are cleaned up by the bees are at once placed in position in their racks and stored away for the winter in quarters where they are safe. They come out in spring or early summer as fresh, clean, and sweet as when stored away. No wax-moth is ever allowed to find quarters there, and dust is rigidly excluded.

Separate from the apiary and the main buildings, and at some distance apart, is the *extracting house*, fitted with a full equipment for carrying out the work of extracting expeditiously, and with every convenience close at hand. On a raised platform piles of racks stand within easy reach, while knives, heating apparatus, a special grating for the reception of the capping, a tank for the dripping honey, and a Cowan reversible extractor stands by. From this the honey flows into tin receivers or ripeners, during which it more than once passes through sieves or gratings before it leaves the platform, and then it is allowed to run into tins of 7lb., 14lb., or 28lb. capacity. These are placed on a shelf midway between the platform and the floor. The heating apparatus is regulated so that the degree of heat best suited to the process is kept up. A weighing machine stands by to ensure the exact weight in each tin. Later, very simple but thoroughly efficient wooden cases are used to enclose each tin ready for dispatch. Sampling the contents of tins left the impression on the taster that he was standing in front of a show-bench where all the choicest had been set aside for adjudication.—D. M. Macdonald.

[We are sorry the blockmakers will be unable to let us have the blocks for illustrating these articles until too late for this week's issue, but we hope to have them for next week.—Eds.]

## BLURTS FROM A SCRATCHY PEN.

A CHAPTER FROM CALMETTE'S "LES VENINES."

It is now some time since I troubled the Journal with any of my effusions. There are so many who write on subjects of interest, and have well filled its pages during the last three or four years. This being so, some of your ancient scribblers think they can very well be spared. It is, however, the letter of "Anxious Enquirer," in a recent issue, which has made me remember some notes I took a few winters back. I have, I believe, used them before, but they will bear repetition.

It was just by chance that I happened on Dr. Calmette's book, "Les Venines." (Poisonous creatures is, perhaps, an allowable translation.) I was reading up quite a different subject at the British Museum, and while waiting the arrival of a book ordered I turned to the shelves of the reference library for something to amuse me, no fixed idea in my mind. The title attracted me and the author's name.

I had heard of Calmette as one of Pasteur's most eminent pupils, and that he had devoted many years of his life to the study of venomous snakes and reptiles, especially in India and the tropics. He was rewarded by discovering a serum which has almost worked miracles on those who have been bitten, saving many lives when, seemingly, even on the point of death.

Naturally the first thing you do when you pick up a book previously unread is to turn to the list of chapters or to the index just to see what the author has to write about. As a matter of course, most of the heading referred to the reptiles and their poison, but one chapter was devoted to insects. This, as you may guess, I went for. So thorough had been his researches that every detail was worthy of investigation if it bore on his subject in any way. Therefore, insects that sting come well within the scope of his work.

I do not propose to present a translation, but in no way shall I depart from the sense of his text. Some may differ from the conclusions. That is no affair of mine.

Numerous insects, Dr. Calmette tells us, possess a sharp or irritating secretion for defence, but poisonous they cannot really be called. The order of Hymenoptera alone is actually provided with poison glands, and a weapon for introduction. Many scientists have studied these organs, including Leuckart, Bordon, and others. They find that there are always two, and sometimes three, species of glands: (1) the acid gland, (2) the alkaline gland (glande Dufrur), (3) the accessory venomous gland. The acid has a glandulous part, taking sometimes the form of a long flexible tube, always bifurcated at the extremity, or, again, it may be two tubes, simple or

ramified, or else it may be a bundle of cylindrical canals, and a reservoir of poison, either oval or spherical, with exterior channel, generally short.

The alkaline gland is found in all the Hymenoptera in the form of an irregular wrinkled tube, upper extremity spherical or conical. The channel for excretion opens side by side at the enlarged neck of the sting. The accessory venomous gland spear-shaped or oval, is a small granulous solid, the exterior canal very much pitted. This, too, opens almost at the same point as the alkaline gland. But all Hymenoptera are not furnished with it.

Of the Hymenoptera, the stings of the honey-bee, the Bombus, and the wasp, are most feared. P. Bert has studied the poison of the carpenter-bee (Xyclops), which he finds very acute. Calmette acquiesces that he himself has experimented on the sting of the honey bee, and finds that the poison extracted from two bees, by crushing the posterior extremity of the body in a cube of one centimetre of water, injected, suffices to kill a mouse, or a sparrow. Death by respiratory asphyxia occurs in a few minutes. Intoxication is present as with the poison of venomous serpents. In the veins the blood remains liquid and black. Apparently, therefore, the poison contains a powerful agent acting on the nerves.

The after consequences of poisoning by these insects are not very serious. They are confined to a sharp pain, accompanied by a zone of watery swelling and poignant irritations. Sometimes, however, when the sting occurs on the eyelids, the lips, or the tongue it occasions alarming and even mortal accidents, as in the instance he gives below.

On 26th September, 1890, a girl of Ville d'Avray ate in the wood of Fansee-Repos a grape, in which was a wasp, which, by accident, she swallowed. The unfortunate was stung in the back of the throat, and so fast did the effects of the poison spread that, although medical aid was given, she died in an hour's time.

Interrupting the thread of the narrative, I think we have heard of similar instances in England. To me, it appears that death happened in this case from suffocation. The same sting, if it had been on the arm, or even on the cheek, would most probably not have had the same fatal results.

But around the throat, as around the eye, the surrounding tissues are soft and fleshy. Here the virus found a locality more suitable for inflammation, which quickly spread and choked all the passages. The action of the poison was not the cause of death, but the accident of the sting being in the throat.—J. Smallwood.

*(To be continued.)*

## QUESTIONS, Etc., FOR BEE-KEEPERS FOR SELF-EXAMINATION.

*(Students are recommended to write their answers, and check them afterwards by reference to books.)*

109. Define swarm, cast, stock, tiering, follower, lift, crate, and bee-gum.

110. What approximately is the area in square miles of the ground over which bees will usually forage for nectar?

111. Make a list of the articles which a bee-keeper should have handy when manipulating a hive.

112. If drones are not evicted from a hive in the autumn what is to be inferred?

113. What should be observed when examining a stock of bees with a view to purchase?

114. If during a manipulation a frame be accidentally dropped, and the bees become irritated, what should be done?

115. To what extent may the cutting out of queen cells be relied upon to prevent swarming?

116. Describe minutely the process of opening a hive of bees for examination.

117. Describe chilled brood, and state the circumstances which may occasion it.

118. Account for the interval of 17 to 21 days which elapses between the issuing of a prime swarm and the first laying of eggs thereafter in the parent hive.

119. What is known of the blood of bees and its circulation?

120. Compare and contrast the symptoms of "Isle of Wight" disease with those of the disease known in America as Bee Paralysis. J. L. B.

## "A REVERIE."

What astounding news we have had during the last few days, but that of yesterday (November 11) eclipsed them all.

Sheffield went crazy when the buzzers sounded, or, I should say, screeched. How sinister they once were, when in the dead of night we were rudely awakened, and warned that "Zepps" were about. Everything was then weirdly silent, breathless in fact, for we all remembered so vividly when these inhuman destroyers of innocent life actually did scatter death and suffering amongst us, and what a relief to hear them again as the messengers of peace, and not death.

Each buzzer tried to outscreech its neighbour, and even the railway engines entered the contest. As I sit in the depths of an easy chair, with an old briar, which has helped me to pass many weary hours on tolerably well, when in the R.N.V.R., a little over two years ago, the sweet chimes of distant bells steal across the fields to me, and seem to say, "Peace

on earth, peace on earth, good-will to men," everything seems to be inspired with the thrill that is in the air. Even my bees seemed to know, for they were flying really well considering the temperature, and here came the first cloud across my mental vision, so happy in its sudden awakening to peace. For did not the minds of all bee-keepers instantly begin making plans for an extension, a kind of letting out of ourselves, with a fair amount of certainty in the coming season, now that this dark pall of war is dispelled?

My thoughts drifted away to one of those picturesque little homes for which this dear land of ours is so justly famous. Many I know of in Cheshire, and just across the valley from Mr. Kettle's, there is a little village nestling on the hillside full of them.

Perhaps the ruthless hand of war has wrenched from the sanctity of such a home the bread-winner, and perchance he sleeps on Flander's stricken fields, with just a tiny cross to mark the terminus of happiness in that little home.

Likelier than not, amidst such perfect surroundings he would have a hive or two, the profit from which would relieve the cares of housekeeping a little.

In thought, I wandered off to the coming of spring, when all Nature begins to stir to new life, and with the grateful rays of sunlight the bees would sport themselves in front of their hives.

How this eager, joyous flight will reopen the wound which time was quietly healing in the hearts of those dear ones left behind. For they will picture the delight with which "dad" would have watched them, and attended to their needs, having his mind on the rich harvest to follow.

Our hearts go out to all such, and we pray that "that peace which passeth knowledge will keep their minds and hearts."

To us who have been fortunate enough to come through this tragic time, the future holds out alluring prospects of increased stocks, increased returns, and increasing pleasure in manipulations.

We hope to get on with some skyscraping, especially with the Italian queen we mentioned a week or two ago.

That reminds me, that in justice to "B. E." I should have said, when writing about his apiary, that the queen cells are raised in 40-frame stocks, thus getting the best attention in nursing, and therefore more vigorous queens.

When down at his surgery a day or two ago, he showed me a lovely lot of Italians, arranged with a flight hole in the window frame. The hive was packed with bees, and 1½ inches of cork dust was arranged on every side, and about 3 inches on top. The bees looked as comfy as anything I ever saw.

A friend of mine, with a very wide experience of food storage in one of our largest business houses, tells me that after extensive experiments, cork has been proved to be the finest insulator we have, providing, of course, that it is perfectly dry.

Some hundreds of pounds worth of food would be involved in these experiments, and had things gone wrong perhaps our frying pan would have been empty for a day or two.

I am trying this method of winter packing this season.

Several bee-keepers have expressed their pleasure in reading Mr. Ion's article on "that skep"; as the Irishman would say, "He never speaks unless he has something to say." I think we shall be having a try on his method in Sheffield if we can persuade some cottager to part with a skep.

I have made a hive recently on his plan, which appeared in the B.B.J about two years ago, but I think that mine with the door at the side instead of at the back is an improvement.

"B. E." gave me a fine idea for securing the door, as simple as A B C, and with his permission I will send a sketch of it some day.—W. S. Turner.

## LEICESTERSHIRE AND RUTLAND BEE-KEEPERS' ASSOCIATION.

An autumn meeting of members and friends of the above Association was held at the Museum Buildings, Leicester (by the kind permission of the Libraries Committee of Leicester Corporation), on Saturday, October 26.

The proceedings opened with an exhibition of honey, &c., and a splendid collection of appliances kindly staged by Mr. W. P. Meadows, Syston, the whole remaining on view at the Museum for a fortnight.

Mr. George Hayes (Notts) kindly officiated as judge, and made the following awards:—

Six Bottles of Light Honey.—1, Mr. J. H. Goddard, Aylestone; 2, Mr. A. Briars, Leicester; 3, Mr. A. E. Edwards, Syston.

Six Bottles of Dark Honey.—2, Mr. A. Briars, Leicester.

Six Bottles of Granulated Honey.—1, Mr. A. Briars, Leicester; 2, Dr. C. Royd Jones, Peatling; 3, Mr. J. J. Abell, Newbold Verdon.

Beeswax.—1, Mr. A. Briars, Leicester; 2, Mr. J. H. Goddard, Aylestone; 3, G. E. Mason, Countesthorpe.

An adjournment was made to the Council-room, when Mr. W. W. Falkner

(chairman of the Association) presided over a large company. Difficulties having arisen with respect to the location and carrying on the work of the "Re-stocking Apiary," which has been in existence for the past two seasons with a fair amount of success, it was decided to lay the facts before the members present. After several had expressed their views, and made suggestions, the matter was referred to a sub-committee for consideration.

Mr. George Hayes then gave a technical lecture on (a) Building up a frame; (b) Extracting honey. This proved highly instructive, the lecturer bringing out many points of interest, some of which, though simple in themselves, are nevertheless often overlooked in practical work, and tend to make all the difference between success and failure.

Later, one of the series of Saturday evening lectures was given by Mr. E. E. Lowe, B.Sc., F.L.S., Director of the Leicester Museum. The subject taken was "Bees and Flowering Plants," and was splendidly illustrated with lantern slides, most of which were quite original, and produced by the lecturer himself. The very able and lucid manner in which Mr. Lowe imparted to his audience the benefits of his investigations proved that he was well master of his subject and had spared no pains to make his lecture most interesting and useful to all present.

An unanimous vote of thanks was accorded to Mr. Lowe for his lecture, and also for the splendid arrangements he had made at the Museum, which resulted in one of the most successful meetings of bee-keepers held in Leicester.

### How to Keep Honey.

In selling honey as a substitute for sugar the retail grocer and his customers may encounter some difficulty through lack of knowledge of storing and handling this product, according to the American Food Journal. Housewives usually put their honey in the cellar for safe-keeping, probably the worst place, as honey absorbs moisture from the atmosphere and will become thin and in time sour. Comb honey kept in a damp place will be hurt in appearance as well as in quality. A practicable rule is to keep honey in any place where salt remains dry. If honey has granulated or candied, put the can containing it in a large vessel holding water no hotter than the hand can be borne in. If the water is too hot, there is a danger of spoiling the colour and ruining the flavour of the honey. The can of honey should be supported on a block of wood in the vessel of water, so that the heat from the stove will not be too intense.—From the *International Confectioner*, New York.

## CORRESPONDENCE.

### HELP FOR MAIMED SOLDIERS AND SAILORS.

[9804] Re Mr. Kettle's "yarn" in B.B.J. of November 14, 1918. Before I go further let me thank Mr. Kettle for his able weekly contribution. Being a novice myself in horticulture I am always interested in his "yarn"; also his remarks on bees are always interesting.

I have to get my bread and butter from joinery work and building, and honey to eat with it from the bees. Every man to his trade, and bee-keeping for us all. Mr. Kettle strikes a new note when he suggests a scheme to help maimed soldiers and sailors returning from the war. I take it he means to help them to start bee-keeping. There is nothing nearer my heart than to help those who have made such great sacrifices in this dreadful war.

I must admit I have little sympathy with many of the funds that are started for this purpose. *May this be an exception.* Knowing too well that in these expensive times the administration of them is very costly, and in some cases it costs £1 to give the recipient 10s. Last year I offered a stock of bees and hive complete to any deserving case, the B.B.J. to be the umpire. This was never claimed. I now repeat the offer, and such to hold good until end of May next. If throughout the United Kingdom 999 other bee-keepers would do the same, those returning from the war who have lost their bees would get a direct and immediate re-start in bee-keeping. If they have the money given them, it will be most difficult, and take time, for them to obtain hives and bees, and at least one season will be lost. Please don't think that this suggestion is in opposition to Mr. Kettle's generous offer. By all means carry it along, for there will be many who may wish to do something who have not the bees to spare to give direct. Where bees can be given, I think it would be a good thing to do so. Let the help be in two forms—money and kind—and may it get all the support it deserves.

I am sorry Mr. Kettle strikes a note of discord at the end of his "yarn" in his reference to game, for we all know who he is referring to. No one has made greater sacrifices during this war than the class of man who could afford to preserve a bit of game. They have given lavishly of their money and their blood for the country's cause. I only wish I was one of them, so that I had more at my dis-

posal to help the many good projects that are put forward, and to assist more in trying to relieve the sufferings of others caused through this war.—W. Ion.

## "ISLE OF WIGHT" DISEASE.

[9805] As many of your readers have placed on record, in the form of letters to the Bee Journal, their experiences of the "Isle of Wight" disease, I should like to add my own experience for the benefit of others who may be afflicted with the same disease.

In the autumn of 1917 I had 17 stocks of bees. The following winter (1917-18) I lost three stocks from the dread disease. The combs in the diseased hives, apart from being soiled with exerement, were in good condition, and I did not relish the idea of destroying them. Consequently, I decided to take risks in the following way. I sprayed all the diseased combs twice with a solution of "Yadil" (tablespoonful to one quart soft water), and the following summer (1918) I distributed all these combs among my healthy stocks—carefully noting the hives in which they were placed. The result was satisfactory. There has not been the slightest sign of disease among any of my stocks, nor have I had a single crawling bee during the whole season. I also put "Yadil" into the drinking water (teaspoonful to one pint soft water). I record this experiment not so much in the interest of "Yadil" as in the interest of bee-keepers themselves. As the "expert" for this district I recommend "Yadil" on every possible occasion.—Thomas E. Peters.

## THAT SKEP.

[9806] I quite agree with Mr. Thompson's remarks in (9797). I am only a novice of three years' experience, but I have noticed during my short experience that skeps are not so likely to take the "Isle of Wight" disease as frame hives. Last year, 1917, I wintered four stocks, three in frame hives, and one in a skep. I lost the three in the frame hives, and the one skep that stood 2 ft. off the ground in the centre was immune, from which I had a good swarm in May, and a cast in early June; the swarm gave 30 lb. surplus honey, and the cast covers eight frames of comb, the swarm shews signs of the disease, the skep is healthy, carrying in pollen to-day, November 11. I purchased from an old skepist three swarms in May last, and placed them on a farm two miles distant, where no bees had ever been. I gave them new hives, fitted out, but am sorry to say they threw out crawlers a few days after I took the surplus honey off in August, and became so bad after trying two so-called cures that I destroyed them; the man of whom I purchased the swarms has had the same strain of bees (English Blacks) for over 30 years in skeps without disease. I gave him for a swarm a new hive, fitted out, to try his luck. He placed a swarm into it on May 20, and took off 40 lb. honey surplus, and to-day they are a sorry sight, crawlers everywhere, whereas the skeps are working well. It is patent frame-hives are the best source for surplus honey, but skeps for healthy bees; no doubt skeps that swarm are left with young queens, and they are also more compact, as they are sealed down all over, whereas frame hives are more ventilated. I often wonder if we re-queened, and made airtight over the frames instead of using porous material, if we should do better.—E. G. Hawkins.

## USING INFECTED COMBS.

[9807] I have been very interested in the experience of Mr. Dyche with "Isle of Wight" disease as given in the B.B.J., October 24, because it was very similar to a test I carried out two years ago.

The difference in the two cases is, that while I put bees on to infected combs right away, Mr. Dyche disinfected his combs with Bacterol in every case before using them.

When I commenced my trial Bacterol was unknown to the bee-keeping fraternity, but later on I used it for medicating syrup, and spraying of bees, all to no purpose, I am sorry to say.

Probably in Mr. Dyche's case, results will be different, because of the precautions he took at the start, but he is not yet out of the wood.

It will be remembered that my experiment was started with the direct object of proving the period of incubation in a stock of bees, and perhaps it will be of interest to repeat that out of five cases in the trial, one stock developed the disease and died in 6 months, another took 10 months, while the others varied from 12 to 18 months.

I was most observant in watching for the first symptoms of sickness to appear, and over 4 months elapsed before the least trace of disease appeared.

Now, then, it is possible that with the aid of Bacterol by disinfecting the combs from the start (as in Mr. Dyche's case) the disease will be kept in abeyance for a longer period. At any rate I shall be most pleased, and I believe other readers will be also, if Mr. Dyche will furnish us with another report later on, say, 12 months after his test started.

Personally, I am very grateful to him for reporting his experiment, and to my mind he has quite corroborated what I

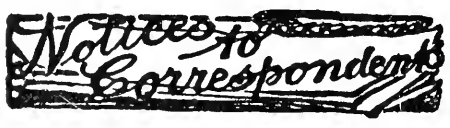
tested two years ago, in showing that the disease is sometimes a long while in showing itself.

Mr. Dyche's test goes farther than mine, and is very interesting.

At the present, I have very little time to spare for experiments, and the subject of whether combs can be disinfected, so as to be usable again demands attention. My own view, so far, is that exposing the combs to the fumes of Formalin is the easiest, and safest way to deal with them. The method only requires an airtight cupboard or box to stack the combs in, with a space left below them in which to place a small spirit lamp. The appliance used by all local sanitary authorities to disinfect rooms is quite handy, and cheap. Clean, empty combs so exposed to the fumes rising from the Formalin tabloid, are quite safe to use again. At least this is my experience.—J. PRICE.

## BEE STINGS.

[9808] I would like to thank J. L. B. for querying the "menthol salicylate" application recommended in my letter on the above subject. At the time of writing perhaps I was not explicit enough. Methyl salicylate has been used successfully in a preparation for preventing stings of insects, including bees, and allaying irritation, but the menthol salicylate preparation called so for convenience, was recommended to me as a most useful application, although obtained for other use, and I have seen it used successfully. I am glad to say that I do not need these remedies for personal use.—A. W. SALMON.




*Correspondents desiring an answer in the next issue should send questions to reach this office NOT LATER than the FIRST POST on MONDAY MORNING. Only SPECIALLY URGENT questions will be replied to by post if a STAMPED addressed envelope is enclosed. All questions must be accompanied by the sender's name and address, not necessarily for publication, but as a guarantee of good faith. There is no fee for answering questions.*

T. CARLSON (Stockport).—*Dyes, and lens power for examining bacteria.*—Most suitable stains for Microsporidiosis are hæmatoxylin and glycerin-hæmatin. For bacteria of foul brood, etc., methyl violet. The best power used for such work is a 1/12th inch oil immersion objective.

C. B. F. (Clacton).—*Feeding during winter.*—If the bees have not stores enough for winter, keep them supplied with the "Bacterol" candy. If sugar could be procured it would have to be made into candy for use now, and through the winter.

C. HADDON (Suffolk).—*Winter stores.*—If you have in all 20 lbs. of candy, and the bees had a little honey which has been supplemented by four shallow combs of honey, you will have abundance of food. If the shallow combs were full they would contain about 16 lbs. of honey. There would be, say, 5 lbs. in the brood combs and 6 lbs. of candy have been "eaten" (most of it will have been stored in the combs), and there are now 2 lbs. of candy on the hive, making a total of 29 lbs. of stores. No more should be needed for three months. You may put in another cake of candy about end of February, and renew when it is consumed.

"OLD JOE" (Bury St. Edmunds).—The bees were natives.

*Honey Samples.*

W. JERROMES (Coleshill).—The honey is mainly from clover. It is commencing to ferment, but if it is reliquefied by placing the vessel containing the honey in another one containing water and the whole heated until the honey is quite clear, and the water almost at boiling point, the fermentation will be stopped, and the honey will be fit for table use.

G. M. ROSLING (Devon).—The honey is from mixed sources, and is a good sample, though the density is not good. Some honeys granulate sooner than others. If you wish yours to granulate, mix a little granulated honey with it, keep in a cool place, and, if possible, exposed to the light.

*Suspected Disease.*

H. V. NEILSON (Lichfield).—(i.) We did not find any disease. (ii.) The bee was a hybrid Italian. (iii.) It is a matter of opinion. We think they are all right if well covered. (iv.) It is not advisable to steam with Izal solution during the winter; it would make the hive too damp. You might on a warm day remove the floorboard, clean it down, and apply a solution of one part Izal to two parts water. Allow it to soak in for a few minutes, dry off the surface moisture, and replace. Keep the hive supplied with naphthaline.

D. GRAY (Tendring).—The comb contained odourless foul brood.

H. F. W. (Kent), W. EGERTON (Tunbridge Wells), "IRISH AMATEUR" (Middlesex), R. GREENAWAY (Bodmin).—We do not find disease in the bees sent.

G. DENT-BROCKLEHURST (Glos.).—So far as we can see there is no disease. If the bed of willow-herb is two miles or more away it may pay to move the bees to it.

"STOURDON" (Dorset).—The bees are natives, and affected with "Isle of Wight" disease.

E. S. LONGLEY (Surrey).—There were only two worker bees, and they both appeared to be free from "Isle of Wight" disease. If there are still drones in the hives the bees are probably queenless. We cannot say if the 2 lbs. of candy will be sufficient without knowing what stores there are in the hive.

F. C. MORGAN (Hastings).—(1) "Isle of Wight" disease. (2) See reply to H. V. Neilson. Give candy now, not syrup. Warm until it is soft enough to add two teaspoonsful of Bacterol, or Yadil, or about five drops of Izal to each pound. (3) Natives plus a little Italian.

"GLAMORGAN BEE-KEEPER" (Glam.).—Sample marked A appears to be healthy, B affected with "Isle of Wight" disease.

"MELLIFEROUS" (Walsall).—The bees have "Isle of Wight" disease. There might be a laying worker. In that case the brood would be all drone. Probably there was a queen, but there were not bees left to cover all the comb she could lay in, and she therefore deposited more than one egg in a cell.

"READING" (Berks).—The bees had "Isle of Wight" disease. Yes, if the combs are new.

F. H. (Staffs.), "BIDEFORD" (Devon), REV. H. E. LYNE (Sussex), E. J. JACOBS (Birmingham), M. L. ASTLEY (Berks).—The bees sent were affected with "Isle of Wight" disease.


## BRITISH BEE-KEEPERS' ASSOCIATION.

The monthly meeting of the Council was held at 23, Bedford Street, Strand, London, W.C.2, on Thursday, November 21, 1918.

The vice-chairman being detained at another meeting, Mr. J. B. Lamb was voted to the chair, and there were also present: Messrs. G. Bryden, T. Bevan, G. J. Flashman, W. H. Simms, G. S. Faunch, J. Smallwood, W. F. Reid, J. Herrod-Hempsall, Association representative, G. Thomas (Gloucester), and the Secretary, W. Herrod-Hempsall.

Letters of regret at inability to attend were read from Miss M. D. Sillar, Messrs. T. W. Cowan, F. W. Harper, G. W. Judge, J. Rae, F. W. Watts, A. G. Pugh, C. L. M. Eales, and Captain C. C. Lord.

The minutes of the Council meeting held on October 17 were read and confirmed.

The following new members were elected:—Dr. Helen Goodrich, Mrs. F. H. Ellis, Messrs. F. Heath, J. A. T. Tredgold, L. Wigg, B. E. Scott, C. F. Clay, A. Brown, A. L. Jenner, and E. J. George.

The Monmouthshire Bee-keepers' Association applied for affiliation and were accepted.

The report of the finance committee was presented by Mr. J. Smallwood, who stated that payments into the bank for October amounted to £9 6s. The bank balance on November 1 was £121 12s. 8d.

The report on the lecture list for final certificate held earlier in the day was presented by the chairman, and it was resolved to grant certificates to Messrs. W. H. Simms and W. Jackson.

The Secretary was instructed to arrange for insurance against damage caused by bee stings on the usual terms.

Correspondence was read from Messrs. E. G. Burtt and J. H. Rosser, and the Secretary was instructed to deal with same.

It was resolved to send the following resolution to the Government:—"The Association of British Bee-keepers views with horror the cruel practices of the German nation on British prisoners of war, and urges the British Government to take steps without delay to put an end to such practices."

Capt. R. Wellington, M.C., M.B.E., of the Food Production Department of the Board of Agriculture, attended and gave a very interesting account of the work done, and in anticipation, by his section in connection with apiculture, which includes the registration of bee-keepers; supply and rationing of bee food; the formation of a Bee Committee in each county, and a bee re-stocking scheme for the whole of England and Wales.

The Chairman, on behalf of the Council, thanked Capt. Wellington for his very lucid description. It showed that a tremendous amount of labour had been expended, and the schemes propounded were well-thought out and clearly defined. He assured him that the Department would receive the full support of the British Bee-keepers' Association and all those local Associations affiliated thereto.

Next meeting of Council, December 19, 1918, at 23, Bedford Street, Strand, London, W.C.2.

## A DORSET YARN.

A visitor from Sway, in Hampshire, came this week for some rasps. "Will you sell me some of your bees?" he queried. The answer was, "No; we cannot part with one of them; they are too great an asset to the farm." Though we cannot do what we would like to them at this time, we cannot part with them. It is the same with many others. Mr. Taylor, of the Food Production Department, from the Board of Agriculture, has spent many pounds on honey only to keep his stock alive. (He bought swarms late in July—the first he could get in Dorset.) When with me last week, after going through many of the villages, visiting most of the farms, arranging for the transport of surplus foodstuff to the populous centres, he said that nearly all Dorset bee-men were in favour of the blacks, or natives, as against Italians. It may be that we are too conservative in Dorset, but that is as he had found it. This year the pure Italian stocks did best with me, gave me the greatest weight of comb honey. They were very populous, and still look well. The blacks leave off adding to surplus and start filling the brood chamber earlier with honey for winter stores. Mr. Taylor told me that disease was still in many places in the county. The puny efforts of the officials belonging to the Board of Agriculture were not what one would expect from such a powerful body. The scientific department needs men like Dr. Abushady on the Board to "ginger it up" a bit. Mr. Kneller, of Penrhyn Gardens, Bangor, writes that it has started in one of his lots, after being immune for two years. He wrote to me then that he wanted to purchase some bees to make another start. The same post brought me a letter from a lady in Westmorland, who had more than she

could manage, and had never had disease. I slipped her letter into the stamped envelope sent by Mr. Kneller, and he had the bees. A fine lot they were, and did well till this autumn, after two seasons of pleasure and profit to the owner. It would be well for him to communicate with the research colleges of Wales. They are very clever lot, these Welshmen; they might be able to help him and solve the trouble with our bees.

Letters from all sorts and conditions of men reach me, a great many of them dealing with agriculture and horticulture. One from a farmer about sweet clover, or Bokhara clover, as it is sometimes called, is advocated by Mr. G. Hayes, of Beeston. Mr. Simmins speaks well of it, the books on forage plants at the Royal Horticultural Society's library write of its poor value as a forage plant, Messrs. Sutton do not recommend it, yet in "Roots A.B.C." it is lauded beyond measure as an abundant forage plant. The seed is difficult to get, and prices are prohibitive; but if it has abundance of food for the bees, we must have it.

Another writer, who sent his query to the JOURNAL office, wants to know of the Hailsham Berry. It is an excellent bee plant, in that it blooms after the other units of the raspberry family have finished. It is really a rasp. with a peculiar flavour. It does best cut down to the stools in winter and made to grow again from the base. It then sends up its strong canes, and fruits on the top from August to November. It would fruit in summer as other rasps. but would not do much in late summer if allowed to bear its wealth of fruit in July. The fruit is roundish, of a red colour. One would almost think this was the wild rasp. that grows so luxuriantly in the States of America, which is described in "Root's A.B.C." book, as it soon would cover an acre of ground, and gives its flowers over a long period.

We have not heard our bees much this week. Once, when the sun was warm at noon, they were out on the wing; but only close to their hive homes. They—to me—seemed to be singing of the Violet Farm as the "Best land, the home of the free," reminding me of the Prime Minister's great meeting in the Central Hall, Westminster, on the 16th, when "Land of Hope and Glory" was played by the organist, all the audience joining in. It was exhilarating to us who waited to hear David Lloyd George speak of the future destinies of Empire. Our bees know no other land, but they, too, feel it is free. Well may they sing their sweetest when the sun is warm, for they are free.

The only flowers for the bees on the farm that have opened since last week are the Roman ivy, *Hedera regeniara*. This is later than the common Irish ivy. It has big dark green leaves. I saw in a neighbour's garden the Kaffir Lily; flies of every size and colour were on them. It is a South African bulbous plant, which grows out in the open in Dorset. But in working near some Christmas roses one was pleased to see the white blossoms showing. Christmas is soon coming, and each one comes so quickly in the hurry of life.—J. J. KETTLE.

## A MODEL APIARY.

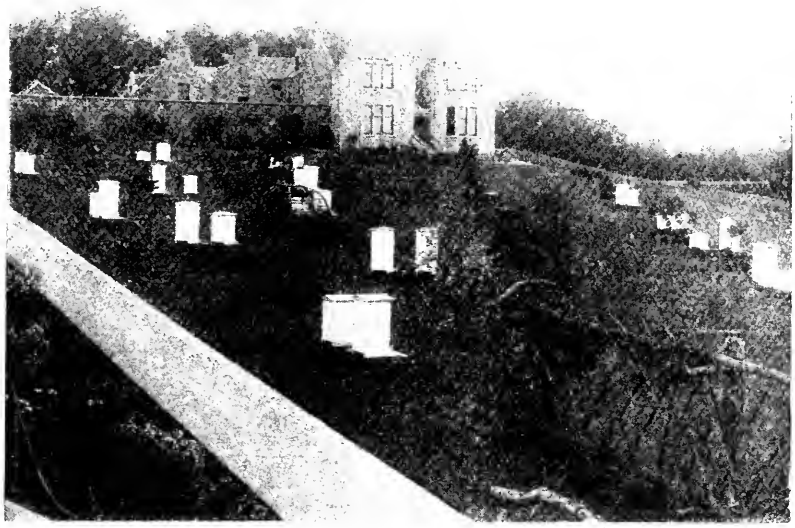
### III.—USEFUL HINTS AND SHORT CUTS.

When hives are being examined, everything required is carried round on a barrow. Amongst these is a spare body box, containing a set of combed frames, which are found convenient for replacing any defective combs found in any of the hives examined. All frames are dated on the top bar. These bars are wider than the standard, as it is found that the narrow space thus left obviates brace combs on either tops of frames or bottoms of shallow racks. The barrow mentioned above has a small bicycle wheel with a pneumatic tyre, which makes it much lighter to push ahead, while the wheel leaves no mark on path or lawn, not even when pushed against the margin of the grass border.

Examinations of the hive interior take place at regular intervals of seven to ten days, right through the season, always with a definite object. It is recognised as a golden rule—"Know exactly what is inside every hive!" As an evidence of care and forethought the system of replacing hive bodies may be given. Supers are placed over lifts when out of the hive, each set having a tick covering overhead. The front of the lower one, when deposited on the frames, has this cloth drawn back a couple of inches from the front, leaving this space bare. Over *this* the overhead rack is placed at an angle, the cover separating them is smartly removed, and the supers placed flat down without killing a bee. Systematic manipulation pays.

*Record Cards* are kept in every hive, and each summarises the life history of the stock in the hive where it is kept. It is held in position on the under side of the roof by a spring. A duplicate is kept in the honey house, reporting the more important facts relating to the queen, condition of the brood, the strength of the colony, freedom from disease or the reverse, and a note is made as to when the hive should be again examined. The cutting out of queen cells is regularly prac-

tised during the swarming season, but chief reliance on swarm prevention is placed on ample room being supplied in advance of requirements. Swarming is a rare event, but when it occurs a bell is rung by the first observer to summon the one in charge of the apiary. A skep held up on a pitch fork, bottom up, is held below by one person, while another with a similar long-handled tool shakes the branch of the tree on which the bees have clustered. Another swarm preventer is the use of a second brood body placed below the first to give full employment to the best queens. The queen is placed on the new frames, and she has all the range of the ten, while the old brood body becomes a temporary honey receptacle as soon as



A CORNER IN GLASSEL APIARY.

TWO GLASSEL 150-POUNDERS.

the brood hatches out. The queen is confined to one chamber by the use of a Wilke's queen excluder.

*Strong Colonies* are secured and swarming checked by the following plan. Whenever the ten frames forming the brood body show signs of brood congestion, a second full body is employed, and is at first placed on the floorboard, the other being raised above this one with a queen excluder between. Any queen cells found in the other are cut out, and the operation is renewed if necessary every ten days, when the two brood bodies are interchanged. On the best colonies a shallow frame rack is inserted between the two deeper bodies, with, of course, a queen excluder below. This appliance is noted in another place, as is also the queen persuader.

A queen *Riddle* for trapping drones and queens when old ruskies are brought in for the colony to be transferred later to a frame hive. As driving is being carried out the riddle is set above the lower case or skep, and while the drumming drives the bees upward into the skep placed above, the bees walk readily through the sheet of excluder zinc, the queen and drones are trapped and disposed of later. The work is more quickly overtaken, and there is no later hunting for the queen. Many of these "short cuts" might be recorded in the pages of the JOURNAL for the guidance and instruction of novices, to whom many of them would prove a boon and a blessing.

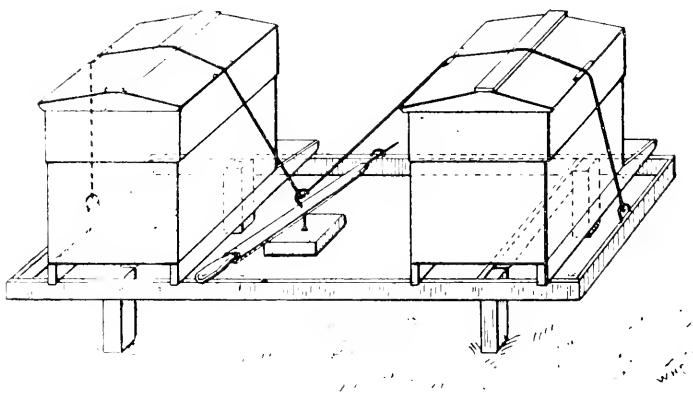
Queen introduction has been carried out as follows during the last two seasons, and the fact that about one hundred queens have been safely introduced proves that it is thoroughly efficient and dependable. First examine the stock to be re-queened in order to find and remove the old queen. Fill up a small egg cup with honey, of a fairly thick consistency, in which place your new queen carefully, so that she may not be injured. Let her be literally "drowned" in the honey. Remove the cover from the frames, using very little smoke to drive the bees back. Pour the queen and honey on to the top bar of a centre frame. Then with finger shove queen and honey in one large dollop down between the frames, and quickly close up the hive.

Examine the hive in 3 or 4 days' time, and if she is a laying queen you will be certain to find eggs. Virgin queens are just as successfully introduced as fertile ones. Care must be taken not to injure the queen during the process.

Out of the 100 queens introduced only one proved unsuccessful, and the failure could be assigned to other causes, not directly connected with the system of introduction.

When driven bees are carried home to be united to already established stocks, or when two or three lots are joined on to make a strong colony, there is no delay in hunting up queens. The bees are shaken out on a sloping platform, and in front of this is deposited the brood box, into which they are to be run, but they have to ascend through a queen excluder, therefore queens are left below to be dealt with.

Section honey is packed in Steel and Brodie's section boxes, without the use of any springs, and not even a bed of straw or hay is used to meet the concussion when any package is dumped down suddenly on platform or in van during the journey. As such honey travels to London safely, there being no complaints of breakages, the test is a severe one. Each section is wrapped very neatly in a sheet of waxed paper cut to exact size. The lid is then closed down, fastened with a clasp,



METHOD OF SECURING HIVE ROOFS.

and safely locked with a small padlock—the key being forwarded by post with a letter of advice naming the contents. The boxes are, of course, returnable. They are made to contain 1, 2, 4, or 6 dozen. The first cost is not very high, and in course of time they pay for themselves.

## BLURTS FROM A SCRATCHY PEN.

A CHAPTER FROM CALMETTE'S "LES VENINS."

(*Continued from page* 380.)

We left our author, in the previous article of this JOURNAL, at the conclusion of his example of the fatality caused by the sting of a wasp. He proceeds to discuss the components of the poison injected, and its effects on small birds.

M. Philalix has experimented on the physiological action of the poison of bees on sparrows, either inoculated by stinging, or with a watery solution, obtained by the crushing of the glands. In both instances at first a local action was produced, together with paralysis of the region wounded. Convulsive movements followed which might last for a few hours. Sleep supervened, and respiratory trouble, which caused death.

But if the poison was heated for fifteen minutes to 100 degrees (Reaumur) local action was lost, and the general symptoms were more protracted. If heated for thirty minutes to 100 degrees (Reaumur) the convulsive properties were lost. At 150 degrees all activity was lost.

This poison, then, contains, first, something of an inflammatory nature destroyed by heat: second, a convulsive poison, which is destroyed by a prolonged temperature of 100 degrees, and which probably proceeds from the alkaline gland: third, a stupefying poison not completely destroyed, which is secreted from the acid gland.

The eggs of bees, as also do those of the toad and viper, contain their specific poison. The strength, however, as might be expected, is feeble. To produce mortal effects on a sparrow it is necessary to crush 926 eggs, and it is calculated that in the egg the venomous portion is as the 150th part of the weight. The symptoms following injection are similar to those caused by the insect itself. But the convulsions are less accentuated. Paralysis seems to dominate in the egg.

This may, perhaps, be the right place to interpolate what Cheshire has to say about the poison of the bee. It is secreted, he tells us, from the blood, its active principle being formic acid, probably associated with some other toxic agent. If a bee is made to sting a piece of litmus paper, a common test for acids, it is reddened, and, again, if a tiny drop of the virus be removed from the point of the sting of an angry worker by a piece of glass, it quickly becomes hard, as though it was gum water, and if observed through a microscope it splits into fissures.

To resume, Calmette tells us that he was able, with ease, to inoculate mice against mortal doses of the poison by repeating the inoculation of very small doses, and he confirms this by telling his readers that men who are much accustomed to handle bees, and, consequently, are repeatedly stung, soon get so habituated to the poison that they do not suffer the least harm. This we can confirm by our own experiences. Which of us regular habitués takes any more trouble than to remove the sting from the wound, often with the nozzle of the smoker for want of a better tool, and fifteen minutes afterwards we should have trouble in telling exactly the place where we have been "inoculated."

In the next paragraph the direct action of the poison on the blood is treated of. Reference is made to the works of Morgenrath and L. Carpi, who from experiments detailed by them show that the venom of bees, like that of scorpions, possesses the property of dissolving (hemoliser), almost immediately the red corpuscles of the blood of certain animals, such as rabbits, hares, guinea pigs, and even man. All poisonous reptiles and animals have not this power; the virus in many instances coagulates the blood; others act in the way mentioned, and the acid of bees is one of the latter kind.

And, finally, almost as a note, he speaks of the remedies for the stings of wasps and bees. One could have wished that, having been so successful in finding a real remedy for snake bites, he could have given us some serum which would at once render harmless the rude attentions of four-winged stingers. What a help it would have been to us! He recommends, quoting from P. Fabre, a liniment of ammonia and olive oil, or a weak solution of hypochloride of lime (1 to 60), and this, he says, seldom fails. When one comes to consider the minute orifice of the wound (1 500th in. of diameter, 1 50th in. of depth), and the almost immediate action of the formic acid on the blood, the impossibility is recognised of sending anything after the injected virus to stay it, and surface treatment by counter-iritation seems appropriate.—J. SMALLWOOD.

(*To be continued.*)

## QUESTIONS, ETC., FOR BEE-KEEPERS FOR SELF-EXAMINATION.

*(Students are recommended to write their answers, and check them afterwards by reference to books.)*

121. How may wax be cleaned from vessels and utensils used in rendering?

122. What is the value of pollen as winter stores?

123. If a cast is to be returned to the parent hive, what should be done to prevent the issue of a further cast?

124. Describe the Swiss entrance, and state the advantages expected to accrue from the use of it.

125. What materials can be used as packing for double-walled hives, and why is packing preferred by some to air-space?

126. How many bees be cleared from a rack of sections without first using a clearer-board?

127. Why is it desirable to keep hives warmer in summer than in winter?

128. Give a reason why foundation should be put in a hive during a honey flow only.

129. Whether skeps, or frame hives favour most the prolongation of the effective life of the queen? And why?

130. Assuming that a queen's cell placed in a nucleus hive does not hatch, what should then be done?

131. What is known as to the sense of smell possessed by bees?

132. Make notes for a 15-minute lecture on swarming. J. L. B.

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## THE BEE GARDEN.

### THE OFFICIAL LISTS *(continued)*.

By A. HARWOOD.

*Malva moschata* and its variety, *M. m. alba*, like all the mallows, are more valuable for pollen—which they produce very freely—than for honey. The typical musk mallow is an attractive plant, not only for its characteristic sweet scent, but also for its bright, satiny, pink flowers, abundantly produced from June to September. The white variety may be grown in mixture with it, as it flowers during the same period and has the same height (2 ft.) and habit. Both may easily be grown from seed sown either in March or August.

There is a related subject (*Lavatera rosea splendens*) to which I have given a thorough trial this year, only to conclude that it is perfectly useless as a bee plant, although very showy.

*Melianthus major* (Cape Honey Flower). This subject has been, perhaps, my greatest disappointment as a bee-plant. Having read so much of its wonderful store of nectar I decided to try it for myself, and accordingly sowed seed in pots and great expectations, as some of our stylists might put it.

Steady-going authorities had said of it: "The flowers of *Melianthus major*, a Cape species, are so full of honey (*sic*) that the natives supply themselves with it by simply shaking the tree" (Enc. Dict.). In view of the foregoing and other similarly appreciative references, it seemed strange that its honey value should be assigned so low as 1 in the official lists under dissection, but evidently the compiler knew his subject. My seeds germinated; the seedlings were carefully picked out and potted on, and later were set out in a sunny, south-facing bed.

As bedding plants they proved a failure. Undistinguished in appearance, with inconspicuous and unattractive flowers, their habit was reminiscent of an anæmic flapper. Badly needing support, their growth was most irregular and their appearance most uninviting, so that in the end I was not surprised to find them almost totally neglected by the bees. It would be interesting to have a record of the experience of anyone else who has tried them. For myself, the conclusion I came to was that either this plant was totally unsuited to our climate or to my methods of culture, or that writers on its melliferous qualities had mistaken it for a quite different subject (*Protea mellifera*), about which I propose to say something on another occasion.

*Polemonium cæruleum* (Greek Valerian, Jacob's Ladder).—A herbaceous perennial, this plant is found wild in the North of England, and apparently as a garden escape in other parts of Britain. It is thus an excellent subject for naturalising or for the herbaceous border. Upright in habit, with graceful foliage, it bears its sky-blue flowers on a stem 2 ft. high from May to July. I have broadcast seed on a piece of waste, derelict garden ground, and had a mass of vigorous and very floriferous plants as the result. More formally planted in a shady border, it formed stately clumps which seeded freely, so that I had, year after year, many seedlings for distribution to neighbours. The bees worked it well both in my own garden and in the adjoining ones. *Verb. sap. suf.*

P.S.—I have none now, as my present apology for a garden will not accommodate a tithe of the subjects I used to grow.—A. F. H.

*Polygonum sachalinense* (Knot-grass).—Of the 150 known species of Polygonum, a genus of world-wide distribution, 12 are

British. Many of them are not worth cultivation, but those that are embrace greenhouse and hardy perennials and hardy annuals, the last being raised from seed sown in the open border in March and April, and the hardy perennials by division of the roots. *P. sachalinensé* is of the last-named class. It was introduced from the Island of Sachalin (or Saghalien) in 1869, and is about the best of the genus. The flowers, of a delicate greenish yellow, are borne in racemes. It is of the easiest possible culture in any ordinary soil, but is worth generous treatment and a good position. The height attained is from 10 to 12 ft., and the flowers, appearing in late summer, are most attractive, bending over the banks of streams or margins of ponds. Being a moisture lover, *P. s.* is a most desirable subject for naturalisation in any damp part of the wild garden.

## "ISLE OF WIGHT" DISEASE.

The following article, by Mr. G. T. Pallett, of Makeney, has been sent us by Mr. F. Meakin, hon. secretary of the Derbyshire Beekeepers' Association.

During the past few years the "Isle of Wight" disease has been the cause of serious depletion of stocks throughout the country; and, unfortunately, the epidemic had reached its height at a time when honey, as a sweetening material, would have been most valuable. Like many other bee-keepers, the writer had been entirely cleared out; stocks of bees were now making fabulous prices, and, so to speak, were practically unobtainable. Unless something was done in the way of importation, it was evident persons desirous of taking up the industry would be compelled to wait a considerable time. Although divers remedies had been tried, the disease was still rampant, and any further effort made to combat it which carried with it a measure of success should be of practical interest to bee-keepers. Having successfully kept the disease at bay for the past two seasons, I would like to demonstrate my experience for the benefit of others. In July, 1916, my apiary consisted of six stocks, all apparently healthy, and gave me a good return. Early in the month a stray swarm came into the gable end of a house within 50 yards of my bees; in two or three weeks afterwards my attention was called to the fact that those bees were affected by "Isle of Wight" disease. Until then my apiary had been absolutely free from the malady, but in August disease began to show itself. As they, however, appeared to be breeding well and of fair strength, it was decided to let them stand over until the spring. Immediately an examination became possible, to my dismay the whole six stocks were found to be dead, and for the first time for thirty-five years I was without bees. I at once set about clearing the hives and destroying the combs, and practically made up my mind to let bee-keeping have a rest—for a time, at all events.

Strangely enough, shortly afterwards, a newspaper cutting was sent me, the writer of which went so far as to say that after treatment of diseased stocks by the method advocated they had in a short time thrown off the disease, and in the following year were perfectly healthy, and that no further sign of disease had been manifest. This testimony rather altered my opinion, and having a stock of bees and a hive offered me by the sender of the newspaper cutting, I decided to accept them, and to treat the infected hives precisely in the manner advocated. The method was simple and easy of application: Scrub out all hives with a thick solution of chloride of lime, fill up all cracks there may be with a thick putty of the same material. All hives were so treated. In April, 1917, the fresh hive of bees was placed along with those which had been treated, the latter having all entrances left open, so that the bees could enter them if they wished. The stock in question gave me a swarm, which was put into one of the treated hives, leaving sufficient of their own stores for winter feeding. On examination early in spring, 1918, I found to my satisfaction the bees were perfectly healthy and breeding well. Unfortunately at the end of March the queen of the swarm died. Being a trifle early to replace it by natural means, it was united with the original stock, which this season has produced 70lbs. of honey but no swarm.

Before feeding up in August for experimental purposes, I transferred the stock from the original hive into one of the disinfected hives in which bees had previously died, and up to the present (November) they are quite all right.

Since the chloride of lime treatment in April of last year, not the slightest trace of disease has been seen. Unlike the writer of the newspaper cutting I cannot from personal experience say that the remedy mentioned will actually cure diseased stocks, but it is a fact that since its use I have had immunity, and would strongly recommend a trial by anyone whose bees are affected. If the chloride of lime be given time to slightly dry before putting in the bees, I have so far not found them to resent it.

## CORRESPONDENCE.

### SIZE OF FRAMES.

[9809] I see that Mr. Lockwood, in your issue of November 7, mentions his dislike to the British frame, and this, to my mind, brings up the very interesting question of British and American standards of bee-keeping. I have made a considerable study of scientific bee-keeping, and for some time, previous to coming home to help in the National Cause, had an apiary in Tasmania, coming also into close touch with other apiarists in Australia generally. The American methods are used almost exclusively in the districts with which I came into touch, and from my own point of view I prefer them to the British. This may partly be due to the pitch to which the American, in his usual way, has standardised everything. I have had quite a number of W.B.C. and other hives through my hands in the last 18 months, and I have very rarely found two exactly alike. So far as I can gather, the various makers sell the W.B.C. hive, but these appear to differ in actual sizes, and nothing can be more provoking than to find that covers, supers, etc., are not interchangeable when handling a number of colonies, and uniting, etc. The American Langstroth hive is absolutely standard, either 8- or 10-frame, wherever you buy it. Again, the Hoffman frame is, I consider, a more efficient size than the British standard, and is theoretically more the correct size for a prolific queen. I was much interested by a companion I met in a railway carriage the other day, telling me that he had worked out what he considered to be the right size of frame for a good queen, and had built special frames, and a hive to suit them, this year, and had obtained 200 lbs. of honey from the stock in this hive, besides not being worried in any way by swarming. He subsequently discovered the size of his frame was ¼ in. each way smaller than the Hoffman. The spacing device on these frames is also such an advantage over the tin spacers, the V and flat reducing the injury to bees when removing or inserting the frame, to practically nil. I am a strong adherent of the 1⅜-in. centre to centre of these frames, as against the 1½ in. of the British standard spacer. I have never been so troubled with brace combs before, as I have been with the 1½ in. centres. I also cannot see much advantage in the porches that are fitted over the entrances to British hives, and these are a great nuisance when one wants to use an alley trap, etc., and those that have used these traps find themselves very much handicapped when they cannot be rapidly placed in front of a hive. Many a swarm have I caught at the entrance of a hive by the use of this trap, to say nothing of the great use it is in reducing drones. I may, Sir, be biassed in favour of the American methods, and am quite open to conviction, if possible, in favour of British methods. If I was to enumerate the other advantages I see in favour of the American, my letter would be too lengthy for publication in your columns, but I should like to open up this question in your paper and get the opinions and "strafes" of my British confreres on the subject.

I do not want this letter to convey any idea of condemning British practice, far from it, as I think there are certain points, for instance the idea of the separate internal removable chambers, which are most useful in the British hive, and I feel that if I can get the opinions and tips of your readers I should be in a fair way to design a hive comprising the best points of both methods.—H. B. PEIRCE.

### TAX THE BEE-KEEPER.

[9810] May I suggest to the County Bee-keepers' Associations that each one starts a fund to help our heroes who are broken in the war, and who would like to start bee-keeping. Each member should pay at least one shilling, which I think is not too much, then this should help to buy bees, but if there are more applicants than the fund would supply, we should have to divide it as far as it would go. If we had more in hand than was needed, hand our fund over to another Association that had not enough. I will give a good empty box hive to the Bucks. B.K.A. for a start, if they will open a fund. Long live our fighting lads!—A. E. WARREN. Simpson.

### TREATMENT FOR DISEASE.

AN EXTRACT FROM A CORRESPONDENT'S LETTER.

"An old gardener, who keeps his bees in skeps, and never goes near them if he can help it, was much amused when he saw me spraying with Izal—he doesn't believe in 'them new-fangled Turkish baths, as won't do no manner of good.' The right thing to do when I see them walking about on the ground is to get some good strong port wine, the older the better, and let the bees drink it down. 'That's the stuff to give 'em.'"


## OBITUARY NOTICE.

### Mr. H. W. Kirkby.

We regret to announce the death of Mr. Henry William Kirkby, of Saltersford, near Grantham, on Sunday, November 17, at the age of 71 years.

Mr. Kirkby, who has lived at Saltersford for 38½ years, commenced bee-keeping 36 years ago with two or three hives, later working up to about 15.

He was engine driver at the waterworks pumping station, and kept bees more for the real pleasure and interest in them than for the profit obtained from them. The village is situated in beautiful country about two miles from Grantham, and during the summer time is frequented by numbers of visitors. To these Mr. Kirkby was never tired of explaining the habits of the bees, and how they were managed. Much of his spare time, summer and winter, was devoted to studying them and attending to their wants. Like the majority of good bee-keepers, Mr. Kirkby was also fond of his garden, and took great pride in his flower beds. Naturally, he grew flowers that were not only pleasing in form, colour, or aroma, but were useful to his bees, also growing borage, melilotus and other bee plants on some waste ground for their benefit.

He did not do much exhibiting, but won second prize for some honey at the Lincolnshire Agriculture Show at Grantham. Mr. Kirkby was also an advocate of bee stings as a cure for rheumatism, as he said they had cured him.

In Castlegate, Grantham, is a public-house, "The Beehive," with a "living sign," a short description of which was given in the Record for July last. The "living sign" is a hive of bees in a tree by the edge of the pavement, and on several occasions when the "sign" has died or become weak, fresh bees were supplied by Mr. Kirkby. During his last illness, although he knew he would be unable to work again, he still hoped to get about and look after a few hives of bees; his thoughts were constantly with them.

Mr. Kirkby was one of the right type of bee-keeper, who upheld the best traditions of the craft which is the poorer by his death.

## A DORSET YARN.

Saturday, November 23, bees were everywhere round the farm. The frosts had given place to southerly winds, with a big rise in temperature. It brought the bees over the fields again, all round the boys, as they gathered flowers, away to the ivy-clad forest trees, and trees of arbutus; even the small speedwell and flowering broad beans come in for a visit from the yellow-banded foragers, though it must be of poor quality the little they can get from these late flowers. Yet pollen is gathered from some source in plenty. I see the charlock in flower as high as the fences in the swede fields, where heavy dressings of manure were ploughed in. Readers will see the frosts were not much in the south, for the yellow Marguerite chrysanthemums of the fields are not cut down. Flowers are everywhere in great luxuriance; many of them are no value to our bees, though they are very beautiful; but they will have to be less and less in the fields if we are to get the maximum amount of food from them. Many people assume it will be many years before food is cheap again; if the cost of production is great, it cannot be. The Military C.O. of Dorchester writes me I must pay the soldier labour 36s. per week, 8½d. an hour overtime, for men of low category, not fit for active service. (My own sons, big and strong, get 1s. 6d. a day, and all the risks of shot and shell!) We find that land well cleaned for root crops, and kept clean when growing, has not so many flowers among the corn; it seems to be the corn crops that let the weeds grow and seed. Many of these fields are sown also with rye grass and clover, and by the time these are ploughed again the surface soil is full of seeds, only waiting for good cultivation to once more luxuriate. We find in our soils there are some left that bees are fond of, no matter how vigorously the soil is hoed, particularly charlock, and sweet thistles. As late as August, when we rarely want to hoe again among the few violets we grow now, they will come up and flower a few inches high, when earlier in the summer they would be 2 to 4 ft. before they would show any flowers. Nature seems to to give them reasoning properties that they must flower to carry on the race. Many of them stand over the winter and flower in spring and early summer: the vegetable kingdom, like the animal kingdom, has but one object in living, i.e., to reproduce its species and carry on. The sweet thistle is what is called a composite flower (many flowers in one calyx): each ligulate or ribbon that is built so regularly within the calyx is a perfect

flower in itself, having the male and female organs within each ligulate unit; the correct term should be polliniferous and pistiliferous, only these are such long words.

I find that bees are much more to be found on the crucifer family to which the charlock, radish, cabbage, stocks and wallflowers belong. A field of turnips left to harvest seed is one of the greatest sources of honey we have in Dorset. So many bees were on our lot that the men were afraid to go near them, and the horses would not go anywhere near when so many bees were on them; these being all perfect flowers, there is pollen and honey in plenty in every blossom, but it is not so with a field of stocks that are left for seed purposes. The taste of the horticulturist is for double stocks; the seed must be carried on the single-flower'd plants, as in the doubles the seed organs are partly converted into extra petals, so the harvester of seed clips out the male organs or pollen parts of the single flowers, so that they should be impregnated with the pollen of the double flowers. Therefore, in a field of stocks for seed, there would be very little pollen to be gathered by bees, but mostly nectar. It is honey that is wanted by the bee-keeper, he would not mind the male parts being destroyed in them. All this is by the way, I am letting the botanist come before the apiarist, and that may give offence, as all this is taught in our schools; the next generation ought to be very wise, as they are crammed with so many subjects, and botany is one of them.

We had a visit on Sunday from a bee-keeper, who, like myself, was a head gardener, a low category man, not strong enough for campaigning, who had to leave the direction of a beautiful estate to work on the land; he is now working a tractor plough and cultivator on the large farms of Cranford, but his enthusiasm for bees is just the same. He hopes to find in Dorset the same rich harvests of honey he had in the New Forest. I feel sure he will, and better, in the rich neighbourhood where he is living; for, in addition to the rich grazing and farm lands, there is the wealth of chestnut, sycamore, and forest trees that bees love to resort to. This might be the ideal place which Maeterlinck had in his mind when he wrote his "Songs of the Bees." Everything that bees gather honey from seems to be there in abundance; for here, truly, the bees can sing of fields of clover. "Of 'banks whereon the wild thyme grows, the nodding, nodding violet blows' —can sing of lime and holly—plenty, plenty everywhere; let us people the whole world with bees." That is, as I remember Maeterlinck in his "Songs of the Bees."—J. J. KETTLE.

## A MODEL APIARY.

### IV.—MINOR TOOLS AND APPLIANCES.

Every tool imaginable is found in the apiary, but only a few of the most interesting and useful are described below.

*Smokers* are all provided with a guard along the nozzle to protect the fingers of the left hand when grasping it during manipulation. There is also a hook fixed below to hang it on side of hive or lift, nozzle up, when not employed, so that it is always in an upward position during the whole period of examination. On the same face a match-lighting device is fixed. Scratched smartly and quickly placed in the funnel, the match very seldom goes out even on a windy day. The smoker fuel employed is a carton of corrugated packing paper rolled up tightly. A special little machine is used for rolling the sheet of paper into a wad just fitting the smoker, a few turns of a handle sufficing, when a piece of thin wire is wound round the middle, twisted, and the roll completed. The amount of smoke ejected under gentle pressure is ample, and the cloud, when harder pressure is used, is perfectly efficient for subduing even irritable bees.

The *veil* used is a very neat and efficient one. It consists of a sheet of fine black silk net, drawn in at top to fit over hat. Into this, half-way down, a length of fine piano-wire is fastened, lower in front so as not to obstruct vision. When the veil is taken off, by a double twist being given to the wire, it is folded into so small a space that it can be placed in the pocket. This is invaluable when one is going to an out-apiary or when on tour doing expert work.

A small *rake*, called a "queen persuader," is periodically run over the surface of sealed comb every time the hives are being examined in spring and early summer. In this way the bees are given the smell and taste of exposed honey. The bees, transferring this to the neighbourhood of the brood, feed the queen, and thus induce her not only to start laying, but to keep it up even when nothing is coming in from the fields.

A *special cover* is used when examining hives during cold or windy weather. It is made up of a double coating of ticking weighted at both ends by a layer of lead. An open space near the centre admits of one comb being dealt with at a time. As it is returned the cover is slid along and another frame exposed and dealt with. Each time the cover is moved along, as it is weighted by the lead weight, no wind

ruffles it. Everyone who has been troubled with flying quilts can appreciate the value of this simple appliance.

*Division boards* are of different sizes, as regards length and depth, during summer to what they are in winter. During the season of repose they are of full depth and length, to conserve heat, but during the season of manipulation they afford a ¼-in. bee space below and 1-16-in. at each side. In this way bee life is preserved, and a gentle manipulation is secured. Work can be overtaken more rapidly when there is no fear of crushing bees.

*Supers* are placed on ahead of actual need. As soon as the first is from one-half to three-fourths full, a second empty one is placed below it. It has been noted while examining that during a good flow bees deposit nectar in the lower frames, but that soon during night it is carried above to be sealed; therefore, the fuller racks are raised, to be quickly finished by the bees.

A *queen excluder* always separates all these chambers from the brood body. The faults so frequently attributed to the use of queen excluders are never found in this apiary, where the "Wilkes" is fitted into a truly-spaced frame. Freedom of movement is secured, while brace or burr-combs are rarely found, to make a mess of either the tops of brood frames or the bottom bars of supers.

*Super clearers* are invariably used when withdrawing honey, all fitted with Porter bee escapes, and thus no bees are carried into the honey house, so robbing is not started. This is further ensured by the fact that supers are handled only in the early morning or during the evening, preferably the latter. Honey is always left in the hives to ripen well, as it has been proved that nowhere does honey mature better than when under the care of the bees. Any bees which may by chance enter the honey house find an exit by a double window. Making for the light, the outer covering of perforated zinc slides so that the bees are left outside.

The *solar extractor* is placed outside early in the season, and is found a handy receptacle for every small scrap of wax which otherwise would be left lying about. Only in bright sunshine and in warm weather does it perform its duties thoroughly. Inside a Hatch Gemmel press is found, so efficient that every ounce of wax is recovered from the combs. Several large cakes lying by proved that wax of the purest was obtained from the process, and the machine acted expeditiously. The wax was, however, remelted into the size of cake found most suitable.

A most convenient and efficient *hive tool* is used. It is simply a piece of steel only 7½ in. long by 1¼ in. wide at the broadest, but rounded down to less than an inch in the narrowest part at the centre. To lighten it for carrying about, six round holes are pierced out. One end is fairly sharp for pushing in below any part requiring to be raised. The other end is turned down at right angles, and is most efficient when used to scrape a floorboard or frame top, or wherever brace or burr-combs are found. On several occasions while touring I used it to force up a hive top occupied by bees and honey. In one case the owner had not seen the inside of his hive for six years, and deemed it was hermetically sealed down; but a couple of minutes' work with this hive tool parted the roof (one mass of honey) and the body box (full of comb). The contents weighed about 70 lbs.

The round hole in the glass quilt is cut by a specially designed copper tube, which makes beautifully perfect work, the edge being left smooth and even as a finely planed board. Recently it has been still further perfected for more expeditious work and more perfect finish.

An excellent contrivance has been planned for *piercing holes* in the end pieces of brood body frames. Three parallel wires are used in each sheet of foundation, and the holes to admit strands through are pierced at one stroke by three needles, but the beauty and accuracy of the operation lies in the fact that these needles have "barbs" which clear out the waste matter as the needles are raised, and so leave a clear hole to thread the wire through.

Every part of every hive, as has already been noted, is perfectly interchangeable with its corresponding part in any other, and to secure that this is so in reality a *gauge* is employed to test the accuracy of finish. Every part has to undergo a testing process, and if it fails in even the smallest way to stand the ordeal the fault must be remedied. Anyone who has handled even high-priced hives, recently put together by many of our appliance dealers, can understand the priceless benefit of such a rigid trial as to interchangeable parts being really true to the professed claim. Several might take a hint and remedy the wrong.

My own making up of wedge and groove frames has not always been satisfactory, but at Glassel, after placing the foundation and wedge in position, by sliding along a small tool designed for the purpose perfect finish was attained. All the frames used are of this style; no saw-cut was seen. Embedding the wires into the foundation is all done by an electric current, which makes a most perfect job—clean and quick. Besides numerous other contrivances for saving time and labour, there is a very complete collection of all modern and also out-of-date bee appliances on exhibition, which are used for

demonstration purposes at the meeting held two days a week during the summer months for members of the Association. Showing how very much these gatherings are appreciated by bee-keepers, as I write, very appropriately, there has come to hand a letter from a wounded officer at present home from France: "Mr. Wood is a wonderful personality, and I managed to pick up a lot of tips from him; in fact, I think one would learn more by going to his place for a day than spending a month in most apiaries." D. M. MACDONALD.

## THE BROOD-HATCHING CHAMBER.

By the introduction of the brood-hatching chamber in bee-culture, not only has a simple and practical appliance been devised, but also a new and profitable method of management has been evolved. No article which has not been previously tested by bee-keepers and gained their confidence has entered its composition, thus assuring popularity of use and full practicability. It is so simple that any novice with an average knowledge of woodwork could easily construct it for himself; yet, for intensifying brood-rearing, it has many advantageous features.

Since my first consideration of this subject, nearly a year ago, I have been endeavouring to self-criticise my suggested method of management by comparing with other methods of intensive brood-rearing, principally practised in America, but I have not been able, so far, to satisfy myself of the existence of a superior method: in fact, I have not come across any other procedure which is not either cumbersome or primitive.

The precise novelty of the chamber lies in the manner of its division, which permits of its use *at one and the same time* for more than one purpose. Needless to say, several modifications could be made in the manner of division and in the attachment of the fittings, but the underlying principle in its working would remain the same. Although I have in mind several modifications, it is unnecessary to describe other than the design already published in the JOURNAL.

In my first contribution on this subject, which has just appeared in print* I referred to some of its uses, such as augmenting the population of the hive, the discouragement of swarming, the early possession of good-quality stores for wintering, and the trapping of drones. Those conservative bee-keepers who doubt the principle of *independent brood-hatching* might well find their doubts realised if no trouble is taken to conserve heat in the brood-hatching chamber, by means of careful packing, or should it be incorrectly used too early or too late in the season. For physical reasons, one expects to find the *brood-hatching chamber*, or any super, at least just as warm as the brood-chamber proper, but unless precautions are taken to conserve heat this is often *not* the case. Apicultural students who have made thermometrical observations, must have been repeatedly struck by this fact.

It might be questioned whether it is really necessary to fit the chamber with bee-escapes, considering that the occupants of the central compartment are all young bees who have no tendency to leave the hive for some time, and who could therefore be safely imprisoned for a period of ten days, at the risk, perhaps, of a little excitement. But the additional value of the escapes is to effect super-clearing when desired. In this case a sheet of perforated zinc is placed over the base of each side compartment, and these are allowed to inter-communicate with the central compartment. I have not given any notes on the actual construction, as this is outside the purpose of this article, and it is better left to those with a knowledge of craftsmanship. I might be permitted to say, however, that the fittings of the chamber could be, of course, made either a fixture or preferably detachable. In the latter case any *brood-hatching chamber* could be turned into an ordinary brood chamber at a moment's notice, and *vice versâ*. Again, the excluder zinc in the central compartment might be limited as a fixture to the openings of the bee-escapes, but it is doubtful whether such an arrangement is of any advantage. For certain reasons, I did not think it would be more helpful to have the escapes fitted to the sides of the central compartment instead of its base; but, as I mentioned before, several modifications could be effected in the arrangement of the fittings, according to the wishes and experience of the apiarist, without affecting the working principle of the appliance. I might add that Porter's bee-escapes would be much preferred to the Watts pattern, and that the reason for fitting more than one escape is to safeguard agains blockage or misuse. It might be helpful also to allow direct intercommunication between the central compartment of the *brood-hatching chamber* and the brood chamber proper, as effected between the three compartments of the former. This freer intercommunication might be made use of at a certain stage, should the chamber be used for the purpose of *uniting*. A metal queen-excluder for the bases of the side compartments is obviously preferable to wooden substitutes, although, on account of the correctness of measurements, the latter might be the only

* See B.B.J. for November 7, 1918, p. 362.

suitable material to use for certain patterns.

No diligent bee-keeper could fail to find other uses for this chamber that will specially occur to him during his practice. It will suffice here to draw attention to a few more of its uses, such as:

(1) *The safe direct introduction of queens.* There is hardly any method of queen introduction which does not involve some risk. There is *no* risk involved by making use of the central compartment of the chamber for this purpose. The queen will be in a friendly atmosphere, surrounded by young and hatching bees, and with stores of food at her disposal, as well as sufficient room for the exercise of her function of ovipositing. Should the queenless colony lack capped brood, a frame of comb might be secured from another colony and placed in the central compartment of the *brood-hatching chamber* before introducing the queen. Further details on management would be superfluous.

(2) *The formation of nuclei.*—It is well recognised that young bees are most suited for the creation of nuclei. These could be started in the central compartment of the chamber and afterwards removed to their independent hives.

It will be clearly seen that the *brood-hatching chamber* is equally serviceable to the apiarist interested in bee-rearing as to the apiarist who is more interested in the honey harvest, since the chamber does not interfere with supering and is partly a super: moreover, it does not necessitate opening the hive more than three times in the month, during the working season. It hardly needs emphasising that the honey supply of a hive does not only depend on the yield of the district, but also on the force of the foraging bees; hence the importance of maintaining or increasing the strength of the colony in a judicious and controllable manner.

Since writing my first notes on *intensive brood-rearing*, many weeks ago, I have further examined this subject, and succeeded, through the courtesy of Mr. W. J. Owers, in securing a good model of this chamber, which is now in the possession of Messrs. James Lee & Son, of Uxbridge, who are undertaking its manufacture. As I have no commercial interest in its development, they have undertaken to contribute to the *B.B.K.A. Research Fund* a certain percentage from all profits on its sale. For this genial spirit I should like to express my best thanks, and I take this opportunity also to record my indebtedness to Mr. W. J. Owers for his sympathetic co-operation by his expert craftsmanship, apart from his apicultural knowledge.—A. Z. Abushady.

## QUESTIONS, Etc., FOR BEE-KEEPERS FOR SELF-EXAMINATION.

(*Students are recommended to write their answers, and check them afterwards by reference to books.*)

133. Why do bees swarm?

134. Is an entrance porch a necessary addition to a hive? Give reasons for your answer.

135. Compare and contrast tin and wood as material for separators.

136. Why should an artificial swarm have in it more bees to the pound than a natural swarm?

137. What determines the output of eggs by a queen?

138. During what part of the year is it particularly necessary that bees should have easy access to water?

139. Explain the fanning of bees at hive entrances.

140. What is the shape of a queen's sting, and for what purpose or purposes is the use of the sting generally reserved?

141. How may a stock of German bees be changed to Italian?

142. How should a bee-keeper proceed to learn the several periods of honey-flow in his district so as to prepare his bees for them?

143. How are (1) the humming and (2) the buzzing of bees produced?

144. Enumerate the difficulties and perplexities of bee-keeping which it is desirable to eliminate in order to make bee-keeping of greater economic value.—J. L. B.

## LEICESTERSHIRE AND RUTLAND BEE-KEEPERS' ASSOCIATION.

Through your valuable journal I should be glad if you would kindly ask the secretaries of county bee-keepers' associations who undertook a re-stocking scheme what results have been attained. I consider the efforts are of more importance at the present time than any other branch of our Association's work, as we must have bees from somewhere. In some districts where bees have died from "Isle of Wight" disease members are most anxious to restart, and are willing even to run the risk of further trouble.

I know of two counties where difficulties have arisen, especially with regard to voluntary assistance, and if some Associations which have worked a scheme successfully would give details of their plan I feel sure they would be rendering a great service to the craft.—John Waterfield (hon. secretary).

## THE BEE GARDEN.

### The Official Lists (*continued*).

By A. F. Harwood.

*Primula veris*, *P. vulgaris* (Cowslip and Primrose).—Really it is difficult to keep one's thoughts from playing fantastic tricks. Mental concentration is often almost impossible to achieve, and at this moment, as I raise my eyes and see the slanting rain, the occasional detachment and fall of a leaf from the plane-tree before my "desirable villa residence," my thoughts flit, impish, to memories of the last great scene in "Cyrano de Bergerac," where the autumn leaves give rise to the exquisite dialogue :—

Cyrano : Les feuilles!
Roxane : Elles sont d'un blond vénitien. Regardez-les tomber.
Cyrano : Comme elle tombent bien! Dans ce trajet si court de la branche à la terre,
Comme elles savent mettre une beauté dernière,
Et malgré leur terreur de pourrir sur le sol,
Veulent que cette chute ait la grâce d'un vol.

Thence to visions of spring in Oxfordshire woods and meadows, and I see again the fields sloping to the Evenlode, each with its spring crossed by stepping-stones, the kine browsing a herbage rich in floral beauty, whereof the greatest wealth is perhaps the cowslip. I visualise, too, a little old-fashioned house in the changeless village of Ascot-under-Wychwood and two little old ladies the crown of whose charming hospitality is the offer of a glass of nectar such as Olympus never knew, brewed long since from the cowslips' petals and matured to absolute perfection in the great stone jars so lovingly stored in the little cellar, and only broached in honour of such as establish a claim upon the old-young hearts of these dames, of whom I am always reminded when I see a reproduction of Whistler's portrait of his mother.

Crossing the meads and climbing high stiles of up-ended stone slabs, I reach the Dean brook, and, crossing by a little footbridge, wander along the further bank, overhung by white currant bushes, grown, doubtless, from bird-borne seeds, the fruit of which I have often gathered and eaten at hay-time between the departure and arrival of the wagons. Passing a haystack on a staddle riddled with rabbit-holes, I reach Dean Grove, and, continuing through it, trample under foot primrose and wood anemone alike, so thickly do they carpet the moist, shady soil.

On past Spelsbury mill, its wheel long motionless and moss-grown, to the village with its lion fountain, and thence to Taston, similarly dowered, I push forward to the high road that leads to Banbury, and, stepping aside at the risk of having to justify my action to one of Lord Dillon's keepers, I enter Henley Knap Wood, and there—and there alone of all the places I have even been in—I find big clumps of *P. elatior*, the true ox-lip, bolder, larger, deeper in colour than its nearest relative, the cowslip, more rare and hence more sought for and appreciated.

All these three can be grown in gardens, but the cowslip is not easy to keep and the oxlip is difficult to get. Mixed with violets, primroses make a pleasant effect, and doubtless will always be tried in the gardens of those to whom they are redolent of memories of a country home, or to whom they are associated with political activities and the personality of the Hebrew statesman, domiciled and ennobled in Bucks, whose statue outside the National Portrait Gallery is annually garlanded with primroses on April 19.

(*To be continued.*)


***The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.***

## THE BEE-KEEPING PROBLEM—DISEASE.

[9811] For some time now bee-keeping has been seeing its worst situation—the worst it has been in so far, up to now. Although it has been boomed by the Press, and many have taken it up as a war-time hobby, it is still no further forward. Why? The answer is simple—"Isle of Wight" disease.

Yes; bee-keeping is at a standstill compared with other industries. The others are pushing forward, or are on the wane. People say, "What is the cause? Honey is a good price, and there is a good demand for both bees and honey, and bees are easily kept." But, again, the reply is "Disease." Yes, disease is th trouble. But they say, "Why should disease trouble you? Have you not a remedy?—all other industries have, lik rabbit, poultry, or stock farming of all kinds. If a horse is bad, or a hen unable to eat, the medicine chest is opened, and the case on hand cured. So why can't bees be cured of 'Isle of Wight' disease. Surely you are slow in finding out a cure?" That is the text of most ques-

tions one gets regarding bee-keeping being considered useless as a profitable occupation.

Now the one vital point at the present date concerning bee-keeping is, can the disease be kept at bay? Can we increase our stock or invest our capital in safety? Just think of the future awaiting bee-keeping if there was no disease like "Isle of Wight" disease, and none worse than foul brood, and honey at, say, even 8d. or 9d. per lb. Suppose one could go and buy forty stocks and the necessary hives and appliances, and start, knowing that if the "Isle of Wight" disease does break out, there is a good remedy at hand, and that with due precautions one can cure it without risks.

Then, and then only, can bee-keeping pay and thrive. Suppose the bee-breeder sold, say, 200 stocks at £3 each, or the honey producer could keep 200 stocks and produce 40lbs. per stock, at 9d. per lb., that would be £300 per year for him, besides being able to sell 20 or 30 swarms, or stocks, and also keep a few poultry. That is the future of bee-keeping if the "Isle of Wight" disease could be cured or successfully controlled.

But at present there are no signs of its abatement, or of a successful remedy being found, that can be relied on to do its work. So that at present it is not safe to invest much in bee-keeping. That is my opinion on the subject; but I don't want to daunt the hopes of others, because in a great many areas it is safe, and with due precautions and disinfecting the hives and all things concerned, it is quite probable it would succeed; but one can't buy 40 or 50 stocks at £4 each and be sure of success, without any disease, like one could if we had a good remedy. So it is up to the practical men who are experimenting on the disease with "cures" to find one, and get it out. There is, I am sure, no other industry to which the finding of a cure for disease is so vital as that of bee-keeping with "Isle of Wight" disease.—A. Donkin.

## THAT SKEP.

[9812] In Mr. Hawkins' article (9806) he makes some interesting remarks in reference to the straw skep and the modern beehive. He tells us the modern bar-frame hive is more ventilated than the skep. This cannot be, as the straw walls of a skep hive are porous. This allows the bees to obtain air more freely than in the modern walled hives. The straw skep also offers greater resistance to heat from the sun in summer, yet gives better protection against cold in winter, whereas wood is much hotter in summer and colder in winter. This shows us that straw is the best material to use, unless we provide more space for ventilation to pass through the modern hive during the summer months. We all know what a boon to bee-keepers the modern hive is, but in them I advocate more air—not less. —W. T. E.

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[9813] It is, I know, a heinous offence to suggest that the bar-frame hive is not the last word in hive building, and that there may still be something to be learned from the humble skep; but anyone who has read the many interesting letters you have published on this subject, must confess that the skeppists have made out a fairly strong *prima facie* case for their contention that the skep has, in some mysterious way, better wintering and disease-resisting qualities than the modern frame hive.

I can hear some of the ultra-moderns buzzing like irritated bees at such heresy, but let me hasten to assure them there is no cause for alarm. To return to bee-keeping in skeps, on the wasteful and unscientific lines of our ancestors, is unthinkable. If, however, the facts are, as one suspects, the wise bee-keeper must take steps to find out wherein lies the alleged superiority of the skep.

In soundness and solidity of workmanship or materials, it certainly does not excel. One is therefore driven to the conclusion that its superiority, if any, lies in its shape or form. Is it just possible that the dome-shaped roof of the skep, in spite of its flimsy construction, conserves the heat of the cluster better and makes it a snugger place in winter than the square-topped body box of a frame hive? Even when dummy boards are well fitted, and plenty of overhead packing is added, the flat top of the standard body box must make it less suitable to the concentration and conservation of heat.

These ideas are in a measure supported by observations in the course of a bee hunt, some account of which appeared in one of your recent issues. The bees had hived themselves in the cone-shaped top of an iron column, supporting the framework of a gasometer. Superficially regarded, it was about the most unsuitable wintering place a stock of bees could have chosen. The cast-iron cap in which the yard-long combs were built was barely an inch thick, and by its nature and position a perfect conductor of heat *away* from the hive. Yet bees have wintered there, I was told, for twenty years, and whenever they have been sulphured out so that the cap might be repainted, another swarm has soon made its home there.

"What is the explanation? Is it because the cap has enabled the bees to

keep up a living temperature, no matter how their numbers might be dimmished, by clustering higher and higher in the peak of the cone? This "hive," I may add, had no bottom board. Beneath the combs was an air-space 2 ft. in diameter running down 60 ft. to the bottom of the column.

There may be bee-keepers sufficiently interested to carry out experiments to prove, or disprove, the theory that a conical is better than a rectangular wintering chamber. To such I leave the suggestion. A rough box, square at the bottom and tapering to a point, would be simpler to construct than a perfect cone, and should serve almost as well, provided the joints are well sealed. Its adaption to the uses of a bar-frame hive for wintering would also be easy.—C. B.

[9814] My interest in bee-keeping leads me to reply to Mr. E. J Thompson's (9797) statement "that the 'Isle of Wight' disease always breaks out in the bar-frame hive—at least nine cases out of ten." That is not my experience. Last year, 1917, "Isle of Wight" disease visited me a third time—I had been entirely cleared out twice before—the victim was a skep. The other hives were exempt. This last season numerous swarms came off, and I had no frame-hive for the last one, so, perforce, it was left in the hiving *skep*. Some weeks back it developed "Isle of Wight" disease. I determined to try and cure it, if possible. I sprayed liberally with Flavine, *as far as it could be done*. All to no purpose. They got worse rather than better. A few days ago I destroyed them.

Now for the other side of the question—the frame-hive. Swarms came off last season, and I ran short of clean combs and foundation. I had, however, a lot of combs on which bees had died of "Isle of Wight" disease, with which I determined to experiment. So I fitted up two hives with them after well spraying with Flavine. A swarm was put in each hive. In a few days one showed signs of the disease. I sprayed the comb and bees well with Flavine—each comb in succession the inside of the hive, the porch, and the calico quilt in fact just as directed. I also removed the queen, though a young one, and gave them a ripe queen cell. On the fifth day I repeated the spraying as thoroughly as before. That is some four or five months ago. Since then I have observed no signs of disease in these two frame-hives, and, singularly, these two stocks appear not only strong and healthy but are the best I possess. I believe that had I been able to get at the combs in the skep I could have cured the stock with Flavine.—W. Winterton, Stoke Mandeville.

## Notices to Correspondents

*Suspected Disease.*

J. R. (Widnes), T. Rogerson (Edinburgh), L. M. Howell (Henley), C. J. Lee (Potters Bar), "Caundle" (Dorset).—The trouble is "Isle of Wight" disease.

F. and O. Colson (Herts.).—"Isle of Wight" disease is developing.

Mrs. G. Hughes (Berks.).—The bees are native workers, and are suffering from "Isle of Wight" disease.

V. E. Barford (Basingstoke).—The trouble is "Isle of Wight" disease in the early stage. As the bees are now more or less dormant, you can do very little for them. See that they are kept dry and have plenty of covering. If you are giving candy, better cut the cakes up and warm it until it is possible to mix in some more medicine. To each pound add one teaspoonful of Bacterol, or Yadil, five or six drops of Izal, or one grain of Flavine. Take out the floorboard, clean it down, and apply a strong solution of one of the above disinfectants. Allow to soak in for a few minutes, then dry off the surplus with a cloth, and replace the board. Burn all dead bees and débris.

W. S. Miller (Stockport).—Bees are Italians, and suffering from "Isle of Wight" disease.

E. O. T. (Devon).—Natives. We do not find disease.


## PETITION TO THE GOVERNMENT *RE* LEGISLATION FOR BEE DISEASES.

In connection with the resolution passed by the Council of the British Bee-keepers' Association, deciding to obtain the signatures of all bee-keepers in England and Wales desiring legislation to deal with bee diseases in a petition to the Government, the forms are now ready. Individual bee-keepers willing to help in this work who live in counties where there is no Bee-keepers' Association at all, or where the existing one is not affiliated to the B.B.K.A., may have forms for the purpose upon application to the Secretary, B.B.K.A., 23, Bedford Street, Strand, London, W.C.2. Great care must be taken to obtain the signatures of people who have not signed elsewhere. More forms can be had upon application if those sent are insufficient. When completed, the forms must be returned to the Secretary. Now is the time for all bee-keepers to do their utmost to secure protection for the craft.

The counties to which the above applies are Bedfordshire, Berkshire, Cambridgeshire, Cornwall, Dorset, Durham, Hampshire, Isle of Wight, Huntingdonshire, Oxfordshire, Shropshire, Suffolk, Wiltshire, Yorkshire, Anglesey, Brecon, Cardigan, Carnarvon, Denbigh, Flint, Merioneth, Montgomery, Pembroke, Radnor.

## A DORSET YARN.

When through Parkstone last week, on election propaganda work, close to the Coalition candidate's office the pavement was strewn with flowers of arbutus and also the highly coloured fruits. To look up and see the rich coloured fruits and flowers at the same time is a rarity in all the vegetable kingdom, but wherever we go, or whatever our business, the lover of Nature is always rewarded in the sunny south with so many beautiful units of the floral kingdom. Bees have a fine time over the ivy flowers, many of the two-winged flies have finished their peregrinations; all wasps seem to have gone into winter quarters. Our bees have not gone far from their hives this week: it has been warm, but mostly very damp, though not enough to stop the men from work. Our thoughts were with the bees when we had a day of threshing out the corn. We had ploughed in a lot of turnip to help enrich the soil (our farm is too small for sheep to feed them off), and many of them grew up and flowered among the corn. My neighbours were very liberal with advice to have them all pulled up, as they would rob the corn of nourishment, but the bee-keeper thinks of his bees; he knows of the valuable honey that is to be gathered from them, and if our corn was not quite so good, we more than made up for it with the extra honey gathered. The amount of turnip seed which was wasted with the dust beneath the threshing machine was enormous; there was some charlock, but it was largely turnip. One never likes to see waste at any time, but labour is so costly one cannot see how all this could have been saved, unless the machine was in the barn and the seed all kept dry, when it could have been cleaned from the waste and made saleable.

I have had sent me the report of the Research Committee of the Scottish Agricultural College, by Joseph Tinsley; it is only a preliminary report, but it shows the careful method of the "canny Scot," how each stock that was sent them was treated with the several remedies, and the ultimate results. Many of us know the peculiar way in which the wings are placed when "I.O.W." disease is present in the bees, but this report gives in detail how soon the disease is spread to healthy stocks, also "Colonies that showed symptoms of it united to healthy stocks (the queens of the diseased stock previously removed): it took four to six weeks to transmit the disease." In another instance "the entire brood chamber was placed on a healthy stock, which compelled the healthy bees to clean up all the dirt and filth of the diseased colony before filling the combs with honey, but in six to eight weeks the malady came to the healthy stock, but when honey was extracted from combs and fed to bees, they did not contract the disease." It shows how unwise I have been, for I have given the whole lot to the breeding sows we keep, I did not care to eat it, nor did I want the healthy bees to have it. We are still learning every day something or other in relation to bees, as well as the results from extra tillage of the soil; but the last four lines of the report commends it most to me. The writer gives at length the cross-breeding of bees to withstand the disease more than our native blacks, then tells us "the work on the production of immune strains of bees is being continued, and it is hoped that we shall shortly be in a position to restock the disease-swept districts in the College area from our apiary at Kilmarnock."

A college that is so progressive must commend it to all bee-keepers, that is the best use of a college to raise and distri-

bute to the people who help to support it and pay its staff; the report in itself shows "something attempted something done," as we have many times sung in days gone by.

All bee-keepers are now being listed in Dorset, the Government is going to release some sugar for bee food, it looks as if the authorities are awaking to the great value of honey as a food product; it is time that our craft had some recognition. Our county is going to have the secretary of the B.B.K.A. down for a lecturing tour. One is offered in East Dorset, at Wimborne. Our able horticultural instructor Mr. MacPhail speaks of Mr. W. Herrod-Hempsall's abilities as a lecturer in very high terms, so we are looking for great things in Dorset. I hope it will not be till after this "rushed election" is over. There is no better time than the present to appeal to the village population for them to adopt bee-keeping as a great asset towards a yearly income, as prices are so high for sections and run honey. We want a progressive college like Kilmarnock, where our citizens can purchase a 3-frame nuclei for a start. The scarcity of butter has made a great many would-be bee-keepers, for without a doubt they are most profitable to us who keep them besides the great pleasure of having them.

My eldest son (who is now home on leave from France) gives an appalling picture of desolate France and Belgium in the war area. Our men must be able to rent or buy easily our own land, for which they have made such great sacrifice, or red revolution is sure to come; (already irresponsible speakers are telling the electorate to make sure of a part when the share-out of land comes; that was said in this village, and I do not suppose it is an isolated case). Then the bee-keeper can have beside the honey which his bees will gather for him, his cows for milk and butter, and grow his wheat to make his bread, the succulent vegetables the soil produces, with peas and beans for winter food—then we shall have a new England, and a happier country for our returned soldier bee-keepers.—J. J. KETTLE.

## BLURTS FROM A SCRATCHY PEN.

COMMENTS ON CALMETTE'S EXPERIMENTS.

The writers who have made a special study of the toxic action of the virus in the poison of the bee are very few. Cheshire and Cowan have, in very thorough fashion, described the mechanical portions and their workings. But it is quite possible I have not been on the right track. Some of your readers may know of others than those I have mentioned in previous articles. I should be glad to hear of them, and will promise, as best I may be able, to use the information. Any further light that could be shone on the question would be so useful. It cannot be disputed that one of the greatest deterrents from bee-keeping is the fear of getting stung. Diminish this fear, or prevent some of the unpleasant after-effects of stinging, and we should have recruits by the hundreds. It is an old chestnut, the tale of the lecturer who was asked the best cure for bee-stings, his reply being, "Plenty of them." But the retort was obvious: "How many stings must I receive, and how long will it take to be inoculated?" Calmette has, in his experiments, proved that it is possible, by the administration of homœopathic doses of the acid, to small animals, frequently repeated, to render them immune to bee-stings. Modern medical science has adopted inoculation as a specific against many diseases. It is not, therefore, too much to hope that it is possible that some such serum, or infection, may be discovered. Or, working further on Calmette's experiments, would it be possible to gather, and store for this use, the *natural* formic acid? I have but little trust in the laboratory-made article. I am quite sure that it would repay, both in honour and purse, any scientist who is capable of studying the question.

There is another interesting feature worked out in the extracts I have given, namely, the negation of the effects of the acid by heat. I have always used two palliatives for stings. I will not call them cures, because there is no cure for bee-stings. Both of these depend for their effect on heat. When a severe case of sting has happened in the course of my visits, I have always recommended fomentation with hot water—as hot as the sufferer can bear. It always gives immediate relief. And this is the second. Personally, I am only vulnerable around the eyes, and where the skin of the fingers meets the nail. Other places I do not count. If the sting is painful, I work my smoker up to its greatest heat and turn a full blast on to the wound. I can imagine some of your readers smiling at this last homely conceit. Well, "he laughs best who laughs last." Next time they have the need, let them try it. The remedy is always at hand. Of course, you must always shut your eyes when you have to fumigate around them. Don't try to keep them open, or you will be able to form a very good idea of the sufferings our lads endured from tear-shells.

I am but indifferently acquainted with medical science. I often wish I had even a rudimentary knowledge of it. If I had been so fortunate, I might then have been able to give a fit answer to "Anxious Enquirer's" inquisitiveness. But, as a layman, it seems to me that the symptoms

described, and also those by "J. C. A.," quite agree with Calmette's analysis. High temperature, laboured breathing, nausea, and, in "J. C. A.'s" case, blindness for a while. I take these manifestations to arise from hemolysing action on the corpuscles of the blood. The itching comes from the effect of the nerve toxine. I may offend my temperance readers, but I agree, and advise, with "J. C. A.," a liqueur glass of neat brandy or whisky—the best that can be procured. Under circumstances such as these, alcoholic liquor is taken as a *stimulant* medicine, and I have two instances in my mind where such a dose apparently prevented very serious effects which were supervening.

I sympathise with those who suffer so much when the bee takes his own part. A French writer says: "The bee is a vicious insect. You attack him and he defends himself." I look upon stings as so many honourable wounds received in a fair fight, and I owe them no grudge for the very utmost fury they are capable of. Unfortunately for them, the odds are always on my side, fight as pluckily as they may. They have never beaten me, nor do I think they ever will, because their reasoning powers are limited to their instinct. If only they could discipline themselves, act in unison like trained soldiers, which of us would dare attack even a weak colony? They do not know their own power.—J. SMALLWOOD.

## NOTES FROM FRANCE.

The past season has been a poor one in this district (North France) from a bee-keeper's point of view.

The cold winds, when the fruit trees and hawthorn were in flower, made the bees think that the best place was inside the hive, and very few were tempted out; consequently, stocks had to be fed till very late. Then followed a spell of very dry weather, and the sun scorched everything up in the fields, so that when the clover should have been yielding nectar in abundance it was so dried up that the bees could only just keep going. Then the rain came, and the clover sent up a good second crop, but the weather remained unsettled, so that it was too late for supering. But the bees have stored more in the brood nest than last autumn, and so should not require such heavy feeding for the winter as last year. I have not been so fortunate as Mr. Burtt in finding bee-keepers out here who use the frame hive. I have generally spotted a few skeps in an out-of-the-way corner of the garden, and the skeps seem more plentiful than they are in rural England, but they don't seem to have advanced to the frame hive as yet, although their skeps are much larger than ours at home, and I should think if the bees were driven out of the skeps in the autumn of a good season something like 30 lbs. of honey would be the result. I have driven a lot of bees for skepists in England at different times, but the largest amount of honey from one skep was 15 lbs.

I was talking to a black in a British West India regiment the other day, and he told me how they kept bees in Barbadoes. Like some of our older bee-keepers at home, they have some strange superstitions about bees and their ways. He said:—

"De queen bee is wickedest. Everywhere de queen bee go de others follow. She is de largest. She lead de others into hole in tree. Or if you get a box, put a gill of molasses, some salt and water, de bees will go in de box and stop." Then I asked him how they get the honey out of the trees. He said: "Oh, chase de bees out with burning rag tied on stick. Wave it against de tree, cut hole in tree, and take out de honey." (From what he said, they seem very fond of the honey, too.) "Bees don't like red. At times get very wicked and sting red cow. Bees sting man with red tie on. Black man nothing to do with bees; white man will."—E. JEFFERY, R.A.M.C., B.E.F., France.

## NOTES AND COMMENTS.

Several articles appearing recently in the JOURNAL are very interesting in the issues they raise, and if space permits I should like to comment on a few.

(1) Under the heading of "That Skep," some of your correspondents appear to give one the impression that skeps, generally speaking, are more immune from disease than are bar-frame hives. I quite agree that this is a thing which would bear closer investigation, if only for the purpose of showing the proportion of *healthy* skeps to diseased ones, and healthy frame hives to diseased hives. Anyone would be pardoned for concluding from E. J. Thompson's letter (9797) that to keep bees in frame hives is fatal. Let us look at this matter a little closer.

Skeps, as every bee-keeper knows, cannot be pulled about indiscriminately—or, indeed, hardly handled in such a manner as to be directly infected by handling the combs and thus carrying disease from another *unsuspected infected* stock. That, in my estimation, is the crux of the whole matter. Frame hives, from their very accessibility, are more suseeptible to "carried" infection—that is, carried by the apiarist himself, by his smoker or other tools, through negligence in the matter of sterilising those tools, and his hands.

It would be a big step if a census could

be taken of the number of skeps which keep healthy year after year, a proper record being taken of those which "go under" and those which, on account of showing bad symptoms, are "put under."

In conclusion, I feel I must express my regret at the manner in which so many correspondents "hark back" over old ground, over which there have been many wordy battles fought in the old days, and should have been settled long ago. It savours too much of "retrograde" movement, instead of progress.

(2) This same trend of writing appears in the next subject I should like to say a few words about, viz., "Blacks *versus* Italians." This matter has been argued over for years, and if it has not been definitely settled once and for all in England, it has been years ago in America. Among all our own leading apiarists Italians are kept almost exclusively. I say "almost" advisedly, for during the last year or two the supply of Italian queens has not met the demand by one-third, a fact of itself of first-rate significance.

Quoting Root's "A.B.C. and X.Y.Z.," page 609 (1917 edition):—"Comparing the Black (or German) bees with Italians, *they are not inclined to rob* (as we should expect from anything originating in Hunland!.—F. M. C.), are *not* as good workers. . . . They are much more nervous, . . . . boiling over in confusion. . . . . Their queens are much harder to find, the bees are *not* so gentle, and, worse than all, they have a disagreeable fashion, during robbing time, of *following the apiarist about* from hive to hive in a most tantalising manner" (the italics are mine), all of which I have most conclusively proved from my own experience.

Further, from the facts that Italians are practically immune to "foul brood" and will not tolerate wax moth, I should always plump for Italians. Whoever prefers to stick to Blacks, knowing the characteristics of the two races—well, let him!

(3) Mr. G. T. Pallett's article in issue of November 28 on treating "Isle of Wight" disease with chloride of lime raises another interesting topic. Singularly enough, I used this very preparation on the first hive I ever had, which developed "Isle of Wight" disease during winter, when it was impossible to use any ordinary treatment; but, being then an absolute novice, I did not use any fixed method of application, merely dusting the ground all around, and washing off the flight-board when badly soiled, with the lime, and changing the floor occasionally, treating this with Izal. Although very much weakened, the stock survived, and gave me a swarm and a surplus the next year. None of the combs were destroyed or done away with until a long while afterwards, and infection did not break out again, but of course other measures were taken, such as re-queening and feeding medicated syrup, etc., as early as practicable. Until reading Mr. Pallett's article I had forgotten the chloride of lime, and I think it might be worth while following up for treatment of "Isle of Wight" disease.

(4) Mr. H. B. Peirce, from far-off Tasmania, in his letter (9809) of same date, arouses our thoughts once more to the question of standardisation of hives.

Why cannot this vexed question be settled now? We are nearing the time when the world will be at peace once more, and business commencing to resume its normal plane. I believe—in fact, so far I have found it true—that every English maker of W.B.C. hives has his own external measurements—why, nobody seems to know. Would it not be possible to obtain a vote on the question of all users of W.B.C. hives, and let the B.B.K.A. be guided by this in their final decision?

Mr. Peirce evidently likes the principle of the W.B.C. hive, with its loose internal boxes; but in many makes there is not enough space allowed between the inner and outer cases; *i.e.*, the latter are too small. For myself, I prefer that size given by Mr. Peebles in Mr. Cowan's "Notebook," viz., 19 in. by 21 in. outside dimensions.

Mr. Peirce does not like our metal ends so much as the Hoffman style of wide-ended frames. May I ask him if he ever saw the W.B.C. metal end pulled back on alternate frames, to allow of close spacing? He cannot operate the Hoffman frame like that. No: I think the metal end "years ahead" of any fixed spacing arrangement. *But*, they must be well made, and unfortunately I have seen many that are not worth picking up.

His complaint against porches is quite legitimate with the fixed porch, but no porch should ever be a fixture. There are several ways of easy attachment, the simplest of which is a pair of hooks and screw eyes fitted on the sides of hive body and ends of porch, and the alley traps can be fitted in the same manner.

I am glad our Colonial friend has brought these subjects up, for I feel sure we have in England and Scotland (perhaps it would be better to say Britain) quite as good individual bee-keepers as anywhere abroad; but "the one thing needful" is lacking—that is unity, or co-operation, or whatever you care to term it, and all that they mean—and under this heading will have to come the entire standardisation of all our furniture (for bee-keeping, not household, purposes), and also legislation. And it must not stop there. We must go forward until disease is really conquered and the entire interests of all bee-keepers are fully cared

for. What are our Associations doing in these matters? Remember, the Association is of no use unless supported by the individual, so now then, Mr. "Busy" Bee-keeper, "get a move on!"—F. M. CLARIDGE.

## QUESTIONS, ETC., For BEE-KEEPERS FOR SELF-EXAMINATION.

(*Students are recommended to write their answers, and check them afterwards by reference to books.*)

145. What is an out-apiary?

146. What is one of the chief indications that the death of bees has been caused by starvation?

147. What interval occurs between the changing of a larva into a nymph and the emerging of the perfect bee?

148. How is Good's candy made, and how and when is it given to bees?

149. When a swarm is united with a stock what is done with regard to the queens?

150. How may an observation hive be populated so that the life of a queen may be observed from the beginning of a queen cell to the laying of eggs by the mature insect?

151. What is known of honey-dew?

152. What is the object of "spreading the brood"? And how and when is it done?

153. How should nuclei be dealt with for wintering?

154. Weigh the evidence on which the statement is made that the sugar in nectar is inverted by the agency of formic acid.

155. Describe exactly the secretion and the manipulation of wax by the bee up to the time when it is formed into comb.

156. Make notes for a 15-minute lecture on "Honey as an article of diet for human consumption."

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Readers of the B.B.J. will be interested to hear that the Bureau of Entomology in the United States Department of Agriculture inform me that they have noticed, with interest, my weekly contribution to the BRITISH BEE JOURNAL and appreciate the usefulness of the work.

This should be an encouragement to any who are not making full use of the Questions, working in the manner recommended at the head of each set.—J. L. B.

## COMMON FAULTS.

1. Bees are very generally not sufficiently protected. Warmth is essential to the well-being as well as to the well-doing of the bee community. A colony of bees when not well covered overhead gradually loses the high degree generated for the good of the cluster because there is an escape of heat which rises and is dissipated. To keep up the temperature and their vitality the workers have to make a drain on the stores, hence there is a loss of honey, because it is by consuming this heat-giving food that the lost heat can be replaced. It will thus be seen that too slight covering above the frames is a drawback, and militates against the bees' best well-doing, especially in winter. Yet I have seen hives with scarcely any covering overhead, and very generally bees have too little. A single covering of thin cotton or even cheese-cloth over a new-hived swarm is by no means uncommon, and even when this is supplied with a rack of sections, many provide no more. This is reprehensible. When bees are comb-building, either new frames or drawing out sections, workers have to generate a heat of about 98 deg. Without ample covering they scarcely can accomplish this. Yet bee-keepers often wonder how bees do not ascend above. The wonder would be, if they would. I would use about as many quilts in summer as in winter.

2. Entrances are, as a rule, too small right through the summer, more especially during the period of ingathering. From early summer they should be gradually enlarged until during a flow the workers are allowed the full length of the hive front by $\frac{3}{8}$ in. up to a couple of inches in depth. This can be done by placing blocks at each corner, affording a long, deep entrance which will not only prevent congestion, but allow a fresh current of air to play about the front, thus supplying much needed ventilation in very warm weather. Too often this is wanting, and very generally any fresh air is specially excluded by a growth of herbage, often rough, rank weeds, which are allowed to grow as they please all round the flight-board. In scores of cases I have discovered bees slowly crawling about endeavouring to find their way through this tangle, as if they were engaged in solving a Chinese puzzle. Bees should have a clear and uninterrupted flight right from the hive entrance straight to the foraging fields, and anything which interrupts their outward and inward flight is a direct obstruction, for which their owners deserve to be penalised—as indeed they are, because *less* honey is taken into the obstructive hive than into the one with a clear, uninterrupted one.

3. Hives too frequently are planked down anyhow, anywhere, and left there unattended right to the end of the season. As an extreme case, I may instance one place where I was informed by the goodwife

that they had seven ruskies. On going into the garden I found *none*! In time I discovered *nine*. All were enshrouded in vegetation, entangled and severely shaded. Others in other apiaries were placed in front of bushes, shrubs, or hedges which in the course of years had embraced them so lavishly that one had to search for the real hive. This should not be. All hives should be clear of all vegetation. They should be placed not on the ground, but at least 6 in. or 9 in. above. They should not stand close to dyke, fence, or hedge, but have a clear space behind wide enough to afford room for all manipulations being carried on in the rear. If vegetables or flowers threaten to interrupt the flight of the workers, these should be sacrificed. One can safely impress a preference for a southern exposure; but this rule, like the laws of the Medes and Persians, need not be slavishly adhered to. Shade may be a good thing, but when there is much of it, especially if it is of a confining nature, instead of preventing, it will lead to swarming, as ventilation is thus cut off.

4. The *amount* of packing material has already been alluded to; the nature of this material deserves our attention. "Ole Clo' " is the prime favourite almost everywhere; in many places, its use is universal. The ploughman's cast-off "breeks" are not despised. The goodman's Sunday suit, after, perhaps, forty or more year's service, is still deemed serviceable covering. Discarded sacks worn into holes, incapable of retaining grain or even potatoes, are deemed suitable for packing. I would not condemn them utterly, but as gently as I can would advise a visit to the wash-tub before the transfer. Still, in odd corners, where there is an outer and inner case, packing all round is found a very convenient and warm accommodation for one or more pairs of mice to nest in. The straw, hay or chaff is frequently old and mothy. Covers are favourable, and favourite breeding places for the wax moth to generate its kind. In some cases a spring cleaning is an innovation so rare as to be unknown. Frames very generally are never disturbed; dummies or division-boards are fixtures; and frame hives, instead of being viewed as open books, are as much sealed ones as are any ruskies in the collection. These, I am pleased to say, are in a small minority, the exception and not the rule.

5. I wish that even in the most favourable circumstances, sections, after appearing a second season, would be discarded. The only subsequent use for them is to help to light the morning fire. Yet I have known them to appear for many successive years—containing the same foundation, too! The owners wonder why their bees despise and reject them. We don't!! The fact is the bees *couldn't* work them if they tried, as they are so heavily propolised. In one case sections of '17 were pitted againt those of '18 on the same grocer's counter. The first were purchased (reluctantly) for 1s., the latter fetched 2s. 9d. Why should bee-keepers penalise themselves so? The plea in the foregoing case was "war economy." Was it economy? Some old section racks afford bees a play-space all round, and it gives them in their slack time an excellent area for spending their precious time in daubing an inordinate amount of propolis, neither useful nor ornamental. Interchangeability of parts is often preached. I saw one apiary of nine hives, and it is a fact not one of the eighteen lifts were perfectly interchangeable. Several left gaps of several inches. Why?

6. Very few cottage bee-keepers are aware of the existence of such a disease as foul brood. They know that certain hives are degenerating. Fewer bees enter and return than formerly; at the end of the season they give a smaller return. Ultimately, some of them drag out a miserable existence, or die out entirely. Ill luck is blamed. One such bee-keeper asked me seriously why this should be. I was able to show him thousands of cells empty, other thousands showing a putrid mass of decaying matter, and thousands of others containing the dried-up substances which had been larvæ—and only here and there an odd healthy larva or pupa ready to eat its way out as a perfect imago. The puzzle was solved for that bee-keeper, and I verily believe he will wage war against any appearance of this foul pest in his apiary henceforth.—D. M. M.

## GLOUCESTERSHIRE B.K.A.

ANNUAL MEETING.

The annual general meeting was held at the Wessex Hotel, Gloucester, on December 7. There was a good and representative attendance. The Rev. E. T. Bartleet was voted to the chair. The balance-sheet and report were presented by the hon. secretary and treasurer, Rev. F. H. Fowler, and were considered highly satisfactory, as showing that the Association was financially sound, and that its prospects were hopeful. The subscription list had nearly doubled during the present year, and many new members had joined, of whom a considerable proportion were ladies, all keen bee-keepers. The Re-stocking Sub-committee, inaugurated after the county meeting of bee-keepers last

May, had done excellent work, with a substantial balance in hand. The result was the more satisfactory because the work of the committee had been entirely self-supporting, without any subsidy from the Association. The hon. secretary expressed his intention of resigning after eight years of office, and was re-appointed hon. treasurer, the Rev. E. J. Bartleet (Quedgeley Rectory, Glos.) being elected in his stead. The following committee was appointed :—Lieut. A. H. Bowen, Messrs. J. E. Swaffield, Gauntlett Thomas (Cheltenham); Messrs. E. J. Burtt, W. J. Goodrich, C. A. Oakley, C. L. Richards, J. Lane (Gloucester); G. S. Railton, H. E. Scrope Viner (Tewkesbury); Miss Fox (Newnham-on-Severn); Miss Meyrick Toms (Stonehouse); and, in addition, the hon. secretaries of the various branches to be formed will be *ex-officio* members. A president and vice-presidents will be appointed later. The proposals of the Food Control Department with regard to re-stocking, and rationing of candy, were discussed. Mr. Gauntlett Thomas was invited to represent the Association at Council meetings of the B.B.K.A. It was decided to extend widely the operations of the Association in 1919, also to hold a honey show, which has been in abeyance during the last four years. "The season," to quote from the report, "was not on the whole favourable either for the production of honey or the increase of stocks. May was fine and warm, but April was cold, with sunshine below the normal, and June, although sunny, had a temperature considerably below the average, while July was cold and wet for the most part. September was an appalling month, and gave the *coup-de-grâce* to weak stocks or those with any suspicion of disease. The following details of two small apiaries of members may be of interest :—(a) Twelve stocks; surplus, 13¼ cwts.; average per hive, 120 lbs.; best stock, 227 lbs. (b) Seven stocks; surplus, 819 lbs.; average per hive 117 lbs.; best stock, 214 lbs."

Votes of thanks to the chairman, the hon. secretary and treasurer of the Re-stocking Committee (Rev. E. J. Bartleet), and the retiring hon. secretary concluded the proceedings.

## PRESS CUTTINGS.

### THE BEE LIMIT.

When I had to pay half-a-crown for sixpenny worth of honey the other day (writes a correspondent), I protested that surely bees were having no war bonus. "No," said the girl assistant seriously, "but, as you know, feeding stuffs are dearer nowadays!"—From the *Daily News*.

## CORRESPONDENCE.

*The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.*

## DO BEES BUILD COMB IN WINTER.

[9815] The title of this little article would seem to all admirers of "Our Deborah" as ridiculous, but the writer has evidence to prove that bees can, and do, build comb in winter. A skep of native bees was put in a spare wooden hive, and tucked cosily in with quilts for the long winter. Over the feed hole of the skep, an oblong bottomless box, just sufficiently large to hold a cake of candy was placed, and on top, for observation purposes, there is a plate of glass. Just two weeks ago, a cake of candy was placed in the box with a ¼ in. hole drilled through the centre immediately over the feed hole to allow the bees to come through on to the surface of the candy, and on examination to-day, December 8, it was noticed that the bees had enlarged the hole in the candy to 3 ins. in diameter, and through this hole a new comb of pure white wax 2 ins. long extended from the interior of the skep, through the feed hole, up to the glass surface over the box. Could the Editor, or any other brother bee-keeper explain why this comb has been built? The skep weighs 20 lbs., which shows there must be ample storage room available if the bees desired to store the candy. Also, why did the bees not start at the interior surface of the glass and build downwards, as they generally do?

It would be interesting to read during the long winter evenings, in the columns of the BRITISH BEE JOURNAL, what others who are more expert than the writer have observed in the antics of their bees in respect to comb building in winter.—J. W. PRESTON.

## THE USES OF GERMICIDES.

[9816] There is nothing peculiar about the fact that it is possible to disinfect with any non-toxic modern germicide soiled combs, taken from diseased colonies, and to give them later *with full confidence* to healthy colonies. Lengthy correspond-

ence on this subject is quite unnecessary, as sufficient proof has already been advanced regarding this question, apart from the scientific data, that would justify adopting this method, in place of the destruction of the infected combs, even should we lack a guiding experiment. I sincerely hope that no bee-keeper still practices the old method of destroying a source of infection by destroying the infected combs. It is obviously a cheaper way and a more sound one to destroy the infecting organisms on the combs and to save the latter. *Thorough* disinfection by means of a germicidal solution would accomplish this task.

Some bee-keepers consider it an advantage to keep one antiseptic only. They should be advised, then, to keep one that could be used *both* internally as well as externally, Personally, I consider it more economical and just as sound to keep more than one antiseptic, and to give every preparation its proper place of use. Why use for the general disinfection and the cleansing of appliances (which is *always advisable* for preventive purposes) a preparation more worthy of internal administration to the bees, whether for prophylaxis or treatment, when a cheaper preparation would do just as well for accomplishing this purpose? It would be also just as foolish to administer to the bees (merely for the sake of *false* economy) a toxic preparation which is more suited for external use. I think if all progressive apiarists would think more than they generally do at present of the correct selection of antiseptics, and of their application in a correct way, they would be rendering a greater service both to their bees and to to their pockets, instead of unwittingly serving the pockets of the manufacturers by the present curious state of partisanships.—A. Z. Abushady.

## WHO SHOULD BE A BEE-KEEPER?

*Extract from the* New Zealand Bee keepers' Journal, *July* 1, 1918.

It is an occupation for old and young, rich or poor. It is for the professional man or woman, tired and worn with office work, and it is for the vigorous man in his prime who seeks profit and pleasure alike from its pursuit. Any person with fair health and strength, studious, and imbued with some patience and some love of Nature, may very reasonably hope to become successful as a bee-keeper. The more one studies and the more one observes, and is able to apply his observations practically, the more successful bee-keeper he will be. He should be, too, a reader of bee lore and natural history. The greater and the wider the bee-keeper's intelligence, the wider his success will be. The very few persons who may despair of becoming good bee-keepers are such as have unusually nervous temperaments, little patience, and little or no love for outdoors and natural history; and the still fewer who are seriously affected by the poison of bee stings and stand in constant dread of them. The normal person, with a little care, can avoid stings almost entirely, and need have no cause to dread them.

There is another important essential to winning success in bee-keeping. It is the trait of applying knowledge promptly, and doing the right thing at the right time.

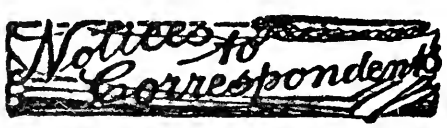
The beginner, while he has considerable to do to succeed, yet if he be willing to try earnestly, he may certainly expect to acquire mastery of a profession that will yield not only honey and money, but a world of new interest, full of pleasure and wonder, and which will prove a great aid to health.

## WEATHER REPORT.

Westbourne, November, 1918.

Rainfall, 2·23 in.
Heaviest fall, ·41 in on 2nd.
Rain fell on 13 days.
Below average, 1·0in.
Sunshine, 70·3 hours.
Brightest day, 13th, 4·7 hours.
Sunless days, 11.
Below average, 16·2 hours.
Maximum temperature, 57 on 1st.
Minimum temperature, 26 on 18th.
Minimum on grass, 23 on 18th.
Frosty nights, 8.
Mean maximum, 53·1.
Mean minimum, 37·5.
Mean temperature, 45·3.
Above average, 2·1.
Maximum barometer, 30·525 on 13th.
Minimum barometer, 29·389 on 2nd.

L. B. Birkett.




"Worker" (Panteg).—*Distance drones and queens fly for mating.*—It is not known for certain; possibly two miles.

*Honey Sample.*

W. H. Edmunds (Cape Province).—The honey is very good indeed, far better quality than the honey generally sent into this country. We do not stock the labels, but you can get the ornamental labels from any well-known appliance dealer. The other you would have to get printed.

*Suspected Disease.*

F. Blamond (Salop).—The bees are suffering from "Isle of Wight" disease.

R. B. (Barham).—We do not find disease in the bees sent.

H. R. Wyatt (Middlesex).—Both lots of bees were affected with "Isle of Wight" disease in an early stage.


## BEE-KEEPING.

FOOD PRODUCTION DEPARTMENT'S SCHEMES.

The Food Production Department points out that the advice to villagers to keep more bees now being given in various quarters was anticipated by that Department upwards of a year ago, and has been extensively followed by rural residents in the meantime. Not only has the Department advised the villager to keep bees, it has by means of lectures and demonstrations, the supply of simple practical leaflets and other measures, shown him how bees may be kept profitably. Bee-keepers generally throughout the country were greatly discouraged and suffered serious loss by reason of the epidemic of "Isle of Wight" disease, which wiped out the large majority of the stocks of English bees and which has only this year shown signs of abatement. For several years past a Government scheme for providing bees with medicated candy for winter feeding has been in operation; and it is probable that the consequent strengthening and stimulating of the remainimng stocks in the country has had a bearing on the decreasing virulence of the bee plague.

Bee-keepers requiring bee-food for spring feeding must register (prior to December 31, 1918) with the Secretary of the Horticultural Sub-Committee of the Agricultural Executive Committee for the county, from whom special forms can be obtained.

Early in the present year the Food Production Department set up a Bee Section, to which the secretary of the British Bee-keepers' Association is attached, and this Section, by means of the systematic inspection of apiaries and advice to bee-keepers, has done much to restore confidence and to place the future of the industry of bee-keeping on a more satisfactory basis. With a view to the prompt and successful revival of the industry, the Department has lately urged the Horticultural Sub-Committees of the counties to organise local bee-restocking schemes through their bee committees in co-operation with the local bee-keepers' association. It is hoped that growers of fruit in particular will assist enthusiastically the development of these schemes. The importance of bee-keeping to the fruit grower can hardly be over-stated. Experiments have proved that if a hive or two of bees is kept within a furlong (220 yards) of a fruit plantation, 80 per cent. of the fertilisation is done by hive bees.

Particulars of the various measures being taken by the horticultural sub-committees with a view to assisting bee-keepers—including the scheme for the importation of disease-resistant Dutch bees and Italian queens—can be obtained from the Secretary of the Horticultural Sub-Committee for the county.

## ERRATUM.

A printer's error occurs in Mr. Claridge's article in our last issue. Note 2, 2nd paragraph, 4th line, on p. 404, should read "*they are more inclined*," instead of "*they are not inclined*," as printed.

## NOTICE.

Owing to the Christmas holidays next week we shall be obliged to go to press with our next issue several days earlier than usual. Advertisements for next week's B.B.J. must reach the office on Saturday morning.

We shall be greatly obliged if our readers whose subscriptions to the JOURNAL expire with this and next week's issues will let us know as soon as possible if they wish to continue to take in the paper. We hope they will all do so, and, if possible, recommend the paper to and obtain new subscribers. There has been, during the past year, a much greater interest taken in bee-keeping. No doubt this will continue during the coming year. It is necessary that those who take it up should do so on up-to-date lines, and keep up to date by taking in a paper devoted to bee-keeping. Failing any order of renewal the paper will be discontinued.

We are sending with this issue a notice to all those whose subscriptions expire this and next week. We cannot afford to print papers to sell as waste, and we are only printing a very small margin over the copies actually ordered. We do not run anyone into debt, and the paper is stopped as soon as the subscription expires. Therefore, to prevent disappointment, subscriptions should be sent as early as possible.

## OBITUARY NOTICES.

*Sergt. Eric Purvis, Queen's Royal West Surreys.*

One of the best known of the younger generation of bee-keepers was killed on the Western Front (in the last big battle of the war) in the person of Sergt. Eric Purvis, of the Queen's Royal West Surreys, formerly of the 2/1st Bucks. Battalion (Territorial) of the Oxford and Bucks. Light Infantry. Sergt. Purvis joined the Army in the first September of

the war, and was seriously wounded at the Battle of Fromelles during the Somme campaign of 1916. Afterwards he was stationed in Ireland for a time on instructional work at the Remedial Camp attached to the depôt at Ballyvonare. Whilst here he took a prominent part in Irish Army football and athletics generally, and collaborated in a book of Army games for wounded men. He also qualified at the Curragh and Aldershot in gymnastic and physical training work. Subsequently volunteering and returning to the Front. After being again wounded, Sergt. Purvis rejoined his regiment near Courtrai in October, and was killed about three weeks later, on the Belgian frontier.

Born at Northampton, Sergt. Purvis spent his school days in the outer suburbs of London. He was educated at the Croydon Modern School, and as a boy displayed keen interest in natural history, inheriting this from his father, the most clever, scientific journalist in Great Britain, whose knowledge of rural science is encyclopædic. Removing to Buckinghamshire he was prominently associated with the Boy Scout movement, and went for

THE LATE SERGT. E. PURVIS.

two sessions to the Farm Institute at Ridgmont, on the Duke of Bedford's estate. Here he was a pupil of mine in bee-keeping, and speedily developed into a most enthusiastic apiarist. On leaving Ridgmont he started at Loughton (Bucks.) an apiary of 15 hives, and devoted himself to various lines of experimental work, notably in connection with alleged cures for "Isle of Wight" disease. He took a number of prizes for honey locally, including a second at the county show at Bletchley.

The late Mr. Gunthorpe, a veteran bee-keeper, at this time lived in the same village, and in a series of articles in the *Smallholder* and elsewhere, Sergt. Purvis blended ingeniously the mature wisdom of his experienced neighbour and the latest scientific theory of the international experts. In 1913 he toured 600 miles in the Eastern Counties, and visited many apiaries there. He had numerous correspondents on bee-keeping subjects in this country and abroad, and when the war broke out was organising a scheme for the teaching of elementary bee-keeping by post. He succeeded Mr. Tickner Edwardes, the well-known novelist and bee-keeper as "Bee Master" of the *Smallholder*, compiled a manual for beginners, published by Messrs. Lloyd, and took part in numerous scientific controversies concerning bees. He was particularly interested in the relation of the bee to fruit culture, and the hybridisation of flowering plants. He also did a great deal of experimental work in the acclimatisation of foreign beans and other vegetables. He was a keen rosarian, and had an expert knowledge of the viola and certain other flowering plants. At the age of 17 he won an inter-county competition in applied agriculture; and he was regarded as one of the coming men in agricultural journalism. Sergt. Purvis was only in his 22nd year when he was killed.

His death is one of the tragedies of the war, for had he lived there is no doubt that bee-keeping would have benefited very largely by his work. A regular correspondent, we were always in touch with his doings. His letters were always cheerful and full of plans for the future. As we write a letter of his, written only a day or two before he was killed, lies before us. Like many others he played the game and has made the supreme sacrifice for the country he loved so well. God rest his soul. W. Herrod-Hempsall.

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Mr. F. H. Brown.

We regret to have to record the death of Mr. F. H. Brown, of Bushey. The deceased, who was 33 years of age, was taken ill with influenza; pneumonia followed, and he passed away on the morning of Tuesday, November 26. Mr. Brown, who was a solicitor, enlisted in the H.A.C. when war broke out, and in February, 1915, was wounded when in the trenches at Ypres, a bullet entering just under the eye and passing out in front of the ear. He was an enthusiastic bee-keeper, and did a lot of work for the craft at Bushey, and was a delegate on the Council of the B.B.K.A. In private life he had many friends, and was generally held in high esteem. His premature death is sincerely mourned by all.

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Corporal Dobson.

You will be sorry, I know, to hear that another enthusiastic bee-keeper has laid down his life for his country—my dear nephew, Corporal Dobson, who sent you an article from France, "Bees and War," published in your Journal, June 13.

He arrived in this country some weeks ago, dangerously wounded, and was sent

to Birmingham, where he seemed to be making good progress towards recovery, when he contracted influenza, and died on Monday night, November 25.—T. Hood.

## A DORSET YARN.

What a season for bees in Dorset! Rambler roses are still in flower, primroses and polyanthus; among our gooseberry bushes the Christmas rose is 6 in. high, and its pure-white flowers, with its yellow stamens, are tempting the bees to come and feast on its treasures of pollen and, perhaps, honey. Phillips Oppenheim writes of "the dreamy hum of the bees" when writing of early summer on the coast-line of Exmoor. If he could hear them at our farm in December, he must put another adjective, as they are about in such numbers; their music, with the clarion call of the thrush, and liquid notes of the blackbird, is delightful to him who loves country life. This mild weather has shown them that another season of development is coming. The male blackbirds whistle so sweetly, as if they wanted to impress on the females how fascinating and alluring they are; but the wonderful worker-bee has no need to sing to allure the males, for she is so constructed that she does not need them, and even if the wish was with her there are not any of them for her, and not till the "merrie month of May" are they to be seen, at least in numbers, so her song must be one of pleasure to be alive and free. On going round the hives, I see they are clearing out some of their sisters that have gone under. All looks like plenty of vigour yet, as long as one does not see the "crawlers," with their misshapen wings, the few dead ones cast out need not be a source of dread, as the oldest worker-bees go under first.

Work on the farm is going on apace. A field of broad beans are already up in lines, another small field is now being planted. We shall have abundance of early food for the bees. We always grow those with the violet lines; they are harvested green, and are then pulled up. We think that they help to enrich the soil with nitrogen. We see that they always do well together; the one gives a summer crop, and the flowers a winter one—food for bees in summer and violets for them in autumn, always leaving enough beans for seed and to use as food. After soaking them 12 hours in water they boil under and make a good food of high value to the system. After all, that is the food we should all use, that which is of most benefit to the system, as we eat to live, not live to eat, as many seem to think. We grow many of the pulse family for winter consumption. The large white runner-bean for winter use we stake, and they cling to the sticks and will ripen off their seeds. A line 300 yards long will give many sacks of ripe pods. They are most delicious to eat, and are most beneficial to the worker. One will see what a help to the bees such a line is when in bloom. They like the soil deeply worked and well enriched with manure. A good sprinkling of sulphate of ammonia in showery weather, when the soil is clear of weeds, is a great help to fructivity; but these are all tender—cannot be planted till end of April and early May, but broad beans can be got in from early November to March. Last season we cleared off our November-planted ones early in summer, at 6s. per dozen pounds. There is not much labour to pay for picking them, as there is with peas. Some of the best varieties of peas are listed at very high prices. There will not be many of them for the bees to look over; they are 90s. to 100s. per bushel (wholesale prices). It will be seen how necessary it is to save some, and so carry on each year with these high-quality foods. The bee-keeper who only has an allotment should grow more of these for winter use; not so much of the cabbage family, as they impoverish the soil very materially, which the grower must enrich with humus to bring it up again to the standard of fertility.

This year we are digging acres of our fruit quarters, where other years we have ploughed between the lines. There are ten of us, so we can soon get over an acre and get it planted. Two of them are soldiers, three old men, the rest boys and women. The deep digging each few years we find makes the soil more productive, and gives up more moisture in dry weather. The more robust the crops, the greater the blossom for the bees and the greater weight of stuff for sale. I notice a radish left where the land was good, with a root very large, the top 5 ft. in height and covered with blossom in December, close to some stocks of bees. If soil was not kept up to a high standard of fertility it would not grow so luxuriantly, and not nearly so many flowers for the bees. This is one of the Cruciferæ family, which I touched on last week. Where one has plenty of land, a few can be left for the bees, but where one's land is limited it is not good policy to leave them.

Have just had from America the fine work by Dadant on the honey bee, another very fine addition to my library on bees. This was given to me by the scientific contributor to the B.B.J., Dr. Abushâdy, whose writings are a great feature in the JOURNAL; a present which will be very much prized by me. J. J. KETTLE.

## THE BEE GARDEN.

### The Official Lists (*continued*).

By A. F. Harwood.

*Scrophularia nodosa* (Figwort).—There are about 80 known species of *Scrophularia*, of which three—*S. nodosa*, *S. aquatica*, and *S. scorodonia*—are found wild in Britain. The first is the most common. It has a green or brownish corolla and a tuberous root-stock. It is from one to three feet high. It owes its name to Linnæus, who thought it of use in the treatment of scrofula.

*Sedum acre*, *S. anglicum*, *S. Major*, *S. telephium* (Stonecrop).—Of Sedums there are 120 known species, of which seven are British. They form a group of pretty, dwarf-growing, succulent plants of widely divergent character and habit, valuable for either potwork, border, rockery, window, or wall gardening. The most common of the wild species is *S. acre*, which has golden yellow flowers and is found on rocks, walls, and sandy places near the sea, and even on the roofs of cottages. Height, 3 in. In flower from April onwards. It is sometimes called Wall-pepper.

*S. anglicum* has white or pale-rose flowers, and its neat habit renders it specially suitable for rockeries.

*S. major* is a larger and more robust plant than the type, and quite distinct.

*S. telephium* (Orpine) has purple flowers with white spots. This species, which is also called Live-long, is in colour the most divergent from the type, but the giant of the genus is *S. spectabile*, with its variety *S. s. atropurpurea*. This subject is, in my opinion, by far the most important of the *Sedums* to bee-keepers. It bears pink flowers, ½ in. across, from early August to beginning of October. The height of the plant is 1½ ft. Known as the Japanese *Sedum*, it is particularly suitable either for massing or for borders. I have seen it very well grown in both ways.

Before our municipal authorities took to planting the beds and borders in public parks with potatoes for adults to steal and boys to romp among and pull up for use as missiles, there was a fine mass of *S. spectabile* in one near here, and on fine days it was covered with the bees belonging to the treasurer of the local Horticultural Society, who had several stocks in his garden backing on to the park.

Walking one day along the Bath Road, between Hounslow and Cranford, I noticed bees flying across, and located their hive in the garden of a cottage on the south side. As I had shortly before lost seventeen stocks by the "Isle of Wight" disease—then in its prime virulence—and was in the market for more to replace them, I entered the garden with the intention of negotiating with the owner for the purchase of a swarm or a stock. Right from the gate to the house-door the path was thickly bordered on both sides with *Sedum spectabile*, broad bands of bright pink blossom crowded with bees. The effect was very fine as a border, and the fact that the bees were thronging to it, although there was plenty of other good forage available quite close by, showed that they thought they were "on a good thing."

I secured some stems that had been broken off by an intruding dog, and these struck readily, rooting freely in the sandy, limed soil in which I inserted them. They did not even seem to suffer any check from the snapping, and continued to develop flowers straight away. By root separation, and also by breaking stems off in a similar manner, I increased my stock, and have never since been without it. This peculiarity of the *Sedums*, that any broken-off portion will root and grow, makes their propagation simplicity itself, and possibly originated the name, given specifically to *S. telephium*—Live Long, or Life for Ever.

## QUESTIONS, Etc., FOR BEE-KEEPERS FOR SELF-EXAMINATION.

(*Students are recommended to write their answers, and check them afterwards by reference to books.*)

157.—What conditions are favourable to granulation in honey?

158.—Describe the Abbott frame, and state the differences between it and the British Standard frame.

159. Explain the necessity for wiring frames of foundation for use in the brood box.

160. What is the most probable cause of spring dwindling?

161. In what way does the food, in its character and quantity, supplied to bees in the autumn, contribute to successful wintering.

162. Suggest a good, practical method of removing all propolis and discoloration from sections.

163. Explain why a strong colony may possibly be found to be short of sufficient winter stores.

164. What would conduce to the storing of pollen in sections?

165. Apart from the preference shown for it by bees, how is beeswax the most suitable wax for comb foundation?

166. On what evidence is the statement made that a new home for a swarm is found by scouts sent out for the purpose?

167. Describe exactly strong-smelling foul brood.

168. Discuss the effectiveness of placing wooden-slatted separators between the combs in the brood box to modify the "swarming fever." J. L. B.

## B.B.K.A. RESEARCH COMMITTEE.

In the mind of every bee-keeper of this country—except perhaps the latest novice—I venture to suggest is the fear of the "Isle of Wight" disease stealing into his apiary and clearing out a part, if not the whole, of his stocks, as there are very few now who have not had some experience with this dreaded disease, and know what it is capable of doing.

It is five years ago since it first made an appearance in our district, and since then many fine stocks have been destroyed, and not a few less ardent bee-keepers have "thrown up the sponge." It has not left us yet, and probably never will until it is combated on a proper scientific basis.

How far have we advanced in all that time in the fight against the disease, and in bee-keeping generally?

In the first place, we are certainly cleaner in the apiary, more care is taken in the cleansing of hives and their parts: spraying has become quite a common operation, with the use of disinfectants, etc. Some are becoming more conversant with the art of queen-rearing in the attempts at restocking their empty hives. We are acquiring a wide range of disinfectants and antiseptics, each claiming a cure, or prevention at least, and each having its special school of adherents; but the anxious novice has a perplexing problem to solve in making his choice (alas! often a wrong one) after absorbing all that is written and claimed by each of them.

Still the disease goes on taking its toll. It may not seem so virulent as at first, and for that reason some may think it is being overcome, or departing; but is it? Is it not because there are many fewer colonies to attack? Statistics which are no doubt available would be interesting on this point.

Whilst it may be confidently asserted that there is a certain amount of prevention, or check, by the using of these antiseptics, together with the fundamental principles of good management, the question creeps into many minds: Are we on the right track? Are we hoping that, by trying each new and powerful antiseptic which is discovered for some other specific purpose, to providentially alight on a cure for our own troubles? It is, of course, quite possible, but it is also a process of coincidence, for which we may have to await years to accomplish anything.

Not being a scientist, and knowing as little as most people of bacteriology, yet looking at the matter from a rational point of view, I cannot convince myself that we *are* on the right track. We are up against something which only scientists and bacteriologists can deal with. In the great human infectious diseases, by the help of their trained minds, practical cures and remedies have been evolved, to the great benefit of mankind.

It is, indeed, gratifying that at last the Board of Agriculture and Fisheries have consented to do something on behalf of the bee-keeping industry in this respect, and we all sincerely hope for a speedy and successful result to their labours.

In the meantime, we surely ought not to let the matter rest where it is. By helping ourselves, we get others to help us; but by idly resting on our oars waiting for help, we may wait in vain.

Now, by far the sanest proposal which has lately come forward is made by Dr. Abushady, whose articles in the BRITISH BEE JOURNAL are so appreciated. In his article "The Urgent Task" of several weeks ago, he advocated forming a practical "Research Committee" by the B.B.K.A., yet which, curiously enough, has received little or no support from the readers of the JOURNAL.

The scheme on the lines suggested would be a great benefit and impetus to the bee-keeping industry generally, apart from discovering the source of, and combating the "Isle of Wight" disease, which, at the moment, is of primary importance.

We should be doing a far greater service to our brave soldiers who are hoping to turn to bee-keeping as a part means of making a living, by supplementing any effort to give them a start in the instituting and working of such a research scheme as suggested, thus attempting to make their prospect safer and a more progressive one, and reducing the possibility, which now often arises in the best regulated apiaries, of the plague sweeping all before it, thereby losing not only the actual bees and money, but anxious work and time in building up again and again.

It is a matter for each county association to take up and press, and I am delighted to see that the Kent Association has already taken the matter in hand. Unfortunately some associations are such in name only; they meet together once a year for a few hours, when a great part of the time is naturally taken up by the formal reports and financial doings, and the discussions are curtailed owing to the shortness of time. However, if some of the more prominent associations will take the matter up, the backward ones will, no doubt, follow their lead.

Subscriptions could be asked for, or, indeed, looked upon as a fee to be paid with the annual subscription of the association, and these, along with a generous response to a standing "Research Fund," which should be opened immediately in the BRITISH BEE JOURNAL and RECORD, would

guarantee sufficient to inaugurate and carry on such a research committee.

The proposal is surely worthy of a wide and open discussion in the interests of the industry and our country's good credit.—L. W. WALTON.

## CARMARTHENSHIRE BEE-KEEPERS' ASSOCIATION.

A meeting of the above was held in the Shire Hall, Carmarthen, on Saturday, the 7th inst.

Hugh Stephens, Esq., Ferryside, occupied the chair. Letters of apology for absence were read from several members. Mr. I. W. Lewis, of the County Horticultural Sub-Committee, explained the proposal of the Food Production Department, on account of the rationing of candy, or bee food, to bee-keepers, which comes into force on December 31 next. The following three members were elected to represent the Carmarthenshire B.K.A. on the bee committe of the county, viz., Mr. Ernest Gaunt, Assistant Education Secretary, County Offices; Mr. A. Preston, A.M.I.E.E., Ammanford; and Mr. H. Samways, F.R.H.S., Maesybont, Llandebie.

It was unanimously resolved to ask the Right Honourable Lady Dynevor to be kind enough to become President of the Carmarthenshire B.K.A. Several vice-presidents were also elected. The number of members is over 100.

It was resolved that the Executive Committee should consist of the local secretary and two representatives from each branch in the county, of which several are already formed, together with the present officers, who are to remain in office until the annual meeting in February next. A code of rules was drawn and left to the executive committee to revise and bring up for final adoption at the annual meeting. It was agreed that meetings of the Association be held alternately in Carmarthen, Llandilo, Ammanford, and Llanelly.

Mr. J. C. Shaw, Ammanford, was elected auditor; Mr. Preston (hon. sec.) and Mr. Samways (chief expert lecturer and demonstrator) were elected to represent the Carmarthenshire B.K.A. on the Council of the British B.K.A.

A very hearty vote of thanks was passed to the chairman for his able conduct in the chair, and for his enthusiastic efforts on behalf of the bee-keepers generally.—A. PRESTON, hon. sec.

## EDINBURGH AND DISTRICT BEE-KEEPERS' ASSOCIATION.

A meeting of bee-keepers and persons interested in bees was held in Edinburgh on Saturday last, at which it was decided to form an Edinburgh and District Bee-keepers' Association. Mr. W. H. Menmuir, L.D.S., 3, Lyndoch Place, was elected President for the ensuing year; Mr. A. C. Williams, 8, Corrennie Gardens, hon. secretary; and Mr. William Maxwell, 2, Esk Green, Musselburgh, hon. treasurer. The annual subscription was fixed at 2s. 6d., and it was decided not to interpret too narrowly the word "district."—*Communicated.*


***The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.***

## "ISLE OF WIGHT" DISEASE—A SUGGESTION.

[9817] I have no experience of this plague, which is working so much havoc, nor do I wish to make its acquaintance. Nevertheless, the matter interests me, and I am anxious to contribute my quota to the common knowledge for the good of brother bee-keepers.

It has struck me as singular that experiences among victims are so varied—yea, even conflicting and contradictory. On one point only are all agreed, namely, that "Isle of Wight" disease is infectious, although contagion has not yet been definitely proved.

One apiarian has the disease spread rapidly from one stock to another, and, per contra, another distributes combs from infected hives to healthy colonies without ill-effect. The popular antiseptics are specific in one case and impotent, worse than useless, in others. As these and other peculiarities cannot be put down to careless observation, or to hasty diagnoses, there must be a reason.

This disparity gave me to think, and I had found a rough hypothesis which satisfied, or, rather explained, why there should be such variation in experiences of bee-keepers, when Mr. Mist's letter appeared in the BRITISH BEE JOURNAL of November 7. The latter confirms my theory, which, when explained, throws daylight on many obscure points, and suggests its own remedy for the disease.

The disease attacks, and is fatal to, the field bees only, and, moreover, does not originate within the hive. Queens, brood, and nurse bees remain healthy. Infection, therefore, comes from without. Accept

this, and everything is explained. Combs from diseased stock may be distributed freely. The uncertain results from the use of antiseptics is accounted for. The field bees do not, as a rule, look after the storing of syrup proferred to the colony, except, perhaps, in the off season, and there is no guarantee that the diseased members of the stock get the treatment intended for them.

The solution, to my mind, is as follows. Immediately suspicion is aroused (and be it noted that the disease develops and progresses to a fatal issue during the working season if the case of a depleted colony fasting to winter is excluded) transfer the hive to a new stand in the apiary in the middle of a fine day, when the bees are in the fields, placing an empty hive with its entrance in the exact position of that of the hive removed. In this empty hive the foragers from the diseased colony will collect during that and the following days. These may be given some eggs and brood and experimented on with medicated syrup. Confinement would be advisable to ensure consumption in which case a substitute for pollen, if not present in the cells of the combs given, must be provided also. The removed colony should also be fed with medicated syrup until the older of the young bees begin to go to the fields.

It may prove preferable to destroy forthwith the bees which collect in the decoy hive, for we have no proof that "Isle of Wight" disease is a disease in the strict sense of the word. It is peculiar that, as one correspondent pointed out, skeps seem to be remarkably free from trouble. Why? May it not be that it is nothing more than accelerated senile decay brought on by inciting the bees to excessive work in providing continually empty cells to be filled, and by abstracting those which have been furnished with the fruits of their labours? It is suggested that the victims are often colonies which have provided their owners with surplus, rather than those which did not rise into supers.

Now, this letter is rather longer than I intended it to be, but I am sure the importance of the subject warrants all the assistance available. I feel I cannot lay down the pen without acknowledging the importance of Mr. Mist's letter referred to above. In my opinion he has struck the clue, and all I have done is to carry his reasoning one stage further, and, let us hope, towards a successful issue. H. M. Stich.

## THE EFFECT OF STINGS.

[9818] I have just read the article in this week's Journal, "Who should be a Bee-keeper"—and I congratulated myself, as I read it, that I possessed all the virtues it spoke of to ensure my future as a successful bee-keeper. But as I read on there was one qualification I could not lay claim to, and that seemed to me to place me amongst "the still fewer who are seriously affected by the poison of bee stings, and stand in constant dread of them."

I have patience, strength, vigour, health, nerve, light touch, love for natural history, and ability to apply the knowledge imparted both by experience and advice, all these the article enumerates as necessary, but I am beaten entirely by stings, and I am constantly debating and questioning whether I shall ever be able to follow out my ambition, to be a proper bee-keeper.

Only the other day I crept up to the hive like a mouse, and slipped a couple of naphthaline tablets under the corners of the quilts, and out came one of the scamps and, all unknown to me, alighted on my head near the rim of my cap, and left his villainous trade mark behind. It was not more than a couple of minutes before I got the sting removed, but it made my head as thick and queer as a cabbage, and less than an hour afterwards I began to feel an irritation all over me. First my neck, then my shoulders, then body and legs. It was unbearable, and when I uncovered to see what was happening I found myself all aflame with a scarlet rash, and large patches of lumps as big as peas all over my body, and it was not until the next day that it subsided and I regained any degree of comfort again.

The question is, am I one of those "very few" who should not keep bees, and what is the remedy?—S. S.

## BEE BOOKS WANTED.

[9819] I see by the Journal that you still keep asking for names of bee-keepers who are serving out here in France. Now, as I have been a member of the Cheshire B.K.A. for about five years, I send you on my name and address.

My wife forwards me on the Journal every week, and I always look forward to it coming. Now all the fighting is over, and we happen to be one of the lucky brigades to be bound for "Blighty," within the next six months, the officers of this brigade are opening a reading-room for us. I have promised them I would get some bee books for the boys to read, so I appeal for your help. As there are quite a number of young fellows that are taking an interest in bees, I would like to get some books for them to read. I have been asked to give a lecture on bee-keeping, and to teach them how to make a hive (which I hope to be able to show them when we get to our stationed camp

where workshops are going to be erected for us). The hives are W.B.C. pattern, which I have at home. I made them myself, buying the first one for a pattern. The hive I am going to make with the boys out here will be a W.B.C. The officers are quite as keen on keeping bees as the boys, and very often ask questions that are very difficult to answer, still, I do my best, and answer them to the best of my ability. I think this will be a good way of passing the winter months away out here, also encouraging bee-keeping, which every bee-keeper should do, especially at the present time. I hope you will be able to let us have a few books to read and pass the long nights away, which are *very* long out here. If any readers of the JOURNAL or RECORD have any books to spare I am sure we shall be glad of them to read. I intend giving those who are interested (and there are quite a number of them) all I know. If we get a few books to read it will give them a good start before they get back to their homes and civil life, which we all long to get back to.

The division I belong to has had it pretty rough during the last great advance, we were never out of the fighting until 11 o'clock, on the 11th day, of the 11th month of 1918, that was the day we gave one loud shout.

I have had many near shaves since we started the advance. I had my two horses killed from under me; another time I got a piece of shapnel which went through my haversack into my coat, but did not get through to my skin. Another time my horse got wounded and had to be shot. But God brought me through all the fighting without a scratch, and I thank Him for it, and hope some day to be returned to my wife and child, which I am looking forward to. I close by sending my best wishes for a Merry Christmas this year to you and all bee-keepers of the British Isles.—Driver T. ROWLAND, 247460, A Battery, 28th Brigade R.F.A., B.E.F., France.

## SKEPS AND "ISLE OF WIGHT" DISEASE

9820] Mr. Claridge is quite right when he says that skeps are often freer of "Isle of Wight" disease than frame hives because they cannot be handled.

It is so obvious to any one that gives it a moment's thought, that I have wondered why someone did not say so before instead of suggesting all sorts of absurd reasons.

It is certain that the extractor is the chief source of infection in the modern apiary, and from this the skep is free—usually, anyway—as it is not often that frames are used over skeps.

However, the skep is a thing of the past, and, moreover, when it is infected it is incapable of treatment.—R. B. MANLEY.


## SEASONABLE HINTS.

Now that the bees are fixed up for the winter, the less the hives are disturbed the better. If there is any doubt as to the quantity of stores, a supply of candy should be maintained, the fresh cake being put on with as little disturbance as possible. Keep the entrances clear by raking out any dead bees with a bent wire. Should a fall of snow occur, bees are often lured out by a burst of sunshine, the light being reflected into the entrance of the hive. This should be shaded in some way, or great numbers will come out and be chilled. Hives that are in exposed situations should have a wind break to shelter them from the cold, piercing winds of winter. It will do more to conserve the heat of the hive and keep the bees warm than extra wraps.

If any appliances or foundation are needed for next season, the order should be placed as soon as possible. Manufacturers are busy now, and will be more so in the spring. If they have the orders now they have a chance of getting the goods ready by the time they are needed. It is very bad policy to have to send for sections or shallow frames when they are urgently needed to give the bees room to store surplus and prevent swarming, or to send for a hive and fittings when a swarm has come off.

If any rearrangement of the apiary is needed now is the time to do it. The new site may be prepared any time. Each hive should have a brick under each leg, and these may be placed in position and levelled. The hive should stand level from side to side, and the front be about ¾ to 1 in. lower than the back: any moisture in the hive will then drain out. The hives may be moved any time when the bees have been kept indoors for ten days or more by inclement weather. Do not move them on a barrow if it can possibly be avoided, but get some help and carry them. This is easily done if a couple of strong poles, 7 or 8 ft. long, are put under the hive and it is carried stretcher fashion.

See that the quilts are kept dry, and should any roof leak, remedy the defect as soon as possible. During the long evenings spare hives may be repaired and painted, or new hives, lifts or supers be made by those handy with tools.

We take this opportunity of thanking our readers for the splendid support they have given us during the past year. We give to all our heartiest good wishes for the season and the coming year.

## A DORSET YARN.

Bees are working the ivy this mild weather. Some fly up high and go off beyond the farm, some have already found the Christmas roses. I think it is only pollen they get from these flowers, as they are not on the flowers in great numbers until the male organs have developed the ripe pollen. It is a good prospect for those who grow these for Christmas sale, as each flower is worth a penny, and sometimes 2d. wholesale. We leave as many as possible for the bees, as it is a long harvest for them up till March. It is the pure white petals that make these of value, not the light yellow stamens that carry the pollen, they carry such a lot of them, as do the St. John's wort. I suppose they are called a rose as the flowers are constructed somewhat like the single rose, an outer ring of petals with a mass of stamens round the female organ, a perfect flower in itself. These flowers are not of a class that will grow anywhere, but where they do well they are a great feature; visitors last week said they were astonished at these being in flower in the open so soon, and inferred that it was the skill of the grower, till they were told that it was the district that suited them, where other soils did not contain the right elements of plant food for their well-being. They were still further astonished when they found the plants were not for sale, but were grown mostly as food for bees. Many come now to see our new violet, and new raspberry, with ripe fruit still on the canes, and last week with the election we had a great many at the farm.

In reading the valuable books that have been sent me by bee enthusiasts, I find that I shall have to reconstruct many of our hive cases to bring them up to modern requirements. Many were adapted for new swarms in a hurry, out of all sorts of cases, which answered the purpose, but are a long way from perfect. It seems a great step to have all interchangeable, so that when a stock is doing a good surplus we can tier up till we get the sky-scraper hive as Mr. Julian Lockwood has in his leaflet. Some must be scrapped altogether, as they are somewhat small: in one of these last season that was empty (away from the farm) wasps took possession, and built a huge nest among the frames, right across the lot: it was easy to suffocate them at night when most of them were at rest. I was able to buy a truck load of boxes that the huge shell cases were sent in from America, all made of inch board, and where there was a joint it was tongued. The railway truck load cost £3 19s.: these make very strong outer cases. I find that the larger cases keep drier in winter, more air seems to circulate round the brood

chamber, they are somewhat heavy, and are not so liable to be blown over by the wind; I want to make another observation hive, it is some years since I had one of them. Dr. Abushädy writes, the best book to study is his observation hive. Mr. Dolomore had a very fine one at the Bournemouth show, a full complement of bars, with glass on the four sides, and very full of bees; the usual observatory hives, which only have two bars with sections above, are not so useful for surplus, as they are soon filled, though it is easier to see what is taking place within. Some of my friends have a piece of glass about 6 ins. in the side of both brood chamber and the outer case, with a hinged door to darken the interior; all adds to the interest of one's bees, but the small piece of glass on the top is the easiest to see how they are progressing in winter. It must not be too large, or moisture will gather beneath it, and will not be to the well-being of the bees, all that gives pleasure and promotes interest in bee-craft should be done; there is plenty of room for more bee-men in Dorset.

At the close of another year, we are thankful for the rude health that has been ours, thankful that the awful destruction of life is over, and we pray that another year may bring us nearer to the "New England" that the Prime Minister has foreshadowed, when want and poverty shall cease to be in this Fatherland of ours. After all, our lives are as we make them; the simple lives of the toilers in the fields are to be preferred to the hurry and bustle of crowded areas; the New England can only be when men are settled in the fruitful fields, living under their own vine and fig-tree, where the bees have the clear air, and productive surroundings. Wishing all who ever care to read the "Dorset Yarn" a Glad Christmas and a New Year of "Peace and Plenty."—J. J. KETTLE.

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## "ISLE OF WIGHT" DISEASE.

I have stated before in the BEE JOURNAL that about five years ago, when "Isle of Wight" disease first came this way, I had about 27 stocks of black bees, two or three of Sladen's Goldens, and one pure Italian stock. In the first and second year of the attack I lost all except the one stock of Italians and the nuclei which I had made from it. Since then I have had some more imported Italian queens, and have got my apiary up again to full strength, as well as having done something towards restocking this part of Kent, for during the past two years I have sent out about 50 nuclei a year.

I see that some of your correspondents say Italians are given to swarming and are poor honey gatherers, but I may say it is their own fault, as bee-keepers that have had black bees seem to think ten brood frames and two boxes of shallow frames, or sections, are all that should be used, which is a great mistake if you are keeping Italians. Last year I had three Italian stocks standing side by side, and each filled four boxes of shallow frames, just a good hundredweight of honey from each, and after the honey was extracted I had to return some boxes of combs for a time, as the hives would not hold the bees. Only one of these three hives swarmed, but if I had only given two boxes they would all have swarmed. I have this year had some Italian queens that kept 20 brood frames going with brood right through the season, and gave frames of brood continually for helping nuclei. I am not a crank on Italians, but in this district I cannot keep black bees because "Isle of Wight" disease has them for certain. I have tried Dutch bees, but mine swarmed continually, and only kept free from the disease for one year. But in the whole five years I have never lost a pure Italian stock with "Isle of Wight" disease, and I do not think that I have ever lost a first cross; but when it comes to a young queen from a cross-bred stock being again crossed with black, or more likely Dutch, bees, then there is a great chance that they have the disease. I have tried cures, but for a stock affected with disease in the autumn it is best to put them over the brimstone pit and bury the dead bees. I used to burn all combs and frames, but from experiments tried I find such combs are quite safe, if each ten have about a pint of solution of Acriflavine (1½ grains to the quart)well blown into them with a sprayer. I have kept careful watch on swarms hived on these combs, and in no case has any disease appeared. I keep the combs through the winter in a dry, warm place, extract all honey; then to dress the combs I hang them on the side of a galvanised bath and spray the solution well into the cells, and let it remain there, doing this a day or two before using. A stock affected with "Isle of Wight" disease in the spring may be cured by spraying, but the treatment must be carried on long after all crawlers have ceased, or it will return again in the autumn. It seems to me more a matter of raising a healthy lot of young bees in an affected hive, and not a case of ever hoping that you will make many old crawlers fly again. I do not know why spraying the solution of Flavine, Bacterol, or what not on the bees should have more certain result than giving it in the food, but it is so, and as soon as it comes to giving it in the food I have never seen any more benefit from it; so the conclusion I have come to is

that it is far better to requeen early in the season with good Italian queens, and to give up trying autumn treatment with drugs. I have tried at different times all the antiseptics and cures advised. I have tried Yadil, and had a good opinion of it for spraying. I have not used it in food in the strong doses now being advised, but in the small doses of drachms to the pint of food it did no good.

I see that Mr. Walter Long is saying, "Let every cottager keep bees"; but under present conditions that is hopeless. When they start their restocking scheme, let them also start an insurance scheme; have all bee-keepers registered, and the bees inspected once or twice a year, and all cases of "Isle of Wight" disease destroyed and the owners compensated. If the right sort of bees are sent out there would not be many to destroy. It would give the bee-keepers confidence and put things on a sound foundation. Let the Government remember that it is through their gross neglect that "Isle of Wight" disease has been allowed to spread over the whole country, and it is up to them to take proper steps to deal with it, or their restocking scheme will be useless, as they cannot expect cottagers to go to the trouble of requeening with Italian queens, or of going to the necessary trouble of keeping up the right strain of bees to resist the disease. I have had over 30 years' experience of bee-keeping, and have never been without my bees during that time; but it has only been by taking infinite trouble that mine have not died out, as others have all over this district.

I would, in conclusion, say that straw skeps will not keep bees from having "Isle of Wight" disease, for I have seen many stocks in straw skeps die with it, even Dutch stocks.—H. Watts, Holmleigh, Bearsted, Kent.

## QUESTIONS, Etc., FOR BEE-KEEPERS FOR SELF-EXAMINATION.

(*Students are recommended to write their answers, and check them afterwards by reference to books.*)

169. How may casts or after-swarms be prevented?

170. In what circumstances should a swarm be fed after hiving?

171. How much honey is estimated to be consumed in a year by an average colony?

172. What are bait sections, and how should they be used?

173. What birds are harmful to bees, and how?

174. Why should brood rearing in winter be discouraged?

175. Distinguish between the flight of young bees about a hive and that of robbers.

176. Why is honey from tree flowers generally of less value as winter stores than that from other flowers?

177. Give reasons why it may be said that bees are, on the whole, less useful to plant life when gathering pollen than when gathering nectar.

178. In what respects are (1) climatic influences and (2) established practice responsible for differences between British and American apiarian methods?

179. On what evidence is it concluded that drone eggs are not fertilised and worker eggs are?

180. Make notes for a 15-minute lecture "Bee-keeping as a Lucrative Recreation."

J. L. B.

## NOTES FROM BECHUANALAND.

Our winter and honey season is now over, and spring is approaching. I obtained just over 800lbs. from my ten stocks and two swarms—146, 158 from my two best. Curiously the two stocks were the extreme opposites in temper. The one being the most vicious, and the other the most docile in the apiary, the vicious being the better.

The cold weather was a little later than usual, and I had been feeding to obtain strong stocks, when, to my surprise, four stocks swarmed during one day, just as the main honey flow commenced. Is not this unusual for late autumn? Or does it happen in other countries? However, I shall be warned for next year, and take precautions. In the midst of the honey flow we had a very cold week, reaching 20 deg. of frost. This destroyed the pollen-bearing flowers, though the honey flower partly recovered. I fed for two weeks on maize meal, leaving a dish of it out in the open, and the bees carried away about 3lbs. daily. I first tried pea flour, but they carried away a pound during the first hour, which, at 1s. 6d. per lb. came too expensive. I am experimenting in housing this year, having made a wattle and daub hut, with grass roof. This will protect the bees from the excessive heat of the sun in summer and the cold winds and varying temperature of winter. A plain flat roof will serve, and no dampness will find access, which it is apt to do when hives are otherwise obliged to be kept under trees.

If I should re-queen my unsuccessful hives from my best stock, would this eventually cause in-breeding and loss of vigour in queens?

This year I took the surplus from vicious stocks at night, placing a Porter bee

escape under the super, and removing the following night. The plan worked well, and the bees never ran amok, as in former seasons. My experience so far is that the temper of the colony is derived from the queen, as vicious stocks remain, so though the old queen leaves each year, and if the young bee does mate with a drone from a docile colony, it seems not to influence the offspring. Is this the case? If so, I shall re-queen from docile colonies only.

How far and wide your JOURNAL must be read. I remember once, some years ago writing how prolific African queens were, and some months after received a letter from California asking me to send some there, which I could not.

My first spring swarm came out to-day.

I like "Dorset Yarns"; they give one quite a breath of the country in far-away England.—W. H. EDMUNDS, Mowkwen, Beehuanaland, August 12, 1918.

[We do not think re-queening from your best stock would cause inbreeding to any serious extent. The young queens will probably mate with drones from other hives. If you want docile bees, breed your queens from colonies having that quality. Disposition is inherited from the queen. Bees will swarm in the autumn if conditions are favourable.—EDS.]


*The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.*

## "THAT SKEP."

[9821] Some 18 years ago I purchased my first two swarms of bees in Perthshire, and I can still see the look of contempt on the face of the old crofter when I told him that they would live in a frame hive. Like many Highlanders, he was too proud to proffer unsought advice, and contented himself with remarking in Gaelic, "Wood for honey, but straw for bees." My stock increased until at one time I had 18 hives, and both in Scotland and the Midlands I have had fairly good returns; but in 1915 "Isle of Wight" disease paid me a visit, and my stock of 11 colonies "went West." I restocked in the spring of the following year, and lost the lot within a few weeks, but about June I noticed that a huge colony of Black bees had taken possession of an infected hive and appeared to be doing well. Very few bees were kept in this district, the nearest being some Italians about 4½ miles away, so where the Blacks came from remained a mystery until the following year. This stray colony did very well, and gave me some 60 or 70 lbs. of surplus—only to be decimated the following April.

I have a 120-acre wood a couple of miles away, and, during a visit to see how the birds were hatching, came across another Black swarm, and although I did not secure them I managed to find the parent colony, about 15 ft. up a hollow oak. Subsequent discoveries revealed seven colonies, all of which have been driven on many occasions; in fact, they must have produced a hundredweight of bees in all.

These bees in the wild state are free from disease, but soon after hiving in skeps, or on frames, the microscope showed that they were infected with "Isle of Wight" disease. I noticed that large numbers of "crawlers" tried to regain the hives, and as I was anxious to observe the progress of the disease, about 7 lbs. of wild bees were driven from three colonies, mixed together, divided, and one part hived in a skep and the remainder in a new "C.D.B." hive. As the wild queens were not taken, virgin queens from a hive which afterwards developed "Isle of Wight" disease were introduced; the hives were placed in a disused hayloft, with a glass-covered passage leading through the wall to an alighting board about 15 ft. from the ground. Strange to relate, these two hives have been free from disease, while every colony on the ground, whether in skeps or on frames, was lost in 1917, and again this year.

It is too early to dogmatise, but I submit the following opinions for what they are worth. Given an early swarm from a good working strain, sufficient stores will be collected in a bad honey year to permit of a strong colony being ready for work the following spring; these may send out another early swarm and thus perpetuate the race. A late swarm in an extra good season may do the same; but given a poor honey flow, they will probably fail to survive the winter, or if they do, they will be so weak that they will not swarm until late, or possibly not at all. Thus the non-feeding skeppist unknowingly follows that natural law—"the survival of the fittest." In the frame hive the conditions are often very different, and no matter how weak a colony may be in the spring, it can be pampered up and produce a good surplus. I think that this process may be described as "the support of the weakest." Is it not possible that after 20 or 30 years of such treatment, we have evolved a degenerate (but fine honey producing) race of bees, quite incapable of looking after

themselves and likely to be swept away at the first touch of infection?

I think it is admitted that a bee usually comes home with a full cargo, and if it cannot reach the entrance to the hive—be it 1 or 30 ft. above ground—then it dies; if the entire colony is affected in the same way then they soon become extinct. Is it not possible that low hive entrances have given us a race of bees with such large "tummies" that they cannot reach a high hive, and consequently every bee, whether fit or in the last stage of disease, has a good chance of reaching home. "Survival of the fittest" and "support of the weak."

My wild bees are an idle, worthless lot, but in the natural state and in frame hives with high entrances they appear to be immune from "Isle of Wight" disease. At the moment I have eight colonies in skeps, placed in trees about 20 ft. from the ground. They were stocked with driven wild bees, queened with virgins raised from some privately imported Italians, and probably mated with my infected Black drones. Italian bees are usually kept in boxes, or kegs, hung under the eaves, and a month ago I received two colonies complete. In the spring these will be placed high up in a tree. None of these colonies have ever been fed or treated with any preparation, yet they have stood for two seasons without a trace of disease.

I am hoping to evolve a strain of good-working disease-resisting bees, but I have to run the risk of a bad honey season followed by a late spring, and thus lose the lot.

W. J. L.

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## THE BEE-KEEPING PROBLEM:—DISEASE.

[9822] I admire the candour of the writer of the helpful letter (9811) which has just appeared in the JOURNAL under the above title.

In my opinion, our *immediate* task, and one from which much benefit is likely to result, even in the absence of a thorough knowledge of bee-infections, and in spite of the lack of a specific drug for malignant dysentery—our immediate task is to endeavour again to influence the Government, through the moral force of the *united* voice of *all* bee-keepers' organisations (if such a happy unity could possibly be attained) to reconsider the urgent necessity of the supervision of all apiaries by the State. This important question has been repeatedly dealt with in the Press by many apiarists, but, so far as I know, no *collective and united* action by the various apicultural organisations has been taken, and in the absence of such a stimulating action the Government is not likely to move. It is a real tragedy and a marked act of folly that a careless or an ignorant bee-keeper should be permitted to retain, without isolation, an infected colony of bees that are a serious menace to all bee-keepers in his district. Under such circumstances, how could anyone invest, with confidence, his money in the bee industry? I have frequently expressed the optimistic opinion that, with up-to-date management and with cleanliness (including the correct application of antiseptics), there is a very little risk of the establishment of a menacing infection in the apiary, especially if it is situated in an isolated district—that is, far away from other bee-keepers. But as this is the exceptional state of affairs, and not the rule, no confident opinion of the future, if present circumstances are allowed to continue, could possibly be given. Bee-keeping is undoubtedly advancing, to the delight of all of us, but this advancement, on the other hand, is far below what it should be if the factor of disease could possibly be excluded. Much could be done in the way of combating it without the aid of the "medicine case," yet nothing is being done in a preventive way, for the simple reason that the authorities will not move until we move ourselves. We are careful enough to blame the Government for our troubles, but we are not candid enough to blame our Associations for their hesitation, their disunion, and their lack of foresight.

It appears to me that many people who find no pleasure in labour are contented with the appointment of the Government Research Committee. Although they realise that, *under all circumstances*, the protection of the healthy colonies from the menace of the sick bees is a most urgent task that should be *immediately* undertaken by the Government without waiting for the report of their committee. They will not act, and at best they prefer to aimlessly complain. The Government needs a guiding light from bee-keepers, and it should not be long delayed. A powerful representative meeting of bee-keepers should be convened by responsible leaders, irrespective of party or school, and should discuss thoroughly this important problem of bee-keeping and come to a decision regarding the urgent measures which the Government and the various Associations should be immediately requested to undertake.

A curious illustration of how the Government is viewing apicultural matters in the wrong light is afforded by the kind of research apiary that the Government has established in the past, and is likely to establish in connection with their future research. The bees were experimented on *in confinement* (that is, under unfavourable and unnatural conditions), in order

to safeguard the neighbouring healthy colonies from infection. That is just and sensible. But why not establish an open research apiary in the very centre of one of the large cities, such as London? The amazing reply is that you will still find a few bee-keepers in the very heart of large cities; but, because of the interests of very few individuals, should the progress of science and the greater interests of the mass of bee-keepers be sacrificed! We cannot then establish with the moral support of the Government a Research Apiary or a Bee Hospital in the centre of a large city, however protective this may be to the mass of bee-keepers, and however much in their interests it may be. On the other hand, careless bee-keepers in the heart of the country may impudently menace their districts with their infected bees, and may sell them, if they desire, and spread the infection all over the country, and yet they are left unwatched; and, by the silence of the authorities, they can almost safely say that they possess their approval, or that they have a right to do so!—A. Z. Abushady.

## REMOVING BEES FROM DIFFICULT LOCATIONS.

[9823] I have noticed several letters in your columns lately relative to the taking of bees from difficult locations, and think that perhaps some of your readers may be interested in a method much used in America, which does not appear to be generally known in this country.

By this method I took a colony this year from a blind chimney at a friend's house, which is used merely as a ventilator. The bees were discovered last winter from the fact that this ventilating shaft is next to the drawing-room chimney, and the bees finding this warmth alongside them, entered the cowl of the latter, and after crawling down this chimney, and becoming well covered with soot, emerged into the drawing-room and besported themselves on the furniture, much to the detriment of the upholstery.

A flat board was cut to fit the top of the chimney (which luckily had a flat rim) and on the under edge was fitted a strip of carpet to form a joint with the chimney pot. A hook screwed into the centre of this board, to which was hung a chain and weight, kept it tight down on the chimney and prevented it being blown off by the wind; also a hole was bored through this board and a bee escape fitted over the hole. A box to hold eight brood frames was secured in position to the chimney pot, after painting it as near as possible to the colour of the pot, with ropes, and the bee entrance into the box placed as near as possible to the old entrance. Two frames, with brood and some bees were put into this box, the other frames having full foundation. I then left the bees to work out their own salvation. Coming out of the escape they could not get back, so took to the new hive. In about four weeks there were only a small quantity of bees left in the chimney, so this was uncovered. The remainder then came out, and took up their quarters with their old companions in the new hive, and the lot started to rob the remaining honey in the chimney and store it in their new quarters. When this had been accomplished I removed the box and dug out the old combs, which were about five feet down the chimney, with a hoe, and used the wax. Incidentally, I might add that I dropped the chain with one of the four pound weights belonging to my wife's scales down the chimney, some 30 feet. I had the good luck to retrieve this with a snap rat trap on the end of a string, by dropping it with a thud on the bottom of the chimney.

This method is a most successful one, and rarely fails. It saves a lot of trouble, to say nothing of the breaking about of the structure in which the colony is located. Care must, of course, be taken to see that all exits from the original quarters are closed but one.—H. B. Peirce.

## TROUBLE IN FRUIT CULTURE.

[9824] I should like, through the B.B.J., to take advantage of Mr. Kettle's knowledge of horticulture, and his willingness to impart that knowledge to others with a view to food production.

As an amateur gardener I am full of troubles on many things, but must deal with them one at a time.

Respecting apples, pears, plums, etc., some years I get a lot of fruit, others very little. When the crop fails I have been able to trace the cause to a grub, which enters the blossom bud at early spring, and eats away the centre. Later on the leaves become perforated, also stuck together with a very fine, sticky white web, in the centre of which I generally find a caterpillar.

When trees are so infested they bear no fruit. I have winter sprayed, and used grease bands, but with no good results.

If Mr. Kettle can help me in this matter I shall be greatly obliged.

As bee-keepers we all like to sing the praises of the bees in fertilising blossoms to help the food problem, but many lose sight of the fact that *we must first produce the blossom* to be fertilised and help it to bring forth the fruit we require, or all our bee-keeping to this end is lost.

It makes me nearly go green with envy when Mr. Kettle tells us of his bees fly-

ing most of the days in the week, and the quantity, and variety of flowers they have to look over.

In this part, near the East Coast, we never see a flower, and not often any bees from end of October to spring, and not very early then. During the fruit blossoming it generally is cold, rough weather, and all advantage the blossoms are to the bees is that they get a little pollen on fine days.

Bee-keeping in Dorset must be a great source of pleasure and profit, compared with the conditions under which we have to work. Some discussion on the results of bee-keeping in different parts of the country would be interesting.—WILLIAM ION.

## DUTCH BEES.

### ONE HIVE YIELDS £40 PROFIT.

[9825] I am a novice in bee-keeping, though not in other "hobbies," as enclosed list may show.

I only made the acquaintance of the BRITISH BEE JOURNAL last July, but since then have devoured every line with an increasing appetite.

But why slang the Dutch bee? I bought a swarm in July, 1917, a very small one, which only covered two frames of comb; with feeding and care it increased to ten frames by the end of August. I could not get any honey in my first super, so indulged my longing for a taste of honey by stealing three broods combs, and leaving the hive well packed up for the winter on seven combs.

In the early spring I fed them well, and soon had them on ten combs again.

In April the swarming game began. My other hives were in readiness, and so was I to capture them. But they were too cute for me, and selected the day when my duties kept me busy in church. The first two swarms eluded me, and took refuge in the church tower, each on a Sunday morning.

Then I set up a row of pea sticks near the hive, and the first week in May got my first swarm safely hived.

In June I got three more swarms all safe, and strengthened them by removing young brood from hives one and two.

At the end of July, as they seemed to have given up swarming, I divided a strong stock, and reared two queens in a Sladen cage.

At the end of 12 months from packing up my first hive for the winter in September, 1917, I have five strong stocks on 40 combs, with at least 120 lbs. of honey left in as stores for this winter. In addition, I have extracted 212 lbs. of honey, sold £20 worth at 2s. 6d. per lb. (and could have trebled the sale), and have the rest left for home use. I secured, then, in one year, from the produce of one hive, £26 worth of honey, and left in the hives 120 lbs. which I *could* have extracted and sold for £15. But I preferred to keep the bees for another year, although I was offered £5 per hive for bees and brood box alone.

As I have five strong stocks, as good as the one I started with, I wonder if it will be possible in the coming season to multiply my £40 by 5? I don't expect it. But I do hope to extract at least nearly half a ton of honey.

And this is the result obtained by the despised Dutch bee.

I admit the swarming—seven lots from one hive is a bother, but not if you want to increase your stocks, nor if you could find a ready sale. There is not a trace of disease, though 95 per cent. of my neighbours's bees are dead. Mine are not in straw skeps, and theirs are.

I'm afraid I've already written too long a letter for your tiny paper—how I wish it had 24 pages!—but if room can be found I may write again of my manipulations, and of what I saw as I sat by the hour and watched the bees.—AN OXFORDSHIRE PARSON.

## BEEKEEPING: HIVING A CAST AND DRIVING BEES.

I, Apis, Junior, a mere tyro in beecraft, had an instructive day on Saturday last. I was sitting down to my breakfast rations when word came (for the third time in a fortnight, by the way), "Your bees are swarming in Mr. ———'s garden." With vivid recollections of having been badly stung on a previous occasion, I went to the hive and found the bees still streaming out, and, as nothing could be done till they had settled down, I returned to my breakfast. Then, taking a veil, a ladder, and an improvised skep, I proceeded to my neighbour's garden (having first asked permission), where, to my surprise, I found that another bee-owner had posted a sentry while he went for a veil and a skep in which to "take" the swarm! Technically, it was not a swarm, but a "cast," although to the novice who is going to handle them that makes no difference, for ten thousand bees, more or less, make no difference to the task. Having convinced the visiting bee owner that the swarm was mine, he left me in possession, and I got to work. A few sprays from a garden syringe caused the bees to cluster closely, and a few vigorous shakes brought the bulk of the cluster down into my skep. In a moment fifty bees or more, resenting my action, had fixed their spines into my wrists, and but

for my precarious position on the top of a shaky ladder I might have dropped the skep and beaten a retreat. Descending, I inverted the skep on a board, and waited to see the result of my work. Unfortunately, it turned out that the queen was not amongst the bees shaken from the tree, and in half-an-hour all the bees had left the skep and again clustered on the tree. A second attempt was successful, and the flying bees—the air seemed black with them—settled down into the skep, where I left them for about five hours. Then, novice as I am, I did the wrong thing, started to return the swarm to the hive while the sun was yet high in the heavens, instead of waiting till dusk. But fortune favoured me. A storm threatened, and when I threw the bees out of the skep on to a board inclined from the ground to the hive entrance, they at once set up the hiving note and entered the hive. When, later in the day, I told "Apis" of the episode, he said something about a certain class of people always having the most luck. I know it was not complimentary; but then he has a habit of plain speaking, which in a teacher is meritorious. Next time I take a swarm I shall not hive them till dusk.

My next experience was altogether happy. A bee-keeper having a swarm in a box (which I will call a skep-box to distinguish it from a "frame" hive) had tried in vain for months all the book methods of persuading the bees to change their residence from the skep to a frame hive, and finally had storied the skep on a hive containing ten frames of foundation, in the expectation that the bees and queen would go down and take possession. The experiment failed; the bees drew out the foundation, but the queen did not go down. "Apis" undertook to do what was necessary. Taking the box from the top of the hive, he examined the combs and then closed the hive, and left it in position to receive the flying bees. This part of the operation was fairly lively, as the bees resented the interference. The next step was to take the skep-box (filled with bees and brood and honeycomb) and drive the bees from it into an inverted box temporarily fixed to the skep-box (removed to a distance for the purpose) much in the same way as straw skeps are ironed together for "driving." Vigorous tappings on the sides of the skep-box roused the bees, and they were soon seen climbing into the inverted box. We, the spectators, smoked our pipes and waited, but "Apis" stood with his head half inside the box, his eyes glued to the ascending waves of bees. He was watching for the queen, and he brought her forth, holding her by the wings between thumb and forefinger. Running to the old hive, he deposited the queen therein, and thus ensured its future. The bees which he had driven he carried to the skep-box when the latter had been placed in a new position, and threw them on to an extended alighting board, and they quickly ran into their home, and, as it contained all the elements for raising a queen, in three weeks' time all difficulties should be solved. "Apis" had given us practical lessons and demonstrated the value of the expert by making two colonies of bees from one. With bees worth £5 to £6 per stock, expert advice is more than ever a desideratum.

That night I ought to have slept the sleep of the just, instead of which I had a night of torment, for hands and arms had swollen to twice their normal size, and the smarting and itching were well-nigh intolerable. I have been stung many times, with no very serious symptoms, and thought myself sting-proof; but I have discovered that what ten stings may not do one hundred will. So next time I take a swarm I'll be careful to wear gauntlet gloves as well as a veil. Just one word of advice: if you get stung, don't approach bees for a day or two unless you are veiled and gloved. The bees scent the poison in the person stung, and attack viciously.—APIS JUNIOR (from the *Barnet Press*).