

# **Brain Tanning a Fallow Deer Hide**

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Any animal hide that is left untreated will harden into what is called Rawhide. This has many useful applications for use. These include making bindings for tools, inserting and holding stone tools in sockets and quite often today used as dog chews.

If a hide is stretched out such as on a rack the surface area of the hide increases and is useful in making drum skins.

However if a hide is stretched manipulated, properly cleaned and soaked in a solution made up from its own brains and smoked it becomes buckskin. This is very useful in making clothing and bags.

Buckskin making will be discussed in this tutorial but it is made differently to normal shop bought leather. Traditionally or shop bought leather is tanned in vats of tannic acid solutions. Traditionally this could be from the tannins found in Oak, Willow and Chestnut. Skins could be soaked in these solutions for periods of 8 months to 2 years. This produces a heavy leather which is good for making shoes, jackets, possibles pouches and sheaths.

With commercially made buckskin the process is very polluting with the chemicals used. Also the Grain layer (explained later) is left on. This does not allow perspiration to escape through the fibre so leads to degradation of the buckskin.

With hand worked buckskin the Grain layer is removed and due to the longer periods of stretching the fibres are more open so allowing perspiration to disperse. The skins are also lighter because of the stretching.

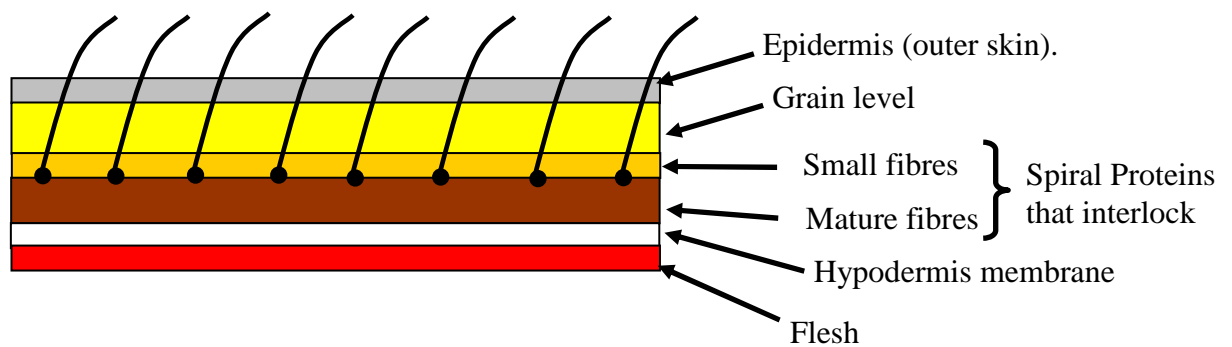
Due to hunting restrictions in this country since medieval times much of the knowledge regarding tanning in this country has been lost. Most of the knowledge that we use now in relation to traditional tanning and buckskin production comes from studies with Native Amricans.

It is estimated that there are 6 million hunting licenses issued in the States each year but only about 500,000 skins are tanned each year. This means skins can now be obtained more easily and information about tanning or making buckskin is becoming increasingly available on the web as people experiment more.

Skins in this country can be obtained from many sources including Roadkill, Game dealers and Stalkers. It must be remembered that the quality of a skin relates directly to how the animal is skinned. Damaged skins from road kill may prove a challenge to the person treating the skin. Also nick marks from knives in the skinning process can produce cuts in the skin that expand when stretching the skin. The ideal is to get an animal that has a near complete hide and has been skinned with the minimum use of a knife.

If a skin is not processed properly it will either stay dry hard and stiff as a rawhide or if it gets wet it will go soft and eventually rot. The ideal with buckskin is that it will when dry be soft and when wet will not rot easily but be able to dry out and remain soft.

## Skin Structure



In all leather or buckskin making the Flesh and Hypodermis membrane are removed.

Hairs can be left on or taken off depending on the final product.

Commercial leathers also remove the hair but much of the epidermis and grain layer is left on.

To make buckskin the epidermis, grain level, much of the small fibres (dry scraping), hypodermis and flesh are all removed. You are looking to be just left with the mature fibres to process.

### Brain tanning a hide in general

- 1) Skin the animal carefully
- 2) De flesh the hide with a scraper
- 3) Remove the hypodermis membrane by scraping
- 4) Remove loose hairs if required by hand
- 5) Remove the grain level and stubborn hairs by wet scraping
- 6) Remove small fibres by dry scraping
- 7) Stretch the (moisten it) skin initially to start opening the fibres so as to make the skin more pliable
- 8) Dress the skin in a solution such as brains and water, or eggs and water
- 9) Continue to soften and stretch the skin so as to manipulate the fibres and coat them in the oils of the dressing. This helps to keep the fibres separate from each other as the skin dries
- 10) Apply more and more dressing with continual stretching and manipulating. About 3 or 4 dips in the dressing mixture.
- 11) When the skin has finally dried out (continually stretching until it is dry) it needs to be smoked. Smoking chemically changes the skin to stop the fibres glueing back together when it gets wet so keeping the buckskin soft. Smoking also locks in the oils from the dressing into the fibres.

The objective of this pictorial guide is to explain all the steps I went through to brain tan a Fallow Deer hide.

This was to produce a material called buckskin.

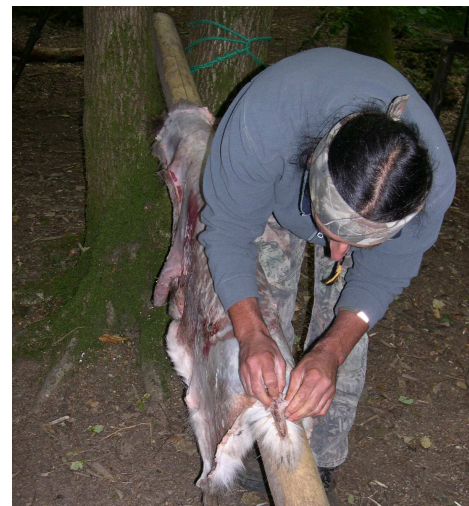
The skin I worked on with Phil Brown was the one on the right.



Initially we set up a pole at about 35 degrees angle to work the hide.



Steve the course instructor had provided the hides for us and showed us how to deflesh the hide to remove all the fats and remaining muscle.



He used a metal cabinet scraper initially with the hide lying on the pole. The pole had been well scraped to make it smooth so the hide would not be damaged.



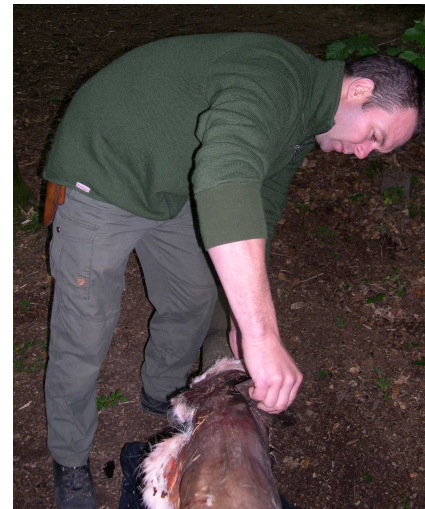
This is the hide Phil and myself were working on.

The hide was particularly thick and Steve thought it may have been quite an old animal.

The deep red area was where blood had pooled in the skin after being shot.



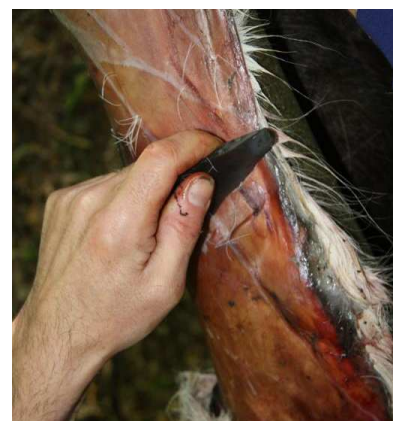
In this picture Phil is using a piece of flint to de flesh the hide.



Here you can see a close up of me using flint to de flesh the hide



The edges need special attention as this is where a lot of flesh gets left on the hide.





As we both wished to make pouches with the hide we decided to half the hide.

I used my flint knife to do this.



The flint knife cut through the hide as easily as cutting through butter.

The hide was placed on the bench so that it could be cut accurately and safely.



The split hide.



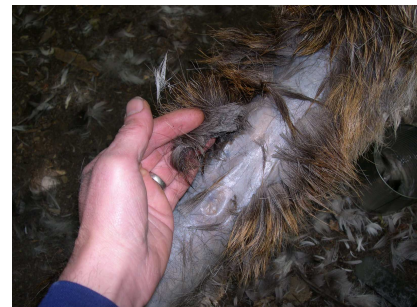
After cutting the hide in two we noticed that one half of the hide had started to lose its hairs.

This was due to the blood from the gunshot wound pooling into the skin and loosening the hair follicles.

This was only in patches and the hair came away easily.



I decided to use this side and make a buckskin hide out of it



Once the loose hair came of (very easily) I started to use a scraper on the other hair.

This did not come of easily at all.

I used metal and flint scrapers.  
After a number of hours the hide dried out totally.



Earlier Steve had shown us how to dry scrape on an old fox hide.

The hair and grain layer (explanation overleaf) came of easily unlike my hide.



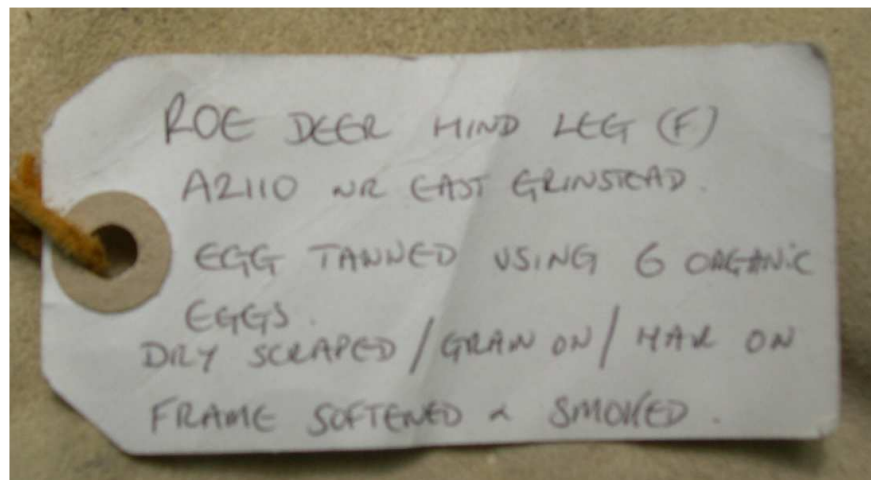
Here you can see the hair, with the light area under it (grain area) and the grey area under this which is the hide area



Here you can see the layers clearly



And the note explaining the process and layers



My aim was to dry scrape the hair and grain layer off. If the hair is taken off and not the grain layer the buckskin will never be truly soft.

The brain tanning process could not be completed as the oils from the brains would not be able to be soaked into the hide.





Here I am using flint to scrape.



Here you can see how patchy the hide is.



I resorted to using the bench to scrape the hide as it proved easier than the pole.

I have decided to wear gloves so as to keep my hands clean and free from any infections from the hide. I had by now a couple of little nicks that I did not want to get infected.



The finally scraped hide.

I must admit that as the hide was so thick it became very stiff.





During the class we were shown two ways to tan a hide.

One was to use the animals own brains.



And the other was to use eggs.

There are many other methods to tan a hide but these were the two we were shown.

The process of this dressing with brains or eggs is to coat the fibres in oils found in the brains or the eggs. As the hide is stretched later these oils help to stop all the skin fibres from going back into their original shape



To make a dressing out of eggs about 12 eggs are required per hide. This is mixed with a ratio of water to eggs of about 4 to 1 and well mixed.



Brains are mixed with the same ratio. It is agreed that an animals own brains will tan its own hide but in terms of weight for the average hide it is about half a pound of brains.

The brains we were using were supplied by Steve and they had been double bagged and kept in a freezer until we used them.



In this pot are two sets of brains. The darker one was thought to contain blood from a head wound.



In total 4 sets of brains were used.



Warm water was added.



And mixed vigorously.

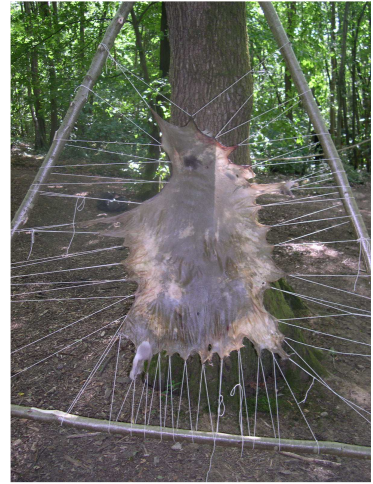


Topped up again and further whisked up.





John had stretched out a hide for another student on a rack so as to make it easier to scrape.



Here Dane is applying the brain mixture to his hide.



My hide had gone rock solid so I soaked it in a stream to soften it.



After wringing it out I popped it into the mixture for 10 minutes.



Then begins the stretching.

A line was rigged up to help with this.

I used my whole body weight to stretch the hide.



This process went on for a number of hours



In between stretching it like this I would twist the hide while attached to the line with a stick to further stretch it.



I dipped the hide in the mixture while stretching it over the hours.

This allows the hide area to be expanded with stretching also it allows the oils in the mixture to attach themselves to the fibres.



In between stretching Steve showed us how to take the brains out of a deer.

The first method started with a vertical slit down the hide over the forehead.





With the skull exposed a heavy knife could pierce the skull so allowing the brains to be scooped out.



The other method is to go through the area of the skull where the spinal column attaches to the skull.



Again a heavy knife is needed to hack away at the bone to open a hole big enough to get a small spoon into it.



Steve used an old Knickerbocker Glory icecream spoon for the job with the sides bent upwards.



To get all the brains out you mash the brains up with a spoon then scoop as much as you can out. Then add water to the brain casing and scoop or pour the last out.



Back to stretching.

This time on the knees



Then back to the line



Sometimes with help as the lads are doing with this hide



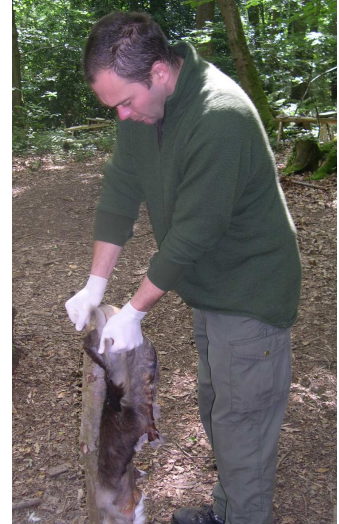
Here Phil is doing some catching up and dry scraping his hide.



A close up of his dry scraping.



Here Phil (the other one) has decided to use a post. The post is rounded smooth at the top. This allows him to exert great pressure and really stretch his hide.



A close up



These are some of Steve's tools for working hide.

The two shoulder blades are used as scrapers.





Finally a bit more stretching on the knees.



To speed up the drying process we carried on stretching the hides over the warmth of the fire.



This is a crucial period as you need to keep stretching the skin until it is completely dry.

This is to keep the fibres separated and coated with the oils.



When it is dry it is ready for smoking.

My skin was very soft and buckskin like on the outer areas (which covered the stomach) but still stiff on the inner areas (which covered the hind quarters).

This caused the rippling effect you see in this photo.





To ensure the skin stays soft it needs to be smoked. If it is not smoked then as soon as it gets wet and dries out it will go rock hard.

A small fire was set up with a pipe placed over it.

Into this was placed a lot of dry rotten wood. This causes a lot of smoke but little flame.



My bag was sewn up at the corners into a witches hat shape.



Then glued with hide glue to seal it as much as possible.



The sealed bag. A little opening was left at the top.



It was then hung over the pipe.



I kept it in place here for about 15 minutes.

The pipe did get very hot at one stage and singe the soft part of the hide.

Slowly the hide changed to a slightly yellow colour.



While doing this I also held the outside of the hide over the smoke to try and get as much of it smoked as possible.



Thought about a hat as the final product.



Even added a bow but have decided on making a bag.





The smoked hide flattened out.

It still is stiff in the central areas.

I will make a small bag and possibly wet that, stretch it and re smoke it.



The finished bag.

It was sewn together with off cuts of the buckskin.



The new Bat Belt appearing.





