establishments, the inspector, instead of personally generating production process information, used establishment production records on the production process, supplemented by in-plant observations, to verify that product was in compliance. In many establishments, TQC reduced the time needed for inspection, but the statutory provision for ''continuous'' inspection meant that, even under TQC, an inspector had to visit the establishment at least daily.

In 1978, the Agency issued its own report, ''A Strengthened Meat and Poultry Inspection Program.'' Among other things, the report observed that the poultry postmortem system had been designed before both the vertical integration of the poultry industry and the increasing attention to production control, which had helped producers overcome major animal and poultry health problems. With the introduction of high-speed production lines, the traditional inspection system had become ''severely stressed,'' with inspectors ''forced to work at speeds well over those at which peak effectiveness is expected.'' Scientific evidence indicated that with the improvement in animal health, little of the carcass examination performed by inspectors was necessary to protect public health. However, carcass-by-carcass inspection continued to address the wholesomeness and quality aspects of meat and poultry that consumers demanded.

Between 1980 and 1986, the Agency introduced what became known as streamlined inspection systems (SIS) in high-speed poultry slaughter operations. These systems shifted routine tasks that controlled for quality, rather than safety, from inspectors to establishment employees. Since an increasing amount of the poultry (and meat) supply was being produced under brand names, the Agency believed that establishments would be motivated to protect the reputation of their products by performing systematic quality control for visible, unpalatable defects. Under streamlined inspection, establishment employees, working under FSIS supervision, would perform detection and trimming of carcass defects that affect the ''quality,'' but not the ''safety'' of the product—functions previously performed by FSIS inspectors. The attempt to streamline carcass inspection by shifting non-public health tasks to the industry was criticized by consumer groups and inspectors, who interpreted the modernization initiative as a pretext for deregulation.

In 1986, Congress granted the Agency the authority to vary the frequency and intensity of inspection in processing establishments on the basis of the risk presented by the particular establishment and process. Again, FSIS's proposal to implement this authority was interpreted by consumer groups as an effort to reduce inspection. They opposed it, as did some Agency employees. Industry members supported the concept but were skeptical about how it would be implemented. For lack of support, the Agency withdrew its proposal, and the legislative authority for it expired in 1992.

Each of the foregoing modernization initiatives aroused the same concerns: Increased line speeds compromised job performance; new procedures had not been adequately or objectively tested; and, generally, streamlined slaughter inspection policies would not protect consumers. While SIS for poultry survived, the controversy blocked FSIS's attempt to extend SIS to cattle. A special review in 1990 by the National Academy of Sciences (NAS) pointed out deficiencies in the current system's handling of microbiological hazards but concluded that a SIS for cattle would be at least as effective as traditional inspection. However, consumers and the Agency's inspection workforce equated SIS for cattle with deregulation—license for industry to increase line speeds at the expense of public health. Congress ordered the Agency to stop the pilot tests then in progress in five cattle operations.

Today, FSIS inspectors perform hundreds of tasks during slaughter and processing operations. Slaughter inspection occurs in two phases: ante- and postmortem. During antemortem inspection, the inspectors observe all red meat animals at rest and in motion, segregating any abnormal animals they detect before the animals enter the slaughter facility. Based on further examination by a Veterinary Medical Officer (VMO), abnormal animals are either condemned or allowed to enter the slaughter process under special handling.

Because the large number of chickens and turkeys FSIS inspects (more than 6 billion slaughtered annually) makes antemortem bird-by-bird inspection impracticable, inspectors or VMO's conduct the antemortem inspection of poultry on a flock or lot basis. The poultry are observed while in coops or grouped for slaughter, before or after they are removed from trucks. Abnormal birds are condemned.

Antemortem inspection can detect some diseases (for example, rabies, listeriosis, and heavy metal toxicosis) through distinct clinical signs that cannot be detected by gross postmortem inspection. Additionally, some types of microbial diseases that can seriously contaminate the slaughter environment, such as abscesses and anthrax, can be detected by antemortem inspection. In those cases, the affected animals are prevented from entering the slaughterhouse.

During the postmortem phase of Federal inspection, the viscera and carcasses of all animals and birds slaughtered are examined by an FSIS inspector on the processing line. (See Figures 1 and 2 for illustrative schematics of beef and broiler chicken slaughter.) Many of the bacteria implicated in cases of foodborne illness live in the intestinal tracts of meat animals and poultry, present no evidence of overt pathologies in the animal, and can be shed in the feces. For this reason, line inspectors require physical removal of visible fecal and ingesta contamination of flesh.

For red meat, inspectors examine the heads, viscera, and carcass at one or more postmortem inspection stations. For poultry the viscera, carcasses, and, for older poultry, heads are examined at a single postmortem inspection station. To detect abnormalities at these stations, the red meat inspector performs a sequence of observations, palpations, and incisions of tissues; the poultry inspector, a sequence of observations and palpations. For both red meat and poultry, visible contaminants (such as feces), damage, and other abnormalities are detected and eliminated to ensure only meat and poultry that appear fit for human consumption ''pass'' inspection. Only VMO's and VMO-supervised inspectors make the final determination.

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