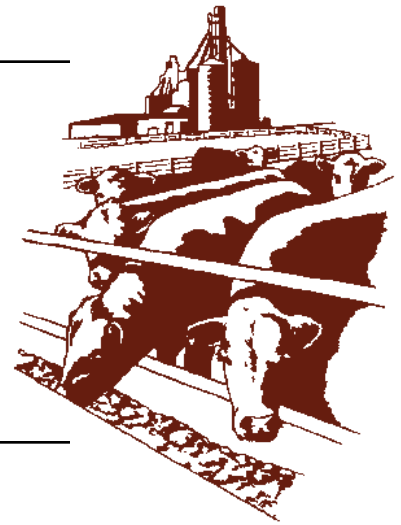


Beef Cattle Handbook



BCH-4300

Product of Extension Beef Cattle Resource Committee

Meat Inspection

Daniel S. Hale, Ph.D., Department of Animal Science, Texas A&M University System

The safety of the foods we eat is the responsibility of every person in contact with it from the farm to the dining table. No matter how effective one segment of the food industry is in ensuring a safe food product, that effort can be compromised by the next segment in the food chain. Municipal, county, state, and national governmental agencies are responsible for overseeing food production, distribution, procurement, and preparation to assure that food made available to consumers is safe.

The meat industry is generally recognized as the most highly regulated of all food industries in the US. No fewer than nine federal agencies serve as “watch-dogs” to assure meat presented to consumers is wholesome and safe. The government agency having the greatest role in the production of wholesome meat products is the Food Safety and Inspection Service of the US Department of Agriculture (FSIS-USDA), which administers a comprehensive system of inspection regulations, to ensure that meat products intended for human consumption are wholesome and accurately labeled.

Meat Inspection vs Meat Grading

Many consumers often confuse *Meat Grading* and *Meat Inspection*. *Meat Grading* is a voluntary service performed by Agricultural Marketing Service (AMS) of the USDA, which segments carcasses and, in turn, meat products from those carcasses, into homogeneous groups based on factors that predict the taste appeal of cooked meat and the quantity (yield) of meat from carcasses. In contrast, *Meat Inspection* is a mandatory pro-

gram, conducted by the Food Safety and Inspection Service of the USDA, which oversees the production of safe and wholesome meat products for consumers. *Meat Grading* is paid for by the meat processor, whereas *Meat Inspection* programs are paid for by taxpayers, at an annual cost of less than \$2.00 per person.

Federal and State Meat Inspection Programs.

The US (federal) meat inspection program began in 1891 when Congress passed a general meat inspection act, providing for the inspection of cattle (which was expanded in 1894 to include pork). In 1905, the safety and wholesomeness of meat came under close scrutiny when Upton Sinclair wrote “The Jungle”, describing the poor sanitary conditions in the meat packing industry, kindling a storm of public concern and protest. As a result, in part, of this book, the Federal Meat Inspection Act was passed in 1906, requiring the inspection of livestock and their carcasses destined for interstate and foreign commerce. In addition, processed meat, as well as meat equipment and facilities, were required to be inspected. In 1967, the Wholesome Meat Act was passed, which updated the 1906 Act to include mandatory inspection of all meat processed and sold within the same state (intrastate inspection). Thus, with the passage of the 1967 Act, all meat destined for sale to consumers must now be inspected for safety and wholesomeness. The 1967 Act provided for state inspection programs, but specified that any such state programs must have regulations equal to or better than the federal inspection requirements. Although the state and federal meat inspection

programs are considered equal, meat processing facilities that utilize state inspection programs are not permitted to sell or transport meat products across state lines.

FSIS-USDA Inspectors

In 1990, approximately 6,500 meat processing plants operated under federal inspection in the US. More than 7,800 FSIS employees are responsible for implementing inspection in these plants. Each inspector serves as the consumer's representative in assuring the wholesomeness of meat offered for sale to the public.

Two categories of meat inspectors may be found in a processing plant: a *lay inspector*, or a *veterinary inspector* (who is a Doctor in Veterinary Medicine). Inspection procedures occur under the supervision of a highly trained *veterinary inspector*, who has expertise in the areas of anatomy, physiology, microbiology, and pathology of animals. *Lay inspectors* are trained to carefully observe the processing procedures and to identify and retain carcasses or carcass parts that appear abnormal. It is the supervising veterinary inspector's responsibility to make the final decision as to whether a carcass or part is condemned. In 1990, 0.33 percent of the total US livestock processed were condemned.

FSIS Meat Inspection Procedures

As the representative of consumers in a processing plant, the FSIS meat inspector is responsible for oversight of sanitation and wholesomeness throughout the entire processing operation. Included in these responsibilities are:

Facilities Construction and Operational Sanitation-prior to the beginning of the day's production at a processing facility, an examination of establishment and premises is made by the inspector. The inspector examines the sanitary conditions and determines if facilities continue to meet specified building and equipment regulations.

Antemortem Inspection-all livestock offered for processing in a federally inspected processing facility must be examined on the premises of the establishment by an inspector on the day of, or prior to, processing. The animal is observed both in motion and at rest, in order to identify any conditions that may raise questions as to its general health. Animals suspected of a diseased condition, or showing other conditions that might result in condemnation, are retained (identified as "US Suspect"), and processed as a group for postmortem inspection. If during live animal inspection an animal shows obvious symptoms of disease, it is condemned at that time (identified as "US Condemned"), and not allowed to enter the human food chain.

Postmortem Inspection-the most intense phase of meat inspection occurs during the postmortem examination. Organs, lymph nodes and the entire carcass are examined for evidence of unwholesome conditions. As with the antemortem inspection, all animals processed in an inspected facility are examined during postmortem inspection.

If an animal, its carcass, or any of its parts is condemned, these undergo high temperature denaturation treatment (under the supervision of the FSIS inspector), and do not enter the human food chain.

Product Inspection-the jurisdiction of FSIS meat inspectors extend to the cutting and further processing departments of a meat processing plant. It is the inspectors' responsibility to assure that all processing steps (cutting, curing, smoking, grinding, etc.) are carried out under sanitary conditions, and to protect the consumer against the use of harmful substances in the formulations of products

Application of the USDA Inspection Legend-each FSIS-USDA inspected plant is granted a specific establishment number which is placed on the facility's official inspection legend (Figure 1). Each inspection legend is affixed not only to packaged meat product labels, but also stamped (with edible ink) on carcass parts, including edible byproducts.

Residue and Microbiological Laboratory Analysis-additional inspection procedures involve the use of laboratory assays to detect biological and chemical hazards, and to assure that product formulations are in compliance with FSIS regulations. Samples for the laboratory analyses are routinely taken on a random basis using a statistical sampling plan that permits a high degree of assurance that the products sampled are in compliance with regulatory requirements. In addition to testing for unapproved additives and chemical residues in meat products, FSIS also randomly tests products for specific types of bacteria.

Labeling and Product Standards-FSIS inspectors are responsible for assuring that meat products leaving a meat processing facility are accurately labeled, including both ingredient labeling, and nutritional labeling, when applicable.

Summary

The production of meat products is overseen by the Food Safety and Inspection Service of the United States Department of Agriculture. From the construction of meat processing facilities to the shipment of meat products from a plant, the FSIS-USDA is involved in every aspect of manufacturing wholesome meat products. An on-site FSIS-USDA inspector observes the cattle, lamb, hog, or veal before, during, and after processing, as well as during the processing of a carcass into smaller, value added meat products. FSIS tests meat and meat products for residues and microbiological hazards and makes sure that food additives are used correctly and reported accurately on food labels.

Food safety and wholesomeness is the responsibility of everyone that comes into contact with a food from production to consumption. It is the government's responsibility to assure the safe manufacturing, distribution and marketing of wholesome meat products to the public.

References

A Congressional Perspective on Food Safety, 1989, the Honorable Charles W. Stenholm and Daniel S. Waggoner, *Journal of the American Veterinary Medical Association*, Vol. 195, No. 7, Pages 916-921.

Meat and Poultry Inspection, 1993. *1992 Report of the Secretary of Agriculture to the U.S. Congress, Food Safety and Inspection Service*, U.S. Department of Agriculture, Room 202, Portal Building, 14th and Independence Avenue, SW, Washington, DC 20250.

Code of Federal Regulations: Animal and Animal Products, 9, Part 200 to End, 1993, Office of the Federal Register National Archives and Records Administration, Pages 89562.

Authors:

Daniel S. Hale, Ph.D., Department of Animal Science, Texas Agricultural Extension Service, Texas A&M University System

This publication was prepared in cooperation with the Extension Beef Cattle Resource Committee and its member states and produced in an electronic format by the University of Wisconsin-Extension, Cooperative Extension. Issued in furtherance of Cooperative Extension work, ACTS of May 8 and June 30, 1914.

BCH-4300 Meat Inspection