

# 9. Food Safety

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## ■ Food Safety and Inspection Service

The major responsibility of the Food Safety and Inspection Service (FSIS) is to oversee and inspect more than 7.5 billion poultry and 130 million meat animals yearly on their path from farm to table. This public health agency in the USDA protects consumers by ensuring that meat and poultry products are safe, wholesome, and accurately labeled.

In 1994, as part of the USDA reorganization, elements of various agencies were combined into one food safety agency headed by an Under Secretary for Food Safety. Some divisions of the Agricultural Marketing Service (AMS) and the Animal and Plant Health Inspection Service (APHIS) as well as the entire Food Safety and Inspection Service (FSIS) are now under one umbrella.

The mission of the Agency is to reduce the risk of foodborne illness, the Nation's most significant food safety problem. To accomplish this, the new food safety agency is taking steps to improve the safety of meat and poultry from farm to table in the food production, processing, distribution, and marketing chain.

Between 1906 and 1993, the inspection system was based on what inspectors could see: diseases, defects, and contamination on meat and poultry carcasses. But dangers to the food supply are often from unseen microscopic bacteria, such as *E. coli* and *Salmonella*.

Now FSIS is doing research and developing the tools needed to detect bacteria on meat and poultry which cannot be seen on visual inspection. Samples of meat and poultry are routinely tested for bacterial contamination. This is part of a broad and long-term science-based strategy to prevent foodborne pathogens from entering the food supply all along the chain, to improve the safety of meat and poultry products, and to better protect public health.

### FSIS Activities

The activities of FSIS include:

- Inspecting meat and poultry, as well as processed products made from them;
- Setting standards for plant facilities, product contents, packaging, and labeling;
- Analyzing products for microbiological and chemical adulterants; and
- Educating consumers about foodborne illness by way of publications, educational campaigns, and a toll-free Meat and Poultry Hotline.

The task of inspecting meat and poultry is imposing because consumers spend \$120 billion, or one third of their annual food dollars, for meat and poultry products. FSIS inspects and regulates all raw beef, pork, lamb, chicken, and turkey sold in interstate and foreign commerce, including imported products.

In addition, about 250,000 different processed meat and poultry products fall under FSIS inspection. These include hams, sausage, soups, stews, pizzas, frozen dinners, and any product containing two percent or more cooked poultry or at least three percent raw meat. USDA also reviews 500,000 different package labels, which must be approved before the products may be sold to consumers.

Table 9-1.

Livestock and poultry federally inspected in 1994

Cattle .....	34,370,227
Pigs .....	90,206,024
Other .....	5,124,359
Poultry .....	7,492,088,622

The task of inspecting meat and poultry is carried out by more than 8,100 Inspection Operations employees, including over 1,100 veterinarians. They work in some 6,200 privately owned plants to carry out the mandate of the 1906 Federal Meat Inspection Act, the 1957 Poultry Products Inspection Act, and the regulations that implement these laws.

All plant facilities and equipment must adhere to FSIS standards and be approved before they can be used. Standards are also set for certain slaughter and processing activities, such as plant sanitation and thermal processing.

Inspectors check animals before and after slaughter, visually examining over 7 billion poultry carcasses and 130 million livestock carcasses—including beef, pork, and lamb—each year. They prevent diseased animals from entering the food supply and examine carcasses for visible defects that can affect safety and quality.

■ *More than 8,100 Inspection Operations employees, including more than 1,100 veterinarians, carry out the inspection laws in over 6,200 meat, poultry, and other slaughtering or processing plants in the United States and U.S. Territories.*

Inspectors can also test for the presence of pathogenic microorganisms and drug and chemical residues that violate Federal law. The Agency operates three field laboratories to test meat and poultry samples.

■ *There are over 6,500 inspectors licensed to inspect meat and poultry in more than 1,400 foreign plants authorized to export products to the United States. In 1994, over 2.5 billion pounds of meat and poultry passed inspection for entry into the United States from 35 countries.*

Over the last 20 years, the violation rate for drug and chemical residues detected in FSIS testing programs has dropped dramatically, moving close to zero. Only about 3 of every 1,000 samples routinely tested for residues exceed the legal limit.

Imported meat and poultry arriving by ship or air are also subject to FSIS scrutiny. The Agency reviews and monitors the foreign inspection systems in the products' countries of origin to ensure they are equivalent to the U.S. system. When the products reach the United States, selected products are reinspected at 150 official import facilities by import inspection personnel.

Finally, FSIS continues to work to improve meat inspection. The Agency develops and improves procedures for detecting microbiological and chemical adulterants, and infectious and toxic agents in meat and poultry products. If foodborne bacteria, residues, or other types of contamination are found, FSIS may ask the producer to voluntarily recall the products.

### Standards and Labeling

FSIS also inspects products during processing, handling, and packaging to ensure that they are truthfully labeled. FSIS evaluates and sets standards for food ingredients, additives, and compounds used to prepare and package meat and poultry products. The Agency sets labeling standards and approves labels for meat and poultry products.

### **Nutrition Labeling of Meat and Poultry Products**

One of the most far-reaching recent accomplishments of FSIS was requiring mandatory nutrition labeling for most meat and poultry products except raw, single-ingredient products such as raw poultry. The final rule, issued January 6, 1993, became effective in August 1994.

The Nutrition Facts panel was developed through a joint effort by FSIS and the Food and Drug Administration (FDA) of the U.S. Department of Health and Human Services (HHS). The two agencies issued parallel regulations intended to create the most uniform nutrition labels possible for virtually all foods.

The labels help consumers follow the Dietary Guidelines developed by the USDA and HHS. The guidelines emphasize the importance of a well-balanced diet. Most packaged foods carry an up-to-date, easy-to-use nutrition panel.

See the following example.

Nutrition Facts	
Serving Size 0 cup (000g)	
Servings Per Container 0	
Amount Per Serving	
Calories 000	Calories from Fat 000
% Daily Value*	
Total Fat 00g	00%
Saturated Fat 0g	00%
Cholesterol 00mg	00%
Sodium 000mg	00%
Total Carbohydrate 00g	00%
Dietary Fiber 0g	0%
Sugars 00g	
Protein 00g	
Vitamin A 0%	Vitamin C 0%
Calcium 00%	Iron 0%
Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs:	
	Calories: 2,000 2,500
Total Fat	Less than 65g 80g
* Sat Fat	Less than 20g 25g
Cholesterol	Less than 300mg 300mg
Sodium	Less than 2,400mg 2,400mg
Total Carbohydrate	300g 375g
Dietary Fiber	25g 30g
Calories per gram:	
Fat 9 • Carbohydrate 4 • Protein 4	

In addition to the Nutrition Facts panel, FSIS also defined the product claims that can be made on the front label of meat and poultry products. The Agency has set specific requirements for using the following terms:

- free,
- less
- low
- good source of
- extra lean
- light (lite)
- high
- reduced
- lean
- more

### Safe Food Handling Label





In 1994, FSIS issued a rule requiring safe handling instructions on packages of all raw or partially cooked meat and poultry products as part of a comprehensive effort to protect consumers from foodborne illness. Some food products may contain bacteria that could cause illness if the product is mishandled or cooked improperly.

To prevent bacterial growth and to reduce the risk of foodborne illness, the label directs consumers to follow safe food handling practices from the time perishable products are purchased until they have been cooked and stored.

## A Safe Food Handling Label:

### Safe Handling Instructions

This product was prepared from inspected and passed meat and/or poultry. Some food products may contain bacteria that could cause illness if the product is mishandled or cooked improperly. For your protection, follow these safe handling instructions.

	Keep refrigerated or frozen. Thaw in refrigerator or microwave.
	Keep raw meat and poultry separate from other foods. Wash working surfaces (including cutting boards), utensils, and hands after touching raw meat or poultry.
	Cook thoroughly.
	Keep hot foods hot. Refrigerate leftovers immediately or discard.

### Current Food Safety Initiatives

Positive steps have been taken to reduce contamination in the food supply. For the first time since 1906, FSIS moved in 1994 to declare a pathogenic bacterium, *E. coli O157:H7*, an adulterant in raw product. The bacterium, which is most often linked to undercooked ground beef, is believed to cause an estimated 10,000 to 20,000 illnesses and about 500 deaths each year.

FSIS initiated a nationwide sampling program in federally inspected plants and retail stores to test for *E. coli O157:H7* in raw ground beef. Any samples testing positive for the pathogen in USDA laboratories are to be treated as adulterated under the Federal Meat Inspection Act and referred to FSIS for regulatory action.

To further accomplish the Agency's goal to reduce contamination, FSIS has proposed Pathogen Reduction and Hazard Analysis and Critical Control Point (HACCP) Systems. The proposal requires changes in procedures from an inspection system based primarily on sight, touch, and smell, to one incorporating scientific testing and systematic prevention of contamination.

### Food Safety from Farm to Table

FSIS is taking steps to improve the safety of meat and poultry from production through use. Food safety depends on:

- Properly growing the animals at the farm or feedlot,
- Processing at the plant incorporating pathogen reduction and HACCP measures,
- Handling the food safely during transportation and distribution,
- Storing it safely in the store, and
- Safe food handling at home by consumers.

### **At the Farm**

Quality control programs are being used to control pathogens on the farm. FSIS works closely with the producers of food animals as well as other government agencies to explore what measures can be taken on the farm and before animals enter the slaughter facility to reduce the risk of contaminating meat and poultry products.

### **Inside the Plant**

Changing a live animal into food that is conveniently packaged for consumers occurs inside a federally inspected meat or poultry plant. To improve the safety of meat and poultry products, FSIS proposes to use Pathogen Reduction and HACCP systems to reduce levels of bacteria which can be on meat and poultry products as a result of contamination from the live animal.

The purpose of HACCP systems is to identify potential food safety hazards arising in slaughter and processing plants. HACCP is a system of steps used to identify and prevent problems from occurring during food processing and to correct them as soon as they are detected. With HACCP in place, FSIS can verify that the plant is controlling its processes and consistently producing products that comply with food safety requirements.

The HACCP system consists of seven principles that plants must incorporate into their operation plans. They include (1) hazard analysis, (2) critical control point identification, (3) establishment of critical limits, (4) monitoring procedures, (5) corrective actions, (6) record keeping, and (7) verification procedures.

Under the Pathogen Reduction proposal, targets would be set for reducing the incidence of bacterial contamination of raw meat and poultry products. Daily microbial testing would be required in slaughter plants to determine whether targets are being met or remedial measures are necessary.

Raw products would be tested for *Salmonella*, a pathogenic bacteria that is the most common cause of foodborne illness in the United States. Slaughter plants would be required to reduce contamination to a specific level that will be determined by FSIS. The proposal would require bacterial testing 90 days after publication of the final rule.

#### **■ Egg Products Inspection Now Under FSIS**

*As of May 28, 1995, FSIS is responsible for inspection of 81 U.S. plants that produce liquid, frozen, and dried egg products. Formerly under the jurisdiction of USDA's Agricultural Marketing Service, 158 inspectors, supervisors, and support staff will now be part of FSIS. In FY 1994, USDA inspected 1,761 million pounds of liquid egg products, which translates into 817 million pounds sold in liquid form, 428 million pounds sold in frozen form, and 133 million pounds sold as dried egg products.*

### **In Retail Establishments**

FSIS is working closely with the Food and Drug Administration to ensure food safety at the retail level. This includes establishing Federal standards for the safe handling of food during transportation, distribution, and storage. FSIS also will work

with producers and others to develop and implement food safety measures that can be taken on the farm and before animals enter the slaughter facility to reduce the risk of harmful contamination of meat and poultry products.

### **At the Table**

Helping ensure that consumers handle food safely at home is an ongoing priority for the Agency carried out by the Public Information staff and the USDA Meat and Poultry Hotline. Consumers, school children, the media and other information multipliers are the object of a comprehensive, nationwide FSIS food safety education program to prevent foodborne illness.

### **USDA Meat and Poultry Hotline 1 (800) 535-4555**

The Agency reaches people directly through its toll-free Meat and Poultry Hotline. The Hotline's staff of home economists, dieticians, and food technologists inform the public on how to properly handle, prepare, and store meat and poultry products to minimize the growth of foodborne pathogens.

More than 125,000 people called the Hotline in 1994. Some of their specific concerns included *E. coli O157:H7*, *Salmonella enteritidis*, cutting boards, and the safe handling of already cooked foods.

The Hotline staff can be reached Monday through Friday year-round from 10:00 a.m. to 4:00 p.m. Eastern Time. Callers can hear their choices of recorded food safety messages 24 hours a day by calling the same toll-free number. Using a touch-tone phone, they can select from about 50 food safety messages under eight "menu" headings which are updated periodically to include seasonal topics and the latest recalls of meat and poultry products.

#### ■ **What do people call the Hotline about?**

*Here are some of the most frequent topics of questions to the Hotline staff:*

- *Prevention of foodborne illness, food storage, preparation and handling*
- *Recalls of meat and poultry*
- *Different types of foodborne pathogens*
- *Problems or complaints about certain products*
- *Power failures or food at risk in refrigerators and freezers that breakdown*
- *Using new nutrition labels to plan healthful diets*
- *Safe handling label instructions*
- *Safe preparation and handling of foods to be eaten away from home or outdoors*
- *The role of the consumer in food protection*
- *People who are "at risk" for foodborne illness, including the young, the elderly, pregnant women, and the chronically ill*