

9. Food Safety

■ Food Safety and Inspection Service

The Food Safety and Inspection Service (FSIS) protects consumers by ensuring that meat, poultry, and egg products are safe, wholesome, and accurately labeled. The Agency has a 90-year history of protecting the public from unwholesome and unsafe products.

FSIS is pursuing a broad and long-term science-based strategy to improve the safety of meat, poultry, and egg products to better protect public health. The Agency is changing the Federal meat and poultry inspection system from a system based primarily on sight, touch, and smell to one incorporating scientific testing and systematic prevention of contamination. In addition, the Agency is broadening its scope by focusing on the entire food safety chain, from farm to table, rather than only on what happens within inspected establishments.

On July 25, 1996, the Agency finalized the most significant changes in meat and poultry inspection rules since Congress enacted the Meat Inspection Act of 1906. The final rule on Pathogen Reduction and Hazard Analysis and Critical Control Point (HACCP) Systems targets pathogens that cause foodborne illness, strengthens industry responsibility to produce safe food, and focuses inspection and plant activities on prevention objectives.

FSIS is also making fundamental internal changes required to successfully carry out its HACCP-based, farm-to-table food safety strategy. First, FSIS is undergoing a reorganization designed to streamline its management structure and better focus Agency activities on public health and policy and program development. Second, FSIS is reforming its existing regulations to be consistent with HACCP principles and greater reliance on performance standards.

FSIS Activities

The activities of FSIS include:

- Inspecting birds and livestock, as well as processed products made from them,
- Continuous inspection of all liquid, frozen, and dried egg products,
- Setting standards for plant facilities, product contents, processing procedures, 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.

- *Final Rule on Pathogen Reduction and HACCP*
The final rule on Pathogen Reduction and HACCP has four key provisions.
 - *First, all plants that slaughter animals and process meat and poultry products will be required to adopt HACCP, a system of process control designed to prevent food safety hazards. Under HACCP, companies must identify critical control points where contamination can occur and develop strategies to prevent and control it.*
 - *Second, to verify that HACCP systems are effective in reducing contamination with harmful bacteria, FSIS is setting pathogen reduction performance standards for Salmonella that slaughter plants and plants that produce raw, ground meat and poultry and fresh pork sausage will have to meet. Plants must ensure that their Salmonella contamination rate is below the current national baseline incidence.*
 - *Third, slaughter plants will be required to conduct microbial testing for generic E. coli to verify that their process control systems are working as intended to prevent fecal contamination, the primary avenue of contamination for harmful bacteria.*
 - *Fourth, FSIS is requiring all plants to adopt and follow written Standard Operating Procedures for sanitation to reduce the likelihood that harmful bacteria will contaminate the finished product. Inspectors will shift their roles from inspecting for sanitation defects to enforcement of the sanitation standards.*
 - *In addition, FSIS is taking steps at other points on the farm-to-table chain. FSIS is working with the Food and Drug Administration (FDA) to adopt standards to control the growth of harmful bacteria during transportation and storage and is working with FDA and State and local authorities to improve food safety practices at the retail level.*

FSIS inspects and regulates all raw beef, pork, lamb, chicken, and turkey sold in interstate and foreign commerce, including imported products. In FY 1995, FSIS inspected more than 7 billion poultry and more than 136.5 million head of livestock. The task of inspecting meat and poultry is imposing because consumers spend \$120 billion, or one-third of their annual food dollars, on meat and poultry products

Inspectors check animals before and after slaughter, preventing diseased animals from entering the food supply and examining carcasses for visible defects that can affect safety and quality. Inspectors also test for the presence of drug and chemical residues that violate Federal law. 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.

■ *More than 8,000 Inspection Operations employees, including more than 1,100 veterinarians, carry out the inspection laws in over 6,400 privately owned meat, poultry, and other slaughtering or processing plants in the United States and U.S. Territories.*

Table 9-1.

Livestock, poultry and egg products federally inspected in 1995

Cattle	37,075,934
Swine	94,490,329
Other livestock	4,963,497
Poultry	7,770,175,068
Liquid egg products (pounds)	1,931,000,000

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 2 percent or more cooked poultry or at least 3 percent raw meat. In addition to inspecting these products during processing, FSIS evaluates and sets standards for food ingredients, additives, and compounds used to prepare and package meat and poultry products. As part of the inspection process, inspectors test for the presence of *Salmonella* and *Listeria* in ready-to-eat products. No pathogens are permitted in such products. The Agency also sets labeling standards and approves labels for meat, poultry, and egg products.

In FY 1995, USDA inspected 1,931 million pounds of liquid egg products, which were sold in liquid form, frozen, or as dried egg products. Continuous inspection of 82 U.S. plants was provided by 143 inspectors, supervisors, and support staff of the Egg Products Inspection Division.

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 160 official import facilities by import inspection personnel.

■ *More than 1,400 foreign plants are authorized to export products to the United States. In 1995 over 2.6 billion pounds of meat and poultry passed inspection for entry into the United States from 34 countries.*

The Agency's new food safety strategy will change the way FSIS carries out its food safety responsibilities. For instance, HACCP implementation will clarify that it is the responsibility of industry to produce safe meat and poultry products. Under HACCP, FSIS's role will change from one of pointing out problems to setting appropriate food safety standards and maintaining vigorous inspection oversight to ensure that those standards are met. FSIS is reforming its existing regulations to reflect this emphasis on performance standards.

For the future, FSIS will be further examining the work that its inspectors do to determine what changes would improve food safety and make better use of existing resources.

■ **Testing For Pathogens**

Between 1906 and 1993, the inspection system was based largely on what inspectors could see: diseases, defects, and contamination on meat and poultry carcasses. FSIS has strict standards for the bacterial pathogens Salmonella and Listeria monocytogenes on ready-to-eat products, but it has up to now had no standards for bacterial pathogens on raw products.

In 1994, for the first time, the Agency declared a bacterium in raw meat to be a contaminant. The bacteria E. coli O157:H7 were responsible for four deaths and hundreds of illnesses in several Northwestern States in 1993. Zero tolerance for E. coli O157:H7 in ground beef was established, and FSIS began testing for its presence in samples of raw product collected from plants under Federal inspection and retail stores.

Under the final rule on Pathogen Reduction and HACCP, slaughter plants will be required to routinely test for the generic form of E. coli to verify the effectiveness of their procedures to prevent and remove fecal contamination.

And slaughter plants and plants producing raw ground product or fresh pork sausage will be required to meet pathogen reduction performance standards for Salmonella to determine whether targets are being met or remedial measures are necessary. FSIS, rather than the plants, will test for Salmonella, a pathogenic bacteria that is the most common cause of foodborne illness in the United States.

Nutrition Labeling of Meat and Poultry Products

The final rule on the nutrition labeling of meat and poultry products, which was issued January 6, 1993, requires mandatory nutrition labeling for most meat and poultry products except raw, single-ingredient products such as raw poultry. Since implementation of the rule in August 1994, FSIS has provided consumers with a useful educational tool to help them choose a healthful diet.

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 (DHHS). 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.

Food Safety Initiatives from Farm to Table

To accomplish its mission, 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 the food 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, 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.

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, the Pathogen Reduction and HACCP Final Rule of July 25, 1996, is intended 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.

From the Plants to 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. Particular emphasis is being placed on the importance of temperature control in minimizing the growth of harmful microorganisms.

At the Table

Helping ensure that consumers handle food safely at home is an ongoing priority for the Agency carried out by the Food Safety and Consumer Education Office and the USDA Meat and Poultry Hotline. Consumers, school children, the media, and

other information multipliers are the audiences of a comprehensive, nationwide FSIS food safety education program to prevent foodborne illness.

Food Safety, Consumer Education, and the USDA Meat and Poultry Hotline

FSIS has an extensive program of consumer education to meet information needs for basic safe food handling advice to avoid foodborne illnesses. Information is disbursed through printed materials and personal contact via the USDA's Meat and Poultry Hotline.

The Agency's consumer education programs focus on providing key food safety materials to the general public and also special groups who face increased risks from foodborne illness—the very young, the elderly, and people who have chronic diseases. These materials are based on the latest scientific advice concerning foodborne illness as well as the latest in education and market research.

This office writes and distributes packets of food safety educational materials through outreach campaigns targeted at reducing foodborne illness. Packets have encompassed information on *E. coli* O157:H7, the safety of hamburgers, and food safety for seniors and children. *The Food Safety Educator*, a quarterly newsletter, is a publication of this office.

News features, public service announcements, and joint food safety projects with other government agencies and food associations comprise some of the other work done by the Food Safety and Consumer Education office. It reaches out to the media, information multipliers, and consumers through print and video. Staff members attend and conduct presentations at various association conferences related to food safety issues and the prevention of foodborne illness. They also participate in various food safety task forces, working with members drawn from industry, government, and academe.

FSIS reaches people directly through its toll-free **USDA Meat and Poultry Hotline**, a service that directly answers specific consumer questions. The Hotline's staff of home economists, dietitians, 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 114,000 people called the Hotline in 1995. 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 at **800-535-4555** Monday through Friday year-round from 10:00 a.m. to 4:00 p.m. Eastern Time; in the Washington DC, area (202) 720-3333. 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.

Food safety information and publications of your choice can be:

1. Viewed or downloaded from the Agency's Home Page at <http://www.usda.gov/fsis> or

2. Received by fax from **FSIS' Fast FAX** machine at 800-238-9281, or in Washington, DC, at 202-690-3754.

■ **What To Do If You Have a Problem With Food Products**

■ **FOR HELP WITH MEAT, POULTRY, AND EGG PRODUCTS:** Call the toll-free USDA Meat and Poultry Hotline at 1 (800) 535-4555.

■ **FOR HELP WITH RESTAURANT FOOD PROBLEMS:** Call the Health Department in your city, county, or State.

■ **FOR HELP WITH NONMEAT FOOD PRODUCTS:** Call or write the Food and Drug Administration (FDA). Check your local phone book under U.S. Government, Health and Human Services, to find an FDA office in your area. The FDA's Seafood Hotline is 1 (800) 332-4010.

In order for USDA to investigate a problem with meat, poultry, or egg products, you must have:

1. The original container or packaging,
2. The foreign object (the plastic strip or metal washer, for example), and
3. Any uneaten portion of the food (refrigerate or freeze it).

Information you should be ready to tell the Hotline on the phone includes:

1. Your name, address, and phone number,
2. The brand name, product name, and manufacturer of the product,
3. The size and package type,
4. Can or package codes (not UPC codes) and dates,
5. Establishment number (EST) usually found in the circle or shield near the "USDA passed and inspected" phrase,
6. Name and location of store and date you purchased the product.

If an injury or illness allegedly resulted from use of the product, you will also need to tell about the type, symptoms, time of occurrence, and name of attending health professional (if applicable).

For More Information

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