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Meat and Poultry Inspection: Background and Selected Issues

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Summary

The U.S. Department of Agriculture's (USDA's) Food Safety and Inspection Service (FSIS) is responsible for inspecting most meat, poultry, and processed egg products for safety, wholesomeness, and proper labeling. Federal inspectors or their state counterparts are present at all times in virtually all slaughter plants and for at least part of each day in establishments that further process meat and poultry products. The Food and Drug Administration (FDA), within the U.S. Department of Health and Human Services (HHS), is responsible for ensuring the safety of virtually all other human foods, including seafood, and for animal drugs and feed ingredients.

Debate has ensued for many decades over whether the meat and poultry inspection programs, which were first designed in the early 1900s, have kept pace with changes in the food production and marketing industries, and with perceived hazards, whether naturally occurring or intentionally caused by human intervention.

For some time, food safety authorities have recognized that most foodborne illness cases traced to meat and poultry products were caused by naturally occurring microbiological contamination that was not being adequately addressed by the traditional, sight-, smell-, and touch-based system of inspection.

Through the federal rule-making process under its existing authorities, FSIS in 1996 finalized a sweeping new Hazard Analysis and Critical Control Point (HACCP) system for implementation by federally inspected slaughtering and processing plants. Simply put, this means that for each point in the process where contamination could occur, called a "critical control point," the plant must have a contamination prevention plan, document it, and maintain records. Despite data suggesting HACCP-related reductions in pathogen levels, periodic recalls continue to illustrate the difficulty of preventing contamination, particularly in processed products.

Other recent policy challenges have included FSIS's role in ensuring that livestock diseases such as BSE (bovine spongiform encephalopathy, or "mad cow disease") do not threaten human health; the adequacy of funding for inspection and who should provide it (i.e., industry, taxpayers, or both); whether changes are needed in the agency's enforcement authorities; ensuring that meat and poultry for human consumption are slaughtered humanely; and the overall effectiveness of the federal regulatory structure for food safety, which is spread among a number of agencies and departments, and which has taken on added responsibilities to protect the food supply against agroterrorism or other intentional contamination.

Congress often is drawn into these policy debates, and has held hearings and/or considered legislation to address various aspects. Similar issues have arisen or are expected to arise during the 109th Congress.

This report, which supersedes CRS Issue Brief IB10082, *Meat and Poultry Inspection Issues*, will be updated if significant developments ensue.

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Background on the Programs

The U.S. Department of Agriculture's (USDA's) Food Safety and Inspection Service (FSIS) is responsible for inspecting most meat, poultry, and processed egg products for safety, wholesomeness, and proper labeling. Federal inspectors or their state counterparts are present at all times in virtually all slaughter plants and for at least part of each day in establishments that further process meat and poultry products. The Food and Drug Administration (FDA), within the U.S. Department of Health and Human Services (HHS), is responsible for ensuring the safety of virtually all other human foods, including seafood, and for animal drugs and feed ingredients.[1]

Statutory Authorities

The Federal Meat Inspection Act of 1906, as amended (21 U.S.C. 601 et seq.), has long required USDA to inspect all cattle, sheep, swine, goats, horses, mules, and other equines brought into any plant to be slaughtered and processed into products for human consumption.[2] The 1957 Poultry Products Inspection Act, as amended (21 U.S.C. 451 et seq.), made poultry inspection mandatory for any domesticated birds intended for use as human food. The current list of included species is chickens, turkeys, ducks, geese, guineas, ratites (ostrich, emu, and rhea), and squabs (pigeons up to one month old). Federal appropriations pay for most, but not all, mandatory inspection (see "Funding," below).

FSIS also offers voluntary inspection for buffalo, antelope, reindeer, elk, migratory water fowl, game birds, and rabbits, which is authorized under the

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[1] This report does not compare and contrast FSIS responsibilities with those of FDA, which operates under a considerably different regulatory framework. These differences could have significance in the longstanding debate over the need, if any, for reorganizing the government's food safety authorities and programs. See "Single Food Agency," below, and also CRS Report RL31853, *Food Safety Issues in the 109th Congress*, by Donna U. Vogt.

[2] The FY2006 USDA appropriation (P.L. 109-97, Section 798) amends the Meat Inspection Act to alter the statutory designation of livestock which are required to undergo mandatory inspection if destined for human food — from "cattle, sheep, swine, goats, horses, mules, and other equines" to "amenable species." Section 798 then defines "amenable species" to mean: (1) "those species subject to the provisions of the [Meat Inspection] Act on the day before the date of enactment" of the 2006 appropriation (i.e., the same species previously delineated in the inspection act); (2) "any additional species of livestock that the Secretary considers appropriate." These changes were made during the House-Senate conference on the appropriation measure.

Agricultural Marketing Act (7 U.S.C. 1621), and which the industry can request on a fee-for-service basis. These meat and poultry species (which were not covered by the mandatory inspection statutes) are regulated by the Food and Drug Administration (FDA) within the Department of Health and Human Services (HHS) (under the Federal Food, Drug, and Cosmetic Act, FFDCA, 21 U.S.C. 301 et seq.) if they are not inspected under the voluntary FSIS program. FDA has jurisdiction over meat products from such species in interstate commerce, even if they bear the USDA inspection mark.

FSIS samples meat tissues for drug (and pesticide) residues, but FDA and the FFDCA (and the Environmental Protection Agency and its statutes) are the guiding authorities for such residues.

Finally, the Egg Products Inspection Act, as amended (21 U.S.C. 1031 et seq.), is the authority under which FSIS assures the safety of liquid, frozen, and dried egg products, domestic and imported, and the safe disposition of damaged and dirty eggs. FDA holds regulatory authority over shell eggs used in restaurants and sold in stores.

System Basics

Coverage. FSIS's legal inspection responsibilities begin when animals arrive at slaughterhouses, and they generally end once products leave processing plants. Certain custom slaughter and most retail store and restaurant activities are exempt from federal inspection; however, they may be under state inspection.

Plant Sanitation. No meat or poultry establishment can slaughter or process products for human consumption until FSIS approves in advance its plans and specifications for the premises, equipment, and operating procedures. Once this approval is granted and operations begin, the plant must continue to follow a detailed set of rules that cover such things as proper lighting, ventilation, and water supply; cleanliness of equipment and structural features; and employee sanitation procedures. Plants are required to have a Hazard Analysis and Critical Control Point (HACCP) plan for their slaughter and/or processing operations. Simply put, this means that a plant must identify each point in the process where contamination could occur, called a "critical control point," have a plan to control it, must document and maintain records. Under HACCP regulations, all operations must have site-specific standard operating procedures (SOPs) for sanitation. USDA inspectors check records to verify a plant's compliance (see "Selected Issues" for more on HACCP).

Slaughter Inspection. FSIS inspects all meat and poultry animals to look for signs of disease, contamination, and other abnormal conditions, both before and after slaughter ("antemortem" and "postmortem," respectively), on a continuous basis — meaning that no animal may be slaughtered and dressed unless an inspector has examined it. One or more federal inspectors are on the line during all hours the plant is operating. Plants pay user fees to have an inspector on duty on extra overtime and holiday shifts.

Processing Inspection. The inspection statutes give the Secretary discretion to determine how often a USDA inspector must visit facilities that produce processed products like hot dogs, lunch meat, prepared dinners, and soups. Under current

regulations, processing plants that are visited once every day by an FSIS inspector are considered to be under continuous inspection in keeping with the laws. Inspectors monitor operations, check sanitary conditions, examine ingredient levels and packaging, review records, verify HACCP processes, and conduct statistical sampling and testing of products during their on-site visits.

Pathogen Testing. The HACCP rule also mandates two types of microbial testing: for generic *E. coli* and for *Salmonella*. Levels of these two organisms are indicators of conditions that either suppress or encourage the spread of such potentially dangerous bacteria as *Campylobacter* and *E. coli* O157:H7, as well as *Salmonella* itself. Test results (plants test for *E. coli* and FSIS for *Salmonella*) help FSIS inspectors verify that plant sanitation procedures are working, and to identify and assist plants whose process controls may be underperforming. In the initial years of HACCP implementation, plants that failed three consecutive *Salmonella* tests could have their USDA inspectors withdrawn. This would effectively shut down the plant until the problem could be remedied. A federal court ruling in 2000, upheld on appeal in 2001, made such enforcement illegal. Nonetheless, FSIS inspectors still test samples for *Salmonella* and use the results as one of a number of indicators of plant performance.

Enforcement. FSIS has a range of enforcement tools to prevent adulterated or mislabeled meat and poultry from reaching consumers. On a day-to-day basis, if plant conditions or procedures are found to be unsanitary, an FSIS inspector can, by refusing to perform inspection, temporarily halt the plant's operation until the problem is corrected. FSIS can condemn contaminated, adulterated, and misbranded products, or parts of them, and detain them so they cannot progress down the marketing chain. Other tools include warning letters for minor violations; requests that companies voluntarily recall a potentially unsafe product; a court-ordered product seizure if such a request is denied; and referral to federal attorneys for criminal prosecution. Prosecutions under certain conditions may lead to the withdrawal of federal inspection from offending firms or individuals, which results in plant closure.

Funding and Staffing. In FY2006, FSIS received an annual appropriation of approximately $838 million. In addition, FSIS uses revenue from fees paid by the packing industry for FSIS inspection that occurs beyond regularly scheduled shifts, and by private laboratories that apply for FSIS certification to perform official meat testing and sampling. In FY2006, revenue from the fees will amount to an estimated $123 million in additional program support. FSIS carries out its duties with total staff of nearly 10,000. More than 7,500 of FSIS's employees, roughly 1,000 of them veterinarians, are at some 6,200 plants and import stations nationwide.

State Inspection. Nearly 30 states have their own meat and/or poultry inspection programs covering about 2,100 small or very small establishments. The states run the programs cooperatively with FSIS, which provides up to 50% of the funds for operating them, comprising about $50 million of the total FSIS budget annually. A state program operating under a cooperative agreement with FSIS must demonstrate that its system is equivalent to federal inspection. However, meat and poultry products produced under state inspection are limited to intrastate commerce only. In states that have discontinued their inspection systems for meat or poultry

(or both), FSIS has assumed responsibility for inspection at the formerly state-inspected plants. However, actual inspection is performed by state personnel.

USDA Meat Grading

USDA meat and poultry grading is distinct and separate from the FSIS safety inspection program. Upon request, firms may request that inspectors from a separate USDA agency, the Agricultural Marketing Service (AMS), grade their products for quality attributes, but only after it has been cleared by FSIS for safety and wholesomeness. Unlike safety inspection, which is mandatory and largely covered by appropriated funds, grading services are voluntary and funded by industry user fees.

Nationally uniform quality grades are used to convey, to buyers and sellers, such traits as tenderness, flavor, and juiciness, and so forth. For example, AMS now grades beef carcasses as prime, choice, select, standard and commercial, utility, cutter, and canner; these grades are not usually visible on individual retail cuts but can appear on the packages. Grades are also available for veal, lamb, and poultry. Legislative authority for quality (and yield) grades comes through the Agricultural Marketing Act (7 U.S.C. 1621).

Import Inspection. FSIS conducts overseas evaluations to determine that imports from foreign countries are processed under equivalent inspection systems; agency officials also verify equivalency by visiting various foreign slaughtering and processing operations. A plant seeking to export meat or poultry to the United States must first receive FSIS certification. At U.S. ports of entry, meat and poultry import shipments must first clear Department of Homeland Security (DHS) inspection to assure that only shipments from countries free of certain animal and human disease hazards are allowed entry. This function was transferred to DHS from USDA's Animal and Plant Health Inspection Service (APHIS) when DHS was established by the Homeland Security Act of 2002 (P.L. 107-296). After DHS inspection, imported meat and poultry shipments go to nearby FSIS inspection facilities for final clearance into interstate commerce.

Selected Issues

Microbiological Contamination and HACCP

Development of HACCP. In the early 1990s, following years of debate over how to respond to mounting evidence that invisible, microbiological contamination on meat and poultry posed greater public health risks than visible defects (the focus of traditional inspection methods), FSIS began to add testing for pathogenic bacteria on various species and products to its inspection system.

In 1995, under existing statutes, FSIS published a proposed rule to systematize these program changes in a mandatory program called the Hazard Analysis and Critical Control Point (HACCP) system. In this system, firms must analyze risks in each phase of production, identifying and then monitoring "critical control points" for preventing such hazards, with corrective actions taken when necessary. Record keeping and verification are used to ensure that the system is working. FSIS published the final rule on July 25, 1996, and since January 2000 all slaughter and processing operations are required to have HACCP plans in place. HACCP is intended to operate as an adjunct to the traditional methods of inspection, which still are mandatory under the original statutes.[3]

Pathogen Performance Standards. The meat and poultry inspection statutes do not give USDA the authority to use *Salmonella* standards as the basis for withdrawing inspection from a plant that has not met them, a federal court ruled in 2000, and an appeals court upheld in 2001. Subsequently, USDA has adopted the position that the court decision did not affect the agency's ability to use the standards as part of the verification of plants' sanitation and HACCP plans.

Nonetheless, the appeals court ruling supports the arguments of those who say that pathogen testing results should not be a basis for enforcement actions until scientists can determine what constitutes an unsafe level of *Salmonella* in ground meat and a number of other meat and poultry products. Consumer groups and other supporters of mandatory testing and microbiological standards, as well as of increased enforcement powers, have used the case to bolster their argument for amending the meat and poultry inspection statutes to specify microbiological standards.

The National Advisory Committee on Microbiological Criteria for Foods, established in 1988 to provide scientific advice to the Secretaries of Agriculture and of Health and Human Services on public health issues, concluded in a report issued in October 2002 that "performance standards that meet the principles as outlined in this document [i.e., standards that are based on quantitative rather than qualitative data] are valuable and useful tools to define an expected level of [pathogen] control in one or more steps in the process."[4]

A second review of microbiological performance standards, *Scientific Criteria to Ensure Safe Food*, was released in 2003 by the Institute of Medicine in collaboration with the National Research Council. Among many recommendations, this report calls on Congress to "grant the regulatory agencies clear authority to establish, implement, and enforce food safety criteria, including performance standards, and the flexibility needed within the administrative process to update these criteria." The report also makes seven specific recommendations for FSIS to improve the safety of meat and poultry products. Among these are recommendations to (1) conduct surveys to evaluate changes over time in the microbiological status of certain components of processed meats and poultry; (2) expand *E. coli* O157:H7 testing, identify control points for *E. coli* O157:H7 back to the farm level, and inform

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[3] The final rule appeared in 61 *Federal Register* 38805-38855.

[4] The report may be viewed at [http://www.fsis.usda.gov/OPHS/nacmcf/rep_stand.htm].

consumers that even irradiated ground beef must be cooked to a temperature that kills the pathogen; (3) greatly expand generic *E. coli* criteria for, and *Salmonella* performance standards for, beef trim intended for grinding.[5]

***E. coli* O157:H7.** According to the CDC, "*E. coli* O157:H7 is one of hundreds of strains of the bacterium Escherichia coli. Although most strains are harmless and live in the intestines of healthy humans and animals, this strain produces a powerful toxin and can cause severe illness. *E. coli* O157:H7 was first recognized as a cause of illness in 1982 during an outbreak of severe bloody diarrhea; the outbreak was traced to contaminated hamburgers. Since then, most infections have come from eating undercooked ground beef."[6]

In October 1994, FSIS began testing samples of raw ground beef for *E. coli* O157:H7 and declared that any such product found with this pathogen would be considered adulterated — the first time a foodborne pathogen on raw product was declared an adulterant under the meat inspection law. Industry groups immediately asked a Texas federal court for a preliminary injunction to halt this effort, on the grounds that it was not promulgated through appropriate rulemaking procedures, was arbitrary and capricious, and exceeded USDA's regulatory authority under law. In December 1994, the court denied the groups' request, and no appeal was filed, leaving the program in place. FSIS has taken tens of thousands of samples since the program began; to date, several hundred samples have tested positive.

In September 2002, FSIS issued a press release stating that "[t]he scientific data show that *E. coli* O157:H7 is more prevalent than previously estimated," and in October 2002 the agency published a notice requiring manufacturers of all raw beef products (not just ground beef) to reassess their HACCP plans and add control points for *E. coli* O157:H7 if the reassessment showed that the pathogen was a likely hazard in the facility's operations. The changes at large operations were required to be complete by December 6, 2002; small plants had until February 4, 2003, and very small plants until April 7, 2003. FSIS inspectors are to verify that corrective steps have been taken and conduct random testing of all beef processing plants, including all grinders (some previously had been exempted). In addition, the agency announced guidelines for grinding plants advising them to increase the level of pathogen testing by plant employees, and to avoid mixing products from different suppliers.[7]

FSIS reported on February 28, 2005, that of 8,010 ground beef samples tested in 2004, 0.17% tested positive for *E. coli* O157:H7, part of the 80% decline in the percentage of positive samples since 2000, when it was 0.86%. FSIS asserted that the reduction reflected the success of its HACCP-based and related regulatory policies.

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[5] This report may be accessed at [http://www.nap.edu/catalog/10690.html].

[6] Background information on this pathogen may be viewed at the following CDC website: [http://www.cdc.gov/ncidod/dbmd/diseaseinfo/escherichiacoli_g.htm#What%20is%20Escherichia%20coli%20O157:H7].

[7] *Federal Register* 67 FR 62325.

A CDC report issued on April 14, 2005, indicated that the incidence of infections caused by *E. coli* O157:H7 had declined significantly from the 1996-98 baseline through 2004.[8]

***Listeria monocytogenes*.** In February 2001, FSIS published a proposed rule to set performance standards that meat and poultry processing firms would have to meet to reduce the presence of *Listeria monocytogenes* (*Lm*), a pathogen in ready-to-eat foods (e.g., cold cuts and hot dogs). The proposal covered over 100 different types of dried, salt-cured, fermented, and cooked or processed meat and poultry products. *Lm* causes an estimated 2,500 illnesses and 499 deaths each year (from listeriosis), and is still the primary cause of meat and poultry product recalls.

The proposed regulations raised a controversy among affected constituencies. The meat industry argued that the benefits to consumers would not outweigh the cost to packers of additional testing. Representatives of food manufacturers criticized the proposed regulations for covering some categories of foods too broadly and heavily, while not covering some other high-risk foods at all (such as milk, which is under FDA jurisdiction). Consumer groups said the proposed rule would not require enough testing in small processing plants and that products not tested for *Lm* should not be labeled "ready-to-eat" because they would still require cooking to be 100% safe.

Interest in the *Listeria* issue had grown in 1998 and 1999, following reports of foodborne illnesses and deaths linked to ready-to-eat meats produced by a Sara Lee subsidiary.[9] Interest increased significantly after October 2002, when Pilgrim's Pride Corporation recalled a record-breaking 27.5 million pounds of poultry lunch meats for possible *Lm* contamination after a July 2002 outbreak of listeriosis in New England. The Centers for Disease Control and Prevention confirmed 46 cases of the disease, with 7 deaths and 3 stillbirths or miscarriages. The recall covered products made as early as May 2002, and officials stated that very little of the meat was still available to be recovered.

In December 2002, FSIS issued a directive to inspection program personnel giving new and specific instructions for monitoring processing plants that produce hot dogs and deli meats.[10] In June 2003, FSIS announced the publication of an interim final rule to reduce *Listeria* in ready-to-eat meats. Rather than set performance standards, as the February 2001 proposed rule would have, the new regulation requires plants that process RTE foods to add control measures specific to *Listeria* to their HACCP and sanitation plans, and to verify their effectiveness by testing and disclosing the results to FSIS. The rule directs FSIS inspectors to conduct random tests to verify establishments' programs. Plants are subject to different

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[8] Data are from the preliminary CDC FoodNet report, which can be viewed at [http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5414a2.htm].

[9] Source: *Food Chemical News*, various issues.

[10] The guidelines can be found on the FSIS website at [http://www.fsis.usda.gov].

degrees of FSIS verification testing depending upon what type of control steps they adopt in their HACCP and sanitation plans.[11]

On January 4, 2005, the Consumer Federation of America (CFA) issued a report sharply criticizing USDA's *Listeria* rulemaking. CFA asserted that the Department essentially adopted meat industry positions in weakening the final rule, such as by deleting proposed plant testing requirements and by not explicitly requiring that HACCP plans include *Listeria* controls. In 2003, *Listeria* illnesses increased by 22%, CFA contended, citing CDC data.[12] USDA and meat industry officials countered that the number of product recalls related to *Listeria* had declined from 40 in 2002 to 14 in 2003, that the rise in *Listeriosis* cases was quite small in 2003 after four years of declines, and that the interim rule provides more incentives for plants to improve safety. The CDC's 2004 FoodNet reported that the incidence of foodborne illness caused by *Listeria* experienced a decline in 2004 after an increase in 2003, with an overall 40% decline from a 1996-1998 baseline.

Large recalls continue, however. On December 10, 2005, FSIS announced that ConAgra Foods was voluntarily expanding — to 2.8 million pounds — a December 1, 2005, recall of approximately 9,550 pounds of various bologna, ham, and turkey lunch meal products, due to possible contamination after cheese provided by a supplier tested positive for *Lm*. Another 28 *Listeria*-related recalls were announced during 2005 (through early December), involving approximately 649,000 pounds of processed meat and poultry products, according to the agency's website.[13]

In Congress. In recent years, bills have been offered to add language to the inspection laws clarifying the Secretary's authority to set enforceable performance standards. These have included S. 1357 and H.R. 3160 in the 109th Congress, and S. 1103 and H.R. 2203 in the 108th Congress.

Funding and Resources

From time to time in the past, FSIS has had difficulty in sufficiently staffing its service obligations to the meat and poultry industries. Usually a combination of factors causes these shortages, including new technologies that increase plant production speeds and volume, insufficient appropriated funds to hire additional inspectors at times of unexpected increases in demand for inspections, and problems in finding qualified people to work in dangerous or unpleasant environments or at remote locations. These staffing problems have been complicated by the addition of HACCP requirements on top of the traditional meat and poultry inspection duties.

To address staffing problems, most administrations over the past 20 years have proposed to charge the meat-packing industry new user fees sufficient to cover the entire cost or a portion of federal inspection services. (FSIS has been authorized

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[11] See the FSIS website for more details on the rule.

[12] CFA website: [http://www.consumerfed.org/].

[13] Updates are at the FSIS website: [http://www.fsis.usda.gov/FSIS_Recalls/index.asp]; a more comprehensive list of FSIS and FDA recalls is at [http://www.recalls.gov/food.html].

since 1919 to charge user fees for holiday and overtime inspections, and does so). The primary rationale for more extensive user fees has been that resources would then be adequate to hire new inspectors as necessary. USDA economists estimate that the cost passed on to consumers from such a fee would be no more than one cent per pound. Meat industry and consumer groups have consistently opposed increased fees, arguing that food safety is a public health concern that merits taxpayer support.

In Congress. FSIS inspection costs are mainly funded in USDA's annual appropriation. The President signed the FY2006 Agriculture Appropriations Act (P.L. 109-97, H.R. 2744) into law on November 10, 2005. This measure provides $837.8 million for FSIS in FY2006, below the President's request for $849.7 million for FSIS but $20.1 million above the FY2005 enacted level of $817.2 million. The Administration had proposed that new user fees cover $139 million of its $849.7 million FSIS request. However, the conference version does not endorse such fees.

When it released its FY2006 budget proposal, the Administration said that it would offer draft legislation to collect the fees to cover inspection costs beyond a plant's single primary approved shift. The Administration has included the expanded user fee proposal in the past three years' budget requests. Congress has not endorsed these proposals. In accompanying report language, the appropriations committees have reminded the Administration that user fee proposals are within the purview of the authorizing committees, not theirs. Income from existing user fees (plus trust funds) will add approximately $123 million to the FSIS program level (beyond appropriated levels) in FY2006, according to USDA.

Within the conference agreement's $837.8 million for FSIS are increases of $2.5 million to upgrade laboratory capabilities to evaluate a broader range of threat agents, $1 million for related training, and $417,000 for biosurveillance. Also within the total is an increase of $2.2 million to enable FSIS to hire 22 additional Consumer Safety Inspectors to help free veterinary-trained inspectors for more critical food safety responsibilities; $2 million for baseline microbiological studies of raw meats and poultry, targeting the prevalence of pathogens and microorganisms as indicators of process control; and $4 million for FSIS to complete incorporation of the Humane Activities Tracking system into all U.S. slaughter plants. The Senate committee report states that its appropriation provides the requested amount to maintain the 63 positions related to enforcement of the Humane Methods of Slaughter Act. The conference agreement designates, within the FSIS total, $20.7 million for regulatory and scientific training.[14]

BSE

Bovine spongiform encephalopathy (BSE, or "mad cow disease") entered the public policy spotlight with the discovery of five native North American cases. The first was announced in Canada in May 2003, and the second in the United States in December 2003 (it too was Canadian-born). Canadian officials confirmed their second and third cases on January 2 and 11, 2005. Then, on June 24, 2005, the

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[14] For more on the FY2006 budget proposal and the congressional response, see CRS Report RL32904, *Agriculture and Related Agencies: FY2006 Appropriations*, by Jim Monke.

United States confirmed the first case in a U.S.-born cow, an older animal from Texas that had first been killed and tested in November 2004. (A positive screening test at that time was not initially confirmed in follow-up tests.)

Although domestic beef demand held following the first Canadian and U.S. announcements, virtually all foreign countries closed their borders first to Canadian and then U.S. beef, reportedly costing the industry several billion dollars in losses.[15]

FSIS is one of the three federal agencies primarily responsible for keeping BSE out of the food supply. The other two agencies involved in BSE are USDA's Animal and Plant Health Inspection Service (APHIS), which handles primarily the animal disease aspects, and FDA, which regulates feed ingredients (cattle consumption of feed contaminated with the BSE agent is considered the primary means of transmission).

After the first U.S. BSE case was discovered in December 2003, FSIS officials declared that any human health risks were minimal, and that no high-risk BSE tissues had entered the food supply. However, they announced, out of "an abundance of caution," a voluntary recall of 38,000 pounds of meat from 20 animals slaughtered at the same plant that day, and acknowledged that some of it likely had been consumed.[16] FSIS also published, as interim final rules in the January 12, 2004, *Federal Register*, several actions to bolster U.S. BSE protection systems, effective immediately:

- Downer (nonambulatory) cattle are no longer allowed into inspected slaughter and processing facilities.

- Cattle selected for testing cannot be marked as "inspected and passed" until confirmation is received that they have tested negative for BSE.

- Specified risk materials (SRM), which include the skull, brain, trigeminal ganglia, eyes, vertebral column, spinal column, and dorsal root ganglia of cattle over 30 months of age, and the small intestine of cattle of all ages, are now prohibited from the human food supply.

- Slaughter facilities are required to develop and implement procedures to remove, segregate, and dispose of SRM and make information readily available for review by FSIS inspection personnel.

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[15] For more detailed discussion of these and other BSE issues, and links to other CRS reports, see CRS Report RS22345, *BSE ("Mad Cow Disease"): A Brief Overview*, by Geoffrey S. Becker.

[16] When the second U.S. case was announced in June 2005, USDA asserted that no material from the affected cow entered the food or feed supply, and its remains were incinerated.

- SRM from cattle 30 months or older cannot be in a product labeled as "meat" if derived from advanced meat recovery (AMR) technology, which USDA said would help ensure it does not contain spinal tissue.

- Mechanically separated meat may not be used for human food.

- Air injection stunning is banned, to ensure that portions of the animal brain are not dislocated into the carcass.

The FSIS actions, which remain in effect, were in addition to other BSE regulatory safeguards that have been in place for several years. These include import controls and ongoing BSE surveillance through carcass testing by APHIS, and restrictions on the feeding of certain mammalian proteins to cattle by FDA.[17] Additional USDA actions in the wake of the December 2003 BSE discovery have included more attention to implementing a nationwide animal identification (ID) program that would enable all cattle and other animal movements to be traced within 48 hours in cases of animal disease; and an intensive, one-time BSE testing program for higher-risk cattle. Through early December 2005, approximately 550,000 had been tested, all negative for BSE (20,000 had been tested in 2003).

USDA and FDA preparation for, and response to, BSE have come under harsh criticism from several fronts. For example, USDA used an import permit system (rather than promulgating rules) to begin admitting some low-risk beef products from Canada in 2003. When in April 2004 USDA expanded the types of allowable Canadian beef imports using this permit system, a federal judge halted the expansion, declaring that the Department had failed to follow proper rulemaking procedures.

When USDA did publish a final rule that would allow more Canadian imports (including imports of younger cattle), the same federal judge in early March 2005 temporarily blocked implementation. The judge's decisions came in response to lawsuits by a national cattle group, Ranchers-Cattlemen Action Legal Fund (R-CALF)-USA. A federal appeals court reversed that ruling, however, and Canadian cattle imports began in July 2005. Others, including the main U.S. cattle producers' group, the National Cattlemen's Beef Association, and meat companies, have generally been supportive of USDA's Canadian import policy.

Also, FDA has been criticized by the Government Accountability Office (GAO) for gaps in its enforcement of the feed rules, and USDA by its Office of Inspector General (OIG) and others over perceived problems in its BSE testing procedures.

In Congress. BSE remains a high priority for many Members of the 109th Congress. In early 2005, for example, a number of them had joined others in calling

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[17] On October 6, 2005, FDA published a proposed rule banning some SRM (mainly brains and spinal cords from cattle 30 months of age and older, and from all cattle not passed for human food) from all animal feeds, including pet food. The agency said its rule would remove those cattle parts responsible for 90% of potential BSE infectivity. The public comment period on this rule ends on December 20, 2005.

for a delay or rescission of the USDA rule to open the border to imports of younger Canadian cattle. On March 3, 2005, the Senate approved a resolution of disapproval (S.J.Res. 4) by a vote of 52-46. However, the necessary House passage (where a similar measure, H.J.Res. 23, was offered) and the President's signature did not ensue in 2005.

Other bills addressing the Canada rule have included H.R. 187, to prohibit the rule "unless United States access to major markets for United States exports of cattle and beef products is equivalent or better than the access status accorded such exports as of January 1, 2003"; and H.R. 384/S. 108, to prohibit the Canada rule unless mandatory retail country-of-origin labeling (COOL) is implemented. (See CRS Report 97-508, *Country-of-Origin Labeling for Foods*, by Geoffrey S. Becker.) S. 294 would prohibit imports (from a minimal risk region like Canada) of meat, meat byproducts, and meat food products from bovines over 30 months old unless the Secretary reports to Congress that the region "is in full compliance with a ruminant feed ban and other [BSE] safeguards." No action was taken on these bills in 2005.

Other BSE-related bills pending in the 109th Congress include S. 73, to ban specified risk material from all animal feeds; S. 135, to include processed as well as fresh meats as COOL-covered commodities, and to advance implementation to September 30, 2005; and several more bills to reinstate an earlier implementation date for mandatory COOL (S. 2038, S. 1331, H.R. 4365). On the other hand, the FY2006 USDA appropriation (P.L. 109-97) now delays mandatory COOL until September 30, 2008, and additional proposals are pending (H.R. 2068, S. 1300, S. 1333) to replace the mandatory program for meats with a voluntary program.

Elsewhere, pending S. 1922/H.R. 4179 would impose $3.14 billion in retaliatory tariffs on Japanese imports if Japan did not lift the beef ban by December 15, 2005. Another pending bill aimed at strengthening the FDA "feed ban" is S. 2002.

Food Security and Emergency Preparedness

Since September 11, 2001, concern has been voiced about the potential for terrorist attacks on U.S. agriculture and the food supply through intentional contamination by organisms or chemicals injurious to crop, animal, or human health. FSIS's Food Biosecurity Action Team (F-BAT) has conducted mock exercises to improve response time and communication in emergency situations. FSIS made security guidelines available to food processors in August 2002; it unveiled its new Food Emergency Response Network (FERN) Division on February 15, 2005 (accessible on the FSIS website). Also, USDA on April 14, 2005, announced the availability of model food security plans and training for meat and poultry plants to help strengthen security measures and prevent potential acts of intentional contamination. The Food Threat Preparedness Network (PrepNet) is a joint FSIS/FDA group that works on threat prevention and emergency response.

In Congress. Protecting the U.S. food supply from acts of terrorism or other intentional contamination has been among the many facets of the ongoing congressional debate on homeland security since September 2001. For example, Congress, through various funding measures, has provided FSIS new monies to conduct the increased oversight of meat and poultry safety, some of which is

described above. In the 109th Congress, S. 572 and S. 573 are intended to improve federal responsiveness to agroterrorism and to give added agricultural biosecurity responsibilities to the Department of Homeland Security. Pending S. 1534 would require USDA regulations for stronger measures to prevent both unintentional and intentional contamination of meat and meat products, poultry and poultry products, eggs and egg products, in USDA-regulated establishments.[18]

Humane Slaughter

Under the Federal Meat Inspection Act, FSIS inspectors are responsible for enforcing the Humane Methods of Slaughter Act (HMSA; 7 U.S.C. 1901-1906). This act requires that all livestock (but not poultry) be rendered unconscious before slaughter. FSIS inspectors have the authority to stop slaughter lines and order plant employees to take corrective actions to ensure compliance with the act.

Concerns have persisted about FSIS enforcement of compliance with the HMSA regarding healthy, ambulatory animals. These concerns arose in early 2002 when media reports alleged widespread violations of the act, which prompted a number of administrative and congressional actions. In February 2002, FSIS placed 17 veterinarians in its district offices, specifically to monitor humane slaughter and handling procedures and to report to headquarters on compliance.

On January 31, 2004, GAO released a report to Congress stating that it had found it difficult to assess FSIS's performance on enforcing the act because of incomplete and inconsistent inspection records (GAO-04-247, *Humane Methods of Slaughter Act: USDA Has Addressed Some Problems but Still Faces Enforcement Challenges)*. GAO also reported that inspectors' knowledge of regulatory requirements varied, documentation did not consistently reflect the scope and severity of incidents, and enforcement action varied depending upon whether it was one animal or several that had not been rendered completely unconscious by stunning. FSIS issued new guidelines to its field personnel in November 2003, and indicated it would follow up on GAO's recommendations for improvement. On September 9, 2004, the agency published a *Federal Register* notice outlining a "systematic approach" to meeting humane slaughter requirements.

In Congress. The conference agreement on the 2002 farm act (P.L. 107-171, H.Rept. 107-424) expresses the sense of Congress that FSIS should fully enforce the HMSA and report the number of violations to Congress annually.[19] In the FY2003 omnibus appropriation act (P.L. 108-7), Congress designated $5 million of FSIS funding specifically for hiring 50 additional inspectors to oversee the agency's compliance. Language in the FY2004 consolidated appropriations act (P.L. 108-199) directed FSIS to continue this process.

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[18] For more information on FSIS and other federal funding for these activities, see CRS Report RL32521, *Agroterrorism: Threats and Preparedness*, by Jim Monke. The FSIS Food Security and Emergency Preparedness Website is at [http://www.fsis.usda.gov/food_security_&_emergency_preparedness/index.asp].

[19] Section 10305 of P.L. 107-191, the Farm Security and Rural Investment Act of 2002.

The FY2005 consolidated appropriations act (P.L. 108-447) directed that no less than 63 full-time equivalent positions (above the FY2002 level) be devoted to enforcement of the HMSA, and that $3 million be provided to incorporate the agency's Humane Animal Tracking system into its field computer systems. Also in the act, as part of the FSIS total, are $17.3 million combined for frontline inspectors and humane slaughter enforcement. The FY2006 appropriation (P.L. 109-97) provides $4 million for FSIS to complete incorporation of the tracking system into all U.S. slaughter plants. The Senate committee report states that its appropriation provides the requested amount to maintain the 63 positions related to humane slaughter enforcement.

Until recently, the issue of humane slaughter has been closely connected with the issue of humane treatment of downer cattle at federally inspected slaughtering facilities and other locations. During action on the FY2004 agriculture appropriations bill in the 108th Congress, lawmakers debated amendments that would have amended the 2002 farm act to require that downed animals at stockyards, market agencies, livestock dealer facilities, and slaughter facilities be euthanized immediately and barred from federal inspection. The Senate adopted the downed animal provision in its funding bill, but it was dropped in conference.

During floor debate on the FY2006 appropriation, the Senate again approved an amendment, by Senator Akaka, to prohibit nonambulatory livestock from being used for human food. The House bill lacked such a ban, and it was dropped by conferees. The Akaka amendment would have applied not only to cattle, but also to any sheep, swine, goats, horses, mules, or other equines unable to stand or walk unassisted at inspection.

The January 2004 USDA regulatory ban on slaughtering downers for human food was adopted in response to BSE concerns, but some Members of Congress have remained interested in writing the ban into law. Such bills In the 108th Congress included H.R. 2519/S. 1298. Measures in the 109th Congress to codify a downer ban are S. 1779 and H.R. 3931. Legislative proposals to include poultry under the humane slaughter act were introduced in the 102nd through 104th Congresses, but no action was taken.

Nearly 66,000 U.S. horses were slaughtered for human food in 2004, mainly for European and Asian consumers. Debate has focused on the acceptability of this practice, and whether existing facilities could provide sufficient care for such horses if they no longer went for human food. The 109th Congress has been debating whether to ban such slaughter and (in the FY2006 appropriation) limited USDA's FY2006 funding for slaughter inspectors, but the practice could continue if other funding sources are found. Also the funding ban expires at the end of FY2006. Pending bills on this issue include H.R. 503/S. 1915, which would amend the Horse Protection Act to prohibit any movement of or commerce in horses and other equines to be slaughtered for human consumption.[20]

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[20] See CRS Report RS21842, *Horse Slaughter Prevention Bills and Issues*, by Geoffrey S. Becker.

Meat Traceability

On September 30, 2003, USDA's OIG released an audit report on a 2002 meat recall by Con Agra (see "*E. coli* O157:H7," below). The report recommends "that FSIS reassess its management control process over ... recall operations ... by ensuring that ground beef is traceable from manufacturing to point-of-sale and that adequate production records are maintained to facilitate traceback." The issue has also been debated in connection with protecting against BSE and against terrorism; verifying the U.S. origin of live cattle and meat products for export; and facilitating recalls to prevent or contain foodborne illness outbreaks, among other things.

Supporters of animal ID and meat traceability point out that most major meat-exporting countries already have domestic animal ID systems. The U.S. meat industry argued in the past that such a system would not be based on sound science, and would be technically unworkable. However, since the domestic BSE case, the industry, USDA, and some Members of Congress have been actively pursuing adoption of a national animal ID (but not meat traceability) system, focused on animal disease control rather than food safety *per se*. Among other issues are cost, need for a mandatory rather than voluntary system, potential producer liability, and privacy of records.

In Congress. Several bills intended to create an animal ID and tracking system were introduced in the second session of the 108th Congress, but not adopted. H.R. 1254 has been offered in the 109th Congress, which would require the establishment of an electronic nationwide livestock identification system. H.R. 1256 deals with protecting the information provided by producers from unauthorized scrutiny and use. H.R. 3170 would create a "Livestock Identification Board" with voting members from industry to oversee a national program.[21]

Recall and Enforcement Proposals

Currently, the Agriculture Secretary must go to the courts to obtain an order to seize and detain suspected contaminated products if a firm refuses to issue a recall voluntarily. The GAO has criticized agencies' efforts to ensure that companies carry out recalls quickly and efficiently, particularly of products that may carry severe risk of illness. For example, an October 2004 GAO report concluded that the agencies do not know how well companies are carrying out recalls and are ineffectively tracking them. As a result, most recalled items are not recovered and thus may be consumed, GAO reported.[22]

At past hearings, consumer and food safety advocacy groups have testified in favor of obtaining these new enforcement tools to improve food safety in general, and to strengthen USDA's enforcement of the new HACCP system in particular. These groups have asserted that civil fines would serve as an effective deterrent and could

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[21] See CRS Report RL32012, *Animal Identification and Meat Traceability*, by Geoffrey S. Becker.

[22] *Food Safety: USDA and FDA Need to Better Ensure Prompt and Complete Recalls of Potentially Unsafe Food*, GAO-05-51.

be imposed more quickly than criminal penalties or the withdrawal of inspection. They also have argued that the authority to assess civil penalties would permit USDA to take stronger action against "bad actors" — processors who persistently violate food safety standards. Food safety advocates argue that FSIS should have the authority to mandate product recalls as a backup guarantee in case voluntary recalls moved too slowly or were not comprehensive enough.

Meat and poultry industry trade associations have testified in opposition to granting USDA new enforcement powers. Both producers and processors argue that current authorities are sufficient and that only once has a plant refused to comply with USDA's recommendation to recall a suspected contaminated product. Industry representatives have testified that USDA's current authority to withdraw inspection, thereby shutting down a plant, is a strong enough economic penalty to deter potential violators and punish so-called bad actors. Furthermore, they say, new enforcement powers would increase the potential for plants to suffer drastic financial losses from suspected contamination incidents that could ultimately be proven false. Some observers argue that much still needs to be done to educate consumers and restaurateurs about safe meat and poultry handling and cooking practices.

In August 2004, the consumer group Center for Science in the Public Interest (CSPI) began a national campaign to urge USDA to publicize the names of retail outlets where recalled meat has been distributed, so that consumers can learn more quickly whether they have purchased potentially contaminated products. USDA and industry leaders contend that distribution records are proprietary, and exempt from provisions of the Federal Freedom of Information Act; such information, they argue, should be limited mainly to public officials so that they can monitor recalls. The California legislature in August 2004 passed a bill (SB 1585) to require food companies and public agencies to make recall information more widely available. However, the governor vetoed the bill.

In Congress. Bills to enhance the effectiveness of meat and poultry recalls have been introduced in successive Congresses. In the 108th Congress, for example, bills were proposed to authorize FSIS to recall suspected contaminated products directly if the product owner did not comply with the agency's request for a voluntary recall. Another bill would have given FSIS the authority to impose substantial civil money penalties on slaughtering and processing operations that violated the meat and poultry inspection laws and regulations. These measures did not advance beyond their committees. In the 109th Congress, S. 1534 would provide USDA with mandatory recall authority. Separately, language in the conference report to accompany the FY2005 appropriation for USDA (P.L. 108-447; H.Rept. 108-792) commends FSIS for beginning to include, in its meat and poultry recall notices, photographs of recalled products and website addresses of their manufacturers. Conferees urged the agency to continue this practice and also to ask manufacturers to voluntarily provide information on retail locations of recalled products, for inclusion in the releases.

Single Food Agency

U.S. food safety oversight, while concentrated in FSIS and FDA, is spread among 15 agencies operating under a variety of statutes. This complex system is

supplemented by many state food safety programs. GAO, which has looked at the matter several times, noted in a recent report that the federal food safety system "emerged piecemeal, over many decades, typically in response to particular health threats or economic crises. The result is a fragmented legal and organizational structure that gives responsibility for specific food commodities to different agencies and provides them with significantly different authorities to enforce food safety laws."[23] Besides GAO, the National Academy of Sciences and the National Commission on the Public Service have studied the issue and recommended options for change.[24]

Legislative proposals have been offered to reorganize and/or consolidate this food safety structure, and the laws underpinning it. In examining such proposals, Congress could be asked to address a range of policy questions including whether the current disparate regulatory approaches and their authorizing statutes remain appropriate, particularly given the diversity of food types, their different health risks, their methods of production, and their sources of supply; the continuously evolving science on foodborne illness and how to prevent it; and funding constraints, among other things.

In Congress. In the 109th Congress, companion bills (H.R. 1507, S. 729) have been introduced which would combine federal food safety programs, including meat and poultry inspection, under a new Food Safety Administration. The bill's chief sponsors had introduced legislation (H.R. 5259, S. 2910) with a similar purpose in the 108th Congress.

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[23] *Food Safety: Experiences of Seven Countries in Consolidating Their Food Safety Systems*, GAO-05-212, February 2005.

[24] See National Research Council, Institute of Medicine, *Ensuring Safe Food From Production to Consumption*, Washington, D.C., National Academy Press, 1998; and National Commission on the Public Service, *Urgent Business For America: Revitalizing the Federal Government For the 21st Century*, Washington, D.C., 2003.