Order Code RL32012

Animal Identification and Meat Traceability

Updated March 29, 2005

Geoffrey S. Becker
Specialist in Agricultural Policy
Resources, Science, and Industry Division

Animal Identification and Meat Traceability

Summary

Animal identification (ID) refers to marking individual or groups of farm animals so that they can be tracked from birth to slaughter. Animal ID is one segment of meat traceability, generally the tracking of identifiable products through the entire marketing chain to the ultimate consumer. Animal ID and meat traceability have been suggested as potentially useful tools in animal health, food safety, quality assurance, or country-of-origin labeling programs.

No nationwide comprehensive U.S. animal ID system is yet in place, although many producers do keep records on each of their animals for herd management purposes and/or as part of animal disease programs. Interest in a comprehensive system has intensified in the wake of such developments as discoveries of bovine spongiform encephalopathy (BSE or "mad cow disease") in several North American cows, debate over mandatory country-of-origin labeling (COOL) for meats and other products, and ongoing concerns about bioterrorism.

A government-industry group worked for several years on a national animal ID system, with animal health its primary purpose. In 2004, USDA took the lead in this effort, shortly after the December 2003 discovery of BSE in a U.S. cow born in Canada. A key goal is the ability to identify all animals and premises potentially exposed to a foreign animal disease within 48 hours of its discovery. Policy issues have revolved around whether it should be mandatory, privacy issues, program cost, and who should pay. There is also some interest in a more extensive system that could trace meats to their birth animals, where concerns also include the economic impacts on producers and those who process and market meat products.

In the first session of the 108th Congress, much of the debate over expanded animal ID had occurred within the context of COOL. The 2002 farm bill (P.L. 107-171) required many retailers to provide country-of-origin information on a number of raw products, including fresh and ground beef, pork, and lamb, starting September 30, 2004. The consolidated FY2004 omnibus appropriation (P.L. 108-199, H.Rept. 108-401) postpones mandatory COOL for two years for all covered commodities, except farmed fish and wild fish, to September 30, 2006.

In reviewing COOL, lawmakers have learned more about how animal ID can be used for other purposes, most notably to deal with animal diseases like BSE. They also have become more aware of trade implications surrounding animal ID and meat traceability. As of late March 2005, two animal ID bills had been introduced in the 109th Congress: H.R. 1254, the National Farm Animal Identification and Records Act, and H.R. 1256, to limit animal ID information disclosure. In the 108th Congress, proposals to establish animal ID programs included S. 1202/H.R. 3546, the Meat and Poultry Products Traceability and Safety Act of 2003; S. 2007/H.R. 3714 [Section 5(b)], the Ruminant Identification Program; S. 2008, the National Farm Animal Identification and Records Act; H.R. 3787, also titled the National Farm Animal Identification and Records Act; H.R. 3822, the National Livestock Identification Act, and S. 2070/H.R. 3961, the United States Animal Identification Plan Implementation Act. This report will be updated if events warrant.

Contents

Animal Identification and Meat Traceability

Overview

U.S. animal agriculture is seeking to improve its capability to trace the movement of livestock and meat products from their sources through the marketing chain. Is a national system needed? Should it be mandatory? What would it cost, and who pays? The livestock and meat industries have discussed these questions for some time, and an industry-government working group began developing a national animal identification (ID) plan for livestock disease tracking purposes. It has stated that the health of U.S. herds "is the most urgent issue ... and therefore, is the most significant focus" of its proposed plan.[1]

National interest has intensified in the wake of such developments as the discovery of bovine spongiform encephalopathy (BSE or "mad cow disease") in several North American cows, and ongoing concerns about bioterrorism. Implementation of a new mandatory country-of-origin labeling (COOL) law for meats and other products also has fueled interest in increased animal ID capabilities (but was not a focus of the industry-government working group).

This report focuses on animal ID and meat traceability. However, traceability, and the somewhat different but related concepts of "identity preservation" and "product segregation," also pertain to other agricultural products (e.g., grains) and issues (e.g., genetically modified, or GM, crops; the labeling of GM foods; and the production and labeling of organic foods). Several sources cited below, including the U.S. Department of Agriculture's (USDA's) Economic Research Service (ERS) and *Choices* articles (see footnote 1) and a recent Sparks study (see footnote 5), cover traceability in more breadth.

What Are Animal Identification and Meat Traceability?

Animal ID refers to the marking of individual farm animals, or a group or lot of animals, so that they can be tracked from place of birth to slaughter. Many producers already know, and keep records on, the identities of each animal. In addition, many animals have been identified as part of official disease eradication or control programs. However, no nationwide U.S. marking system, backed by universal numbering and a central data registry, is in place yet.

---

[1] National Identification Development Team, *U.S. Animal Identification Plan*, December 23, 2003, p. 2. Other sources for portions of this report include USDA Economic Research Service (ERS), "Traceability for Food Marketing & Food Safety: What's the Next Step?" in the January-February 2002 *Agricultural Outlook*; Elise Golan and others, "Traceability in the U.S. Food Supply: Dead End or Superhighway?" in the June 2003 *Choices* magazine; and interviews with various USDA and animal industry officials.

Animal ID is one component of ***meat traceability***. Traceability is the more comprehensive concept of tracking the movement of identifiable products through the marketing chain. An extensive form of meat traceability is the ability to follow products forward from their source animal (i.e., birth or ancestry), through growth and feeding, slaughter, processing, and distribution, to the point of sale or consumption (or backward from the consumer to the source animal). Traceability can be used to convey information about a product, such as what it contains, how it was produced, and every place it has been.

Animal ID and meat traceability are not themselves food safety, animal disease prevention, quality assurance, or country-of-origin labeling programs. However, they may be important components of such programs.

Reasons for Animal Identification and Meat Traceability

Commercial Production and Marketing Functions. Animal producers and food suppliers already have at least some capacity for tracing products. Many farmers and ranchers keep track of individual animals and how they are being raised. Traceability can help them to identify and exploit desirable production characteristics, such as animals that can grow more rapidly on less feed or that yield a better cut of meat. Universal bar codes on processed food, including many meats, are widely used for tracking. Traceability helps to coordinate shipments, manage inventories, and monitor consumer behavior. Some consumers prefer meat (or eggs or milk) from animals raised according to specified organic, humane treatment, or environmental standards. Traceability can help firms to separate, and keep records on, these unique products to verify production methods. However, in the commercial market, producers benefit (and will provide such products) only to the extent that demand exists.

Animal Health. Animal ID can help to track down more quickly the source of diseases in U.S. herds (or flocks) in order to eradicate them and prevent their spread. In the growing global marketplace, surveillance and containment, aided by a traceability system, can both reassure foreign buyers about the health of U.S. animals and help to satisfy other countries' sanitary and phytosanitary (SPS) import requirements. When used in animal health programs, ID and tracing systems are likely to have both commercial and regulatory dimensions. USDA's Animal and Plant Health Inspection Service (APHIS) is the lead federal agency charged with protecting U.S. animal populations from diseases and pests. APHIS works cooperatively with foreign and state animal health authorities and with the private sector in such efforts.

Food Safety. USDA's Food Safety and Inspection Service (FSIS) is responsible for protecting the public against unsafe meat and poultry. The Food and Drug Administration (FDA) oversees the safety of all other foods and also regulates animal feeds. Both collaborate with APHIS and other federal and state agencies to protect the food supply from the introduction, through animals, of threats to human health, such as tuberculosis; the four major bacterial foodborne illnesses, *Campylobacter, Salmonella, Listeria,* and *E. coli* O157:H7; and the human form of BSE, a very rare but fatal one known as variant Creutzfeldt-Jakob Disease (vCJD). Generally, when local health officials can link an illness to a particular product, firms

and their regulators have been able to trace that product back to the processor and/or slaughter facility. It is more difficult and costly, though technically feasible, to determine which particular animals, herds, or flocks were the source of the problem. A rigorous traceback and animal ID system would not prevent safety problems (process controls, testing, and other science-based food safety regimes are intended to do that), but it could facilitate recalls, possibly contain the spread of an illness, and help authorities stem future incidents, according to some analysts. Besides building public confidence in the U.S. food safety system, improved traceability may enable firms to limit their legal and financial liabilities, it has been argued. Thus food safety also has both commercial and regulatory dimensions.[2]

Country-of-Origin Labeling. Section 10816 of the 2002 farm bill (P.L. 107-171) required many retailers to provide country-of-origin information on a number of raw products, including fresh and ground beef, pork, and lamb (produce, seafood, and peanuts also are covered). USDA was to implement the requirement by September 30, 2004; until then COOL was voluntary. However, the consolidated FY2004 omnibus appropriation (P.L. 108-199, H.Rept. 108-401) postpones mandatory COOL for two years for all covered commodities, except farmed fish and wild fish, to September 30, 2006. Under the COOL law, meats labeled as U.S. origin must come from animals that are born, raised, and slaughtered in the United States. The COOL law prohibits USDA from establishing a mandatory ID system to verify country of origin, but it does permit USDA to require persons supplying covered commodities to maintain a "verifiable audit trail" to document compliance. Some analysts have concluded, therefore, that COOL could spur efforts to trace red meats back to their birth animals. (Poultry is not covered by the COOL law.)[3]

Current U.S. Programs

Animal ID dates back at least to the 1800s, when hot iron brands were used throughout the West to indicate ownership. The methods of (and reasons for) identifying and tracking animals and their products have evolved since then and, as noted, are employed for both commercial and regulatory purposes.

By the mid-1900s, APHIS and its predecessor agencies were using tags, tattoos and brands more widely, mainly to identify, track, and remove animals affected by disease outbreaks. Current ID methods include ear, back, and tail tags; neck chains, freeze brands, and leg bands. Some producers use radio frequency ID (RFID) transponders with information that is read by scanners and fed into computer databases. For interstate swine movements, mandatory ID requirements have been in place since 1988 for disease control purposes. Most hogs are tracked by group, not individually, and most slaughter plants can identify the owners of the animals under this system. Sheep moved across state lines also are required to be identified.

Brucellosis is a highly contagious and costly disease mainly affecting cattle, bison, and swine. Once it was common in the United States, and uniquely numbered

---

[2] See CRS Issue Brief IB10082, *Meat and Poultry Inspection Issues*; and CRS Issue Brief IB10127, *Mad Cow Disease: Agricultural Issues for Congress*.

[3] See CRS Report RS97-508 ENR, *Country-of-Origin Labeling for Foods*.

brucellosis ID tags were routinely found on animals, with information that they had been vaccinated and/or tested. Today brucellosis has largely been eradicated in commercial U.S. herds. APHIS also has eradication or control programs for tuberculosis, scrapie in sheep, pseudorabies in swine, Texas fever and scabies in cattle, and several poultry diseases, including Exotic Newcastle Disease (END). In each of these programs, APHIS has established rules and procedures to identify and track animals, herds, or flocks back to their origin, if necessary.

Government-coordinated programs have been established for other purposes besides animal health. For example, a voluntary process verification program operated by USDA's Agricultural Marketing Service (AMS) "provides livestock and meat producers an opportunity to assure customers of their ability to provide consistent quality products by having their written manufacturing processes confirmed through independent, third party audits," according to AMS. USDA Process Verified suppliers can have marketing claims such as breeds, feeding practices, or other claims verified by USDA and marketed as "USDA Process Verified." Other programs employing varying levels and types of traceability include the domestic origin requirement imposed on all suppliers of USDA-purchased commodities and products used in such programs as school lunch and food distribution to needy families and institutions, and the national organic certification program.[4]

Together, such activities might be viewed as a national ID system, but there are significant gaps. Generally, as disease programs succeed, fewer animals receive tags. For example, the animal ID working group reported that fewer than 4 million U.S. calves (about 10% of the total) are vaccinated for brucellosis and tagged (only female calves are vaccinated). Also, current ID programs may provide only limited information — for example, not all of an animal's locations between the farm and slaughterhouse may be documented.[5] None of the programs are set up to denote place of birth, analysts say.

Although U.S. regulators and producers usually can locate where a product was processed or the movements of many farm animals, it can be tedious and time-consuming, taking weeks or months in some situations. That's because the different animal ID and traceability systems now in place have been implemented independently of each other, may be "paper trails" which take time to follow, have divergent and sometimes conflicting purposes, and collect disparate types of information, according to industry experts.

---

[4] For more information, see the AMS website at [http://www.ams.usda.gov/]. Also see "Foreign Trade Considerations," below, for information on AMS's Beef Export Verification Program.

[5] *National Identification Work Plan* (November 2002 version). Also see Sparks Companies, Inc., *Linking the Food Chain: Sharing Information and Verifying Sources, Materials, and Processes Across Traditional Boundaries*, November 2002 multi-client study.

Development of a National Identification Plan

U.S. Animal Identification Plan. To help fill perceived gaps, industry and government officials began in early 2002 to draft a national system to identify and follow animals from birth to slaughter. A National Food Animal Identification Task Force was formed to prepare a work plan, facilitated by the National Institute for Animal Agriculture (NIAA). On October 22, 2002, the plan was accepted by the U.S. Animal Health Association (USAHA, representing state veterinarians and allied industry groups). USAHA asked APHIS to organize a government-industry team (now named the National Identification Development Team) to develop a more detailed animal ID system, using the work plan as a guide, including a timetable, for presentation at and approval by the USAHA meeting in October 2003. The task force utilized more than 100 professionals from approximately 70 agencies and organizations, led by an eight-person steering committee.

The U.S. Animal Identification Plan (USAIP) as published on December 23, 2003, stated in part: "Maintaining the health of the U.S. animal herd is the most urgent issue for the industry and is the focus of the plan." A key goal has been the ability to identify all animals and premises potentially exposed to a foreign animal disease within 48 hours of its discovery. The plan called for recording the movement of individual animals or groups of animals in a central database or in a "seamlessly linked" database infrastructure. APHIS would oversee animal ID activities in cooperation with state animal health authorities and producers for this disease tracking purpose.[6]

The proposed work plan envisioned by USAIP first called for all states to have a premises identification system by July 2004. Such a system could identify individual animal premises (e.g., farm, feedlot, auction barn, assembly point, processing plant) and provide each with a unique ID number. Among other steps in the plan, all cattle, swine, and small ruminants were to possess individual or group/lot identification for interstate movement by July 2005. All animals of the remaining species/industries were to be in similar compliance by July 2006.[7]

The APHIS roles would be to allocate premises and animal numbers, and to coordinate data collection, to be used for animal disease purposes only. As the last draft USAIP was being published, USDA also was announcing the discovery of BSE in a Washington state cow. Shortly after that, the department assumed a more prominent role in the animal ID effort. However, the timetable for instituting such a system has slowed rather than accelerated (see below).

USDA Activity.[8] At a December 30, 2003, press conference, Agriculture Secretary Veneman announced a series of initiatives aimed at restoring public and foreign confidence in the safety of U.S. beef and cattle. One of these initiatives was

---

[6] To view that draft plan, see the animal ID website at [http://www.usaip.info].

[7] USAIP stated that animal ID should be available for "all animals that will benefit from having a system to facilitate rapid traceback/traceout in the event of disease concern."

[8] For details on USDA activities see [http://animalid.aphis.usda.gov/nais/index.shtml].

to be the accelerated implementation of a verifiable system of national animal identification. On April 27, 2004, the Secretary announced what she called "the framework for implementation" of the national ID plan, in three phases. Under Phase I, USDA would evaluate current federally funded animal ID systems (see below) and determine which system(s) should be used; "further the dialogue with producers and other stakeholders on the operation" of a national program; identify staffing needs; and develop any needed regulatory and legislative proposals.

Phase II would involve "implementation of the selected animal identification system at regional levels for one or more selected species, continuation of the communication and education effort, addressing regulatory needs and working with Congress on any needed legislation." Phase III would take the selected system(s) to the national level.

In FY2004, $18.8 million was transferred from USDA's Commodity Credit Corporation to begin implementation. On June 16, 2004, USDA provided nearly $12 million of the total for cooperative agreements with states and tribal governments, to begin registering premises and to conduct research and data collection. USDA asked for and received another $33 million for its animal ID activities in FY2005, and the Administration requested the same amount for FY2006. Also in 2004, the department held animal ID "listening sessions" around the country.

According to USDA's website on its National Animal Identification System (NAIS), "The NAIS builds upon aspects of the USAIP and is the program that USDA is moving forward with in implementing national animal and premises identification. USDA will continue to seek industry input as the NAIS progresses." As of mid-March 2005, 37 states and five tribal organizations had the capability of registering premises using NAIS standards, according to USDA. These standards are based on the so-called Standardized Premises Registration System initially developed by the Wisconsin Livestock Identification Consortium.

However, the assignment of ID numbers to individual animals — even for cattle — is not expected for some time, certainly not by the July 2005 date once anticipated under the USAIP. Full implementation is possibly several years away, according to some industry observers.

Earlier USDA-Funded Pilots. USDA already was funding other animal ID pilot projects. For example, the National Farm Animal Identification and Records (FAIR) Program, administered by the Holstein Association USA, Inc., developed a database identifying animals on thousands of dairy and livestock farms, most of them in Michigan. USDA also has funded ID pilots in Michigan for cattle tuberculosis; in Wisconsin for the Animal Identification and Information System ("A-II") for all species; and in several other states.[9]

---

[9] Bill Hawks, Under Secretary of Agriculture, March 4, 2004, testimony before the Marketing, Inspection, and Product Promotion Subcommittee of the Senate Agriculture Committee. Also, National Farm Identification and Records, "National FAIR Traces Animals from Birth to Slaughter, Critical to Future of Livestock Industry," December 30,

(continued...)

Foreign Trade Considerations

Japanese Trade Concerns. After the May 2003 Canadian BSE discovery (but before the U.S. case seven months later), Japanese officials said they would require proof that beef shipped from the United States was not of Canadian origin. Japan had been the number one foreign market, purchasing 36%-37% of all U.S. beef exports in recent years (USDA data). Korea, which purchased 21%-24% of all U.S. beef exports in recent years, also asked for origin verification. (Japan also is the top importer of U.S. pork.) Japan's impending requirement had complicated U.S. deliberations on whether and when to reopen its own border to Canadian beef and/or cattle and other ruminants. The U.S. border was closed to such Canadian imports after the BSE case was confirmed. It has since been reopened to some products, like boneless beef from younger animals, that USDA determined were of lower risk. (A pending rule to also permit imports of younger Canadian cattle was delayed in early 2005 by a legal challenge brought by some U.S. cattlemen.)

Hoping to satisfy Japanese (and Korean) demands, the department unveiled in August 2003 a new "Beef Export Verification" (BEV) program as a voluntary, user-fee funded service. Exporters desiring to sell beef to Japan (or any other country that may request similar documentation) could apply for BEV certification from AMS after satisfying a list of requirements so that the agency can verify that their beef is from U.S. cattle.[10] As noted, BEV is considered voluntary, even though at the time it was widely viewed as a minimum prerequisite for retaining access to the Japanese and perhaps other foreign markets. After the December 23, 2003, announcement of a U.S. BSE cow, Japan was among the many countries suspending imports of U.S. cattle, beef, and related products.

Since then, U.S. negotiators have been working to regain the Japanese market. On October 23, 2004, the two countries announced that they had made progress in negotiations to resume two-way beef trade. According to a joint statement, the United States will among other things establish, with Japanese concurrence, a marketing program — a modified version of the BEV program. It would certify that only beef from cattle of 20 months or younger are shipped. Japanese authorities, who have reported 16 cases of BSE in their cattle, in early 2005 were considering a plan to scale back their universal BSE testing from all cattle to only those over 20 months old, considered a prerequisite to granting final approval to the October agreement.[11]

However, U.S. industry may have difficulty satisfying the Japanese requirements, some industry observers believe. Roughly 70% of the 35 million U.S. cattle each year are believed by USDA to be 20 months of age or younger, but

---

[9] (...continued)
2003, press release; and undated "National FAIR Fact Sheet."

[10] For details, see [http://www.ams.usda.gov/bevprocedures.pdf].

[11] See for example: "Joint Press Statement for the Resumption of Trade in Beef and Beef Products," by the Government of United States and the Government of Japan, October 23, 2004, accessed on the internet through: [http://www.usda.gov/].

verifiable age records may only be available for anywhere from 10% to 25% of cattle, according to various estimates. The two sides also have been working on an alternative method of establishing age, using USDA meat grades.

U.S. Needs? Russell Cross, Vice President of DuPont Food Industry Solutions and a former FSIS administrator, has called the lack of mandatory national animal ID the United States' "greatest weakness." He had predicted the loss of the Japanese and Korean markets unless the United States moved quickly and aggressively. Separately, an international team examining Canada's BSE investigation emphasized the need for mandatary ID, and observed that the lack of such a system prior to Canada's adoption of one in 2001, "contributed to the need for extended [herd] depopulations." Some 2,800 animals were killed. *Cattle Buyers Weekly* commented: "One can only shudder at how long a BSE investigation in the U.S. might take with no national ID system, say observers."[12]

In fact, the first U.S. BSE case was a Holstein dairy cow with a metal ear tag containing an identifying number. That enabled authorities within several days to trace its likely movements and origin, to a herd in Alberta, Canada. Dairy farmers often have more extensive information about individual animals for milk production, breeding, feeding, and related purposes.

However, U.S. authorities announced on February 9, 2004, that they were ending their BSE field investigation after identifying only 28 of 80 cows that had entered the United States from Canada with the BSE cow. "We feel confident that the remaining animals represent very little risk. Even in countries like the United Kingdom where the prevalence of BSE has been very high, it is very uncommon to find more than one or maybe two positive animals within a herd," they explained.[13]

An international panel of experts that USDA asked to review its handling of the BSE case agreed that the number of infected cattle from that imported herd was probably small. The panel added that USDA's failure to find every animal "is a problem faced by all countries which do not have an effective animal traceability system." It encouraged "the implementation of a national identification system that is appropriate to North American farming."[14]

According to the November 2002 version of the *National Identification Work Plan*, "Other countries are rapidly developing systems that are already being used as technical barriers to trade. These systems are rapidly becoming the world standard. To avoid the loss of international markets, the United States needs to be consistent with the animal tracking systems of our international trading partners.... As our export potential grows, the need to quickly trace suspected foreign or emerging diseases will be more important than ever."

---

[12] *Cattle Buyers Weekly*, June 16, 2003.

[13] USDA press release, "Final BSE Update — Monday, February 9, 2004."

[14] Secretary's Foreign Animal and Poultry Disease Advisory Committee's Subcommittee. *Report on Measures Relating to Bovine Spongiform Encephalopathy (BSE) in the United States*. February 2, 2004. Animal ID was one of a number of its policy recommendations.

Foreign ID Systems.[15] The ***European Union (EU)***, where BSE cases have been concentrated (most in the United Kingdom), now has extensive mandatory programs. All cattle born or moved across EU state lines as of 1998 must be tagged with a unique registration number. EU states must maintain computerized databases that note births, movements, and deaths, among other information. As of January 1, 2002, all EU beef products must have labels indicating the country or countries where the animal was born, raised, and processed, including reference numbers tying the meat to an animal or group of animals, and to individual slaughterhouses.

Other obstacles already keep most U.S. beef out of Europe. However, other beef importers and exporters are moving toward national ID, and some toward meat traceability, generally starting with cattle. ***Japan*** instituted full traceability for its domestic beef industry, largely in response to its first BSE cases. In December 2001, Japan began tagging all beef and dairy cattle and developed a database to track each animal's birth and movement.

Canada can identify most individual cattle. Although Canadian cattle movements per se do not have to be documented, each animal must receive a unique tag when it leaves its herd of origin, which is collected at slaughter. The compulsory animal ID program, which applies to all bovine and bison, began in 2001. Officials assert that their program provided much of the information on Canadian cattle movements in both the Canadian and U.S. BSE investigations (although some critics argued that data gaps made the program less effective than it could have been in identifying all suspect animals).[16]

Australia, like Canada another major exporter and U.S. competitor, has a largely voluntary but universal system that identifies all cattle, and uses carcass and boxed meat labeling procedures that can trace meat back to the animal's origin. Australia is moving toward a fully integrated (and mandatory) program linking animal electronic ID devices, product barcoding, and a central electronic database. ***New Zealand*** has implemented cattle ID.

Other Selected Issues

Program Characteristics. USDA officials have said on several occasions that they would prefer a voluntary system. The USAIP draft plan did not explicitly called for a mandatory program, but several of those who have participated in the plan's development believe that a compulsory system likely will become both necessary and inevitable. The USAIP website states in part: "Ultimately there needs to be full compliance for the system to work as effectively as it should." USDA has

---

[15] Sources: Roxanne Clemens and Bruce Babcock, "Meat Traceability: Its Effect on Trade," in the *Iowa Ag Review*, winter 2002; and Sparks, *Linking the Food Chain*. Under Secretary Hawks's March 4, 2004, testimony also contains more information on foreign ID programs.

[16] The program is administered by the Canadian Cattle Identification Agency, a nonprofit industry agency, with oversight by the Canadian Food Inspection Agency. Website: [http://www.canadaid.com/]. A Canadian Sheep ID Program began January 1, 2004.

noted only that as a voluntary system takes shape and is tested, it "will reassess the need for making some or all aspects of the program mandatory."[17]

Among the many questions are how quickly a system might be implemented, which species it should cover (e.g., cattle, swine, poultry), and whether only higher-risk animals within a species (e.g., dairy cows, breeding animals, or older livestock) would need to be identified, at least initially. (The 2002 farm law prohibits USDA from implementing a mandatory ID system for COOL purposes.)

As noted, USDA has both funded a number of pilots and participated in the USAIP group, and it has been building upon aspects of the USAIP in designing the national plan. In his March 4, 2004, Senate testimony, Under Secretary Hawks outlined USDA's several "key objectives" for animal ID. Producers should have the flexibility to use current ID systems or adopt new ones, and to utilize new technologies as they become available. The system should "use and build upon the excellent data standards" developed by the USAIP, including confidentiality of data (see below). It should be compatible with current management programs for animal health and quality. Finally, any animal ID system should not "unduly increase the role and size of the government," Hawks stated.

Other systems also have attracted interest. Some lawmakers, for example, have expressed a preference for the National FAIR system in part because it already is tested and in place, whereas USAIP, while more broadly based, would take longer to implement.

Observers generally agree that the type and rigor of any system should depend upon its purpose. Whereas an animal ID system might be sufficient for disease management, a more extensive, compulsory program might be needed if policymakers should decide to address food safety concerns, some believe. USDA and most animal industry leaders have emphasized that the forthcoming system should be primarily if not solely for animal health and disease management. Some lawmakers have expressed an interest in using animal ID for other purposes such as food safety.

Regardless of its purpose, an ID system is viewed as just one potential component of a scientifically defensible and well-managed program to achieve whatever objective is being articulated. For example, to keep BSE out of the country and to keep it from spreading if it appears, the United States regulates what cattle can be fed, which countries can import product, and how animals are screened and tested for presence of the disease. And, an extensive inspection program under the purview primarily of FSIS already exists to ensure the safety of meat and poultry products destined for human consumption.

Costs and Who Pays. An animal ID system could incur a variety of costs, such as for tags or other identifying devices and their application; data systems to track animals; and any government administrative expenses. To date, cost estimates of a national system have varied broadly — and are not directly comparable. This

---

[17] Source: [http://www.aphis.usda.gov/lpa/pubs/fsheet_faq_notice/faq_ahnais.html].

disparity is a reflection of estimators' differing assumptions and of the varying designs of the programs being considered.

For example, a USAIP draft estimated that once a national ID program is fully in place, costs might be approximately $122 million annually, with ID tags accounting for nearly $100 million of that amount. In the earlier years of the plan during the implementation phases, system development costs would be higher, but ID tag expenses lower.[18] These estimates apparently are for the cost of a multi-species plan. Elsewhere, the "National FAIR Fact Sheet" estimates that its cattle program would cost $540 million over a five-year period. This would include the costs of initial tagging of all newborn bovines and subsequent tagging of animals as movements warrant. The first-year cost would be $175 million, FAIR also estimated.[19]

As the extent of traceability increases, so do likely costs. Animal ID *prior* to slaughter, and product tracking *after* slaughter and processing, generally now are within practical reach, most industry observers agree. However, the meat industry essentially has argued, notably in the context of COOL, that linking the two systems will be difficult and costly. Industry officials said new costs will be incurred in identifying and segregating animals, physically reconfiguring plants and processing lines, and labeling and tracking the final products.

Several studies have estimated total industry COOL costs for the cattle and beef sectors alone at between $1-$3 billion; others have estimates above and below this range.[20] One company estimated a minimum investment of $20-25 million per plant to ensure compliance.[21] Others challenge these costs; a recent study estimated COOL recordkeeping costs for all covered commodities (produce, seafood, and peanuts as well as meats) at $70-$193 million annually — less than one-tenth of a cent per pound based on U.S. consumption.[22]

A related policy question is who should pay. Producer groups suggest that government should share costs with industry. Without at least some public support, the burden could be passed to farmers and ranchers in the form of lower prices for their animals, and/or forward to consumers in the form of higher meat prices, they argue, adding that the industry would become less competitive. USAIP observed:

---

[18] *USAIP*, December 23, 2003, table, p. 45.

[19] Communication to CRS, March 30, 2004.

[20] Testimony of Keith Collins, USDA Chief Economist, before the House Agriculture Committee, June 26, 2003.

[21] Testimony of Ken Bull, Vice President for Cattle Procurement, Excel Corporation, before the House Agriculture Committee, June 26, 2003.

[22] VanSickle, J., and others, *Country of Origin Labeling: A Legal and Economic Analysis*, International Agricultural and Trade Policy Center, University of Florida, May 2003. However, the analysis assumed that documentation only of imported products is required by COOL; domestic products would be presumed to be of U.S. origin.

> It is well acknowledged that costs associated with the USAIP will be substantial and that a public/private funding plan is justified. Significant state and federal costs will be incurred in overseeing, maintaining, updating, and improving necessary infrastructure. Continued efforts will be required to seek federal and state financial support for this integral component of safeguarding animal health in protecting American animal agriculture.[23]

As noted, the Administration requested and received $33 million to work on animal ID in FY2005, and its FY2006 budget requests the same amount. It might also be argued that the need to reduce the U.S. budget deficit should take precedence over public funding for an animal ID program, and that the industry should shoulder most if not all of the costs. Several proposed animal ID bills introduced into the 108th and 109th Congress would authorize appropriations for a program; some also would provide financial assistance to producers to help them comply.

In Canada, which has far fewer cattle than the United States, the cattle ID program was developed and implemented for less than $4 million (Canadian dollars), according to an official there. The total annual cost of the program since then has been approximately C$1 million per year, including database management, communications, and other administrative costs. Producers buy the tags from retailers of farm supplies, veterinarians, and other industry organizations, and pay for their own tagging and recordkeeping. The cost of bar-coded ID tags has ranged from C$0.80 to C$1.60 each. However, Canada has been moving to an RFID system, with a projected cost of approximately C$2.00 per animal.[24]

Liability and Confidentiality of Records. Some producers are concerned they will be held liable for contamination or other problems over which they believe they have little control once the animal leaves the farm. On the other hand, documentation of management practices, including animal health programs, can help to protect against liability because they can prove where animals came from and how they were raised.[25]

Another issue is whether producers can and should be protected from public scrutiny of their records. On the one hand, the federal Freedom of Information Act (FOIA) entitles members of the public to obtain records held by federal agencies. Some producers are concerned, for example, that animal rights extremists might use FOIA to gain information collected by USDA to find and damage animal facilities. On the other hand, the law exempts from FOIA access to certain types of business information, such as trade secrets, commercial or financial information, or other confidential material that might harm the private provider of that information. The evolving ID system would limit APHIS's role to disease information only. Nonetheless, many in the industry worry about government intrusion into their business practices generally. Some have suggested that a private third party, rather

---

[23] *USAIP*, December 23, 2003, p. 2.

[24] Personal communication with Julie Stitt, Canadian Cattle Identification Agency, January 12, 2004. Canada had 13.4 million cattle in early 2003, compared with 96.1 million in the United States.

[25] Clemens and Babcock.

than USDA, should collect and maintain animal data.[26] Several proposed bills have called for explicitly shielding animal ID data from public scrutiny.[27]

Industry Structure. How might traceability costs affect the industry's ability to produce an economically competitive product, and which segments could bear most of the costs? It has been argued that, as more tracing requirements are imposed, large retailers and meat packers will exercise market power to shift compliance costs backward to farms and ranches, making it even more difficult for the smaller, independent ones to remain in business. Larger, more vertically integrated operations are more likely to have the resources and scale economies to survive, some have argued. On the other hand, if traceability costs forced big meat plants to reduce line speeds, "... smaller plants with slower fabrication speeds may be better equipped to implement traceability to the retail level and may find niche market opportunities," Clemens and Babcock wrote.

Congressional Role

In the 107th Congress and the first session of the 108th Congress, much of the debate over the costs and benefits of expanded animal ID and meat traceability occurred within the context of COOL. Panels of both the House and Senate Agriculture Committees held hearings on COOL implementation. In reviewing the COOL issues, lawmakers have learned more about how animal ID systems can be used for other purposes, most notably to find and eradicate animal diseases like BSE. They also have become more aware of the trade implications surrounding animal ID in particular and meat traceability in general. Also in the 108th Congress, both agriculture committees held hearings on animal ID specifically.[28]

A number of proposals to establish animal ID programs were introduced in the 108th Congress but were not passed, including S. 1202/H.R. 3546, the Meat and Poultry Products Traceability and Safety Act of 2003; S. 2007/H.R. 3714 [Section 5(b)], the Ruminant Identification Program; S. 2008, the National Farm Animal Identification and Records Act; H.R. 3787, also titled the National Farm Animal Identification and Records Act; H.R. 3822, the National Livestock Identification Act; and S. 2070/H.R. 3961, the United States Animal Identification Plan Implementation Act.

As of late March 2005, two animal ID bills had been offered in the 109th Congress, both by Representative Peterson, the ranking minority member of the House Agriculture Committee. H.R. 1254 is virtually identical to a measure he introduced in 2004 (H.R. 3787; see Appendix for a description). The other Peterson

---

[26] *Kiplinger Agriculture Letter*, July 11, 2003.

[27] For more discussion of the liability and confidentiality issues, see The National Agricultural Law Center, *Animal Identification — An Overview*, A National AgLaw Center Reading Room, at [http://www.nationalaglawcenter.org/readingrooms/animalid/].

[28] See Senate Committee on Agriculture, Nutrition, and Forestry, *Development of a National Animal Identification Plan*, 108th Cong., 2nd sess., S.Hrg. 108-606; and House Committee on Agriculture and the Subcommittee on Livestock and Horticulture, *The Development of USDA's National Animal Identification Program*, 108th Cong., 2nd sess., Serial No. 108-24.

bill (H.R. 1256) would amend the Animal Health Protection Act to exempt certain information collected under an animal ID program from FOIA disclosure.

Other policy options, including previous legislative proposals, could yet emerge. Although most animal industry lobbyists generally appear to agree in concept on the need for a national plan, a consensus on its key elements still appears uncertain. New developments regarding the BSE situation, unforeseen outbreaks of some other potentially devastating animal disease, or some act of bioterrorism are examples of events that might propel further action in the 109th Congress.

Appendix: Comparison of Selected Bills from the 108th Congress

S. 1202 (Schumer)/ H.R. 3546 (DeGette)	S. 2007 (Durbin)/ H.R. 3714 (DeLauro)	S. 2008 (Specter)	H.R. 3787* (C. Peterson)	H.R. 3822 (McCollum)	S. 2070 (Hagel) H.R. 3961 (Osborne)
Title Meat and Poultry Products Traceability and Safety Act of 2003	Ruminant Identification Program	National Farm Animal Identification and Records Act	National Farm Animal Identification and Records Act.	National Livestock Identification Act	United States Animal Identification Plan Implementation Act
Amends Title I of Federal Meat Inspection Act (21 USC 601 *et seq.*) and Poultry Products Inspection Act (21 USC 467(e))	Title I of Federal Meat Inspection Act (21 USC 601 *et seq.*)	Animal Health Protection Act (7 U.S.C. 8301 *et seq.*)	Animal Health Protection Act (7 U.S.C. 8301 *et seq.*)	Animal Health Protection Act (7 U.S.C. 8301 *et seq.*)	Animal Health Protection Act (7 U.S.C. 8301 *et seq.*)
System Type/ Capability Traceability ("ability to retrieve the history, use, and location of an article through a recordkeeping and audit system or registered identification") system enabling Secretary to trace each animal to any premises or other location where the animal was before slaughter, and each carcass and their products forward from slaughter to final consumer	Ruminant ID program capable of tracing within 48 hours "any reportable animal disease or any condition that can cause" human disease. Specifies "nationally recognizable uniform numbering system" with ID numbers for producer premises and for individual or groups of animals as determined by Secretary	Electronic nationwide system to require ID of *individual* livestock able to trace within 48 hours to "enhance the speed and accuracy" of USDA's response to animal disease outbreaks	Electronic nationwide system to require ID of livestock able to trace animals within 48 hours to "enhance the speed and accuracy" of USDA's response to animal disease outbreaks	Electronic nationwide system to require ID of *individual* livestock able to trace within 48 hours to "enhance the speed and accuracy" of USDA's response to animal disease outbreaks	Plan to be developed by the "National Animal ID Development Team" that includes operational: (1) national premises ID allocation system; (2) certification system to certify State premises and their animal number allocation systems; (3) national premises repository; (4) national ID database

**In the 109th Congress, this measure has been reintroduced as H.R. 1254.*

S. 1202 (Schumer)/ H.R. 3546 (DeGette)	S. 2007 (Durbin)/ H.R. 3714 (DeLauro)	S. 2008 (Specter)	H.R. 3787* (C. Peterson)	H.R. 3822 (McCollum)	S. 2070 (Hagel) H.R. 3961 (Osborne)
Coverage All stages of production, processing, and distribution of meat/meat food products of cattle, sheep, swine, goats, horses, mules, and other equines, and poultry/ poultry food products for human food in interstate commerce	Birth to slaughter for all cattle, sheep, goats, bison, deer, elk, "any other ruminant species intended for human consumption"	Birth to slaughter for individual livestock (defined in AHPA as "all farm-raised animals")	Birth to slaughter for livestock (defined in AHPA as "all farm-raised animals"); applies to all U.S. and imported livestock movements in interstate and intrastate commerce	Birth to slaughter for individual livestock (defined in AHPA as "all farm-raised animals")	Beef and dairy cattle over 30 months by not later than 60 days after enactment; all other beef and dairy cattle within 90 days; other ruminate livestock within 180 days; all other livestock (AHPA: "all farm-raised animals") within one year
Mandatory/ Discretionary Secretary shall establish; presumes that producers must participate	Secretary shall establish; presumes that producers must participate	Secretary of Agriculture shall establish no later than 90 days after enactment; may assume (but is not explict) that producers must participate	Secretary shall establish no later than 90 days after enactment; requires producers to participate	Secretary of Agriculture shall establish no later than 90 days after enactment; may assume (but is not explict) that producers must participate	Secretary shall establish (subject to availability of appropriations and cost-share agreements) within above time frames
State Participation Not addressed	Not addressed	States shall provide information for and have access to the ID system	Secretary shall cooperate with States to collect information (as authorized under section 10411(a) of AHPA), and provide States with access to ID system	Not addressed	Secretary may enter into agreements with States (or third-party vendors) to collect information

**In the 109th Congress, this measure has been reintroduced as H.R. 1254.*

S. 1202 (Schumer)/ H.R. 3546 (DeGette)	S. 2007 (Durbin)/ H.R. 3714 (DeLauro)	S. 2008 (Specter)	H.R. 3787* (C. Peterson)	H.R. 3822 (McCollum)	S. 2070 (Hagel) H.R. 3961 (Osborne)
Existing Technology & Systems Not addressed	Should augment, not supplant, current national systems such as for scrapie	Secretary may use technology developed by private entities prior to act	Secretary may use technology developed by private entities prior to act	Secretary may use technology developed by private entities prior to act	Not addressed
Recordkeeping Secretary may require each person, firm and corporation to maintain accurate records for period TBD by Secretary	Secretary may require a producer to maintain records for period TBD by Secretary	Not addressed	Not addressed	Not addressed	Secretary may only collect data necessary to establish and maintain the ID plan
Access to Records/Privacy An affected person, firm, or corporation must allow a representative of Secretary to examine and copy records at all reasonable times	Producer must allow a representative of Secretary to examine and copy records at all reasonable times	Not addressed	ID information exempt from FOIA disclosure; and may not be released, shall not be considered in the public domain, and shall be considered privileged and confidential commercial information, *except*: (1) Secretary may release it to a person if it involves livestock threatened by disease or pest, if the release of the information is related to animal ID activities under this new law, and	Not addressed	Secretary must maintain confidentiality of producer information; ID plan exempt from Freedom of Information Act (FOIA)

**In the 109th Congress, this measure has been reintroduced as H.R. 1254.*

S. 1202 (Schumer)/ H.R. 3546 (DeGette)	S. 2007 (Durbin)/ H.R. 3714 (DeLauro)	S. 2008 (Specter)	H.R. 3787* (C. Peterson)	H.R. 3822 (McCollum)	S. 2070 (Hagel) H.R. 3961 (Osborne)
			if the requestor needs it for public health and safety purposes of the ID system; (2) Secretary shall release information on particular livestock to person who owns or controls the livestock upon their request; to Attorney General for law enforcement; to Secretary of Homeland Security for national security; to relevant courts; and to a foreign government if necessary to trace livestock threatened by disease or pest, as determined by Secretary of Agriculture. Federal disclosure provisions take precedence over state law in interstate or foreign commerce; state law takes precedence for intrastate commerce in that state. *(Note: H.R. 4005, reintroduced in 2005 as H.R. 1256, by C. Peterson also exempts certain animal ID data from FOIA disclosure.)*		

**In the 109th Congress, this measure has been reintroduced as H.R. 1254.*

S. 1202 (Schumer)/ H.R. 3546 (DeGette)	S. 2007 (Durbin)/ H.R. 3714 (DeLauro)	S. 2008 (Specter)	H.R. 3787* (C. Peterson)	H.R. 3822 (McCollum)	S. 2070 (Hagel) H.R. 3961 (Osborne)
Financial Assistance Not addressed	Not addressed	Secretary may provide financial assistance to help producers comply	Secretary shall provide financial assistance to help producers comply to extent funds are made available; ensure smaller producers not at a financial disadvantage	Secretary may provide financial assistance to help producers comply	Secretary may provide financial assistance to help producers comply
Funding/ Appropriations Not addressed	Not addressed	$50 million authorized to be appropriated for FY2004 of which $25 million must go for producer assistance	$175 million authorized to be appropriated (no fiscal year specified)	$50 million authorized to be appropriated for FY2005 of which $25 million must go for producer assistance	$50 million authorized to be appropriated for FY2004 of which at least $25 million must go for producer assistance; also Secretary may use up to $50 million in CCC funds if less than that amount is appropriated
Enforcement/ Prohibitions Secretary may prohibit or restrict slaughter of any animal not properly identified. Makes it unlawful for those keeping records to falsify, misrepresent, alter, or destroy any information	Secretary may prohibit or restrict slaughter of any animals without an ID. Makes it unlawful for a producer to falsify, misrepresent, alter or destroy any information	Not addressed	Not addressed	Not addressed	Not addressed

**In the 109th Congress, this measure has been reintroduced as H.R. 1254.*

S. 1202 (Schumer)/ H.R. 3546 (DeGette)	S. 2007 (Durbin)/ H.R. 3714 (DeLauro)	S. 2008 (Specter)	H.R. 3787* (C. Peterson)	H.R. 3822 (McCollum)	S. 2070 (Hagel) H.R. 3961 (Osborne)
Other Provisions Not addressed	Ruminant ID is Sec. 5(b) of the bills, which also contain: new restrictions to ensure that many imported products do not harbor BSE infectivity; a ban on such articles in interstate or foreign commerce if they contain specified risk materials from ruminants; new procedures for FDA oversight of animal feed; new programs for prion disease monitoring/testing	Secretary may appoint an international panel of scientific experts to review USDA's response to livestock disease outbreaks	Secretary may appoint an international panel of scientific experts to review USDA's response to livestock disease outbreaks	Secretary may appoint an international panel of scientific experts to review USDA's response to livestock disease outbreaks	HHS Secretary (FDA) shall monitor implementation of current rule (21 CFR 589.2000) prohibiting certain animal proteins in ruminant feed; annually evaluate rule's effectiveness and report to Congress; implement an enforcement plan for the rule

**In the 109th Congress, this measure has been reintroduced as H.R. 1254.*