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Animal Identification and Meat Traceability

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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 U.S. animal ID system is yet in place, although many producers do keep records on their animals for herd management and/or as part of animal disease programs. Interest in a comprehensive system has intensified in light of 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.

Government and industry groups have been working for several years on establishing a national animal ID system, with animal health its primary purpose. 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, who should operate it, the cost, and who should pay.

Some industry groups and others have criticized USDA, which attempted to assume the lead on animal ID in 2004, for moving too slowly. Some industry groups also want any animal ID data repository to be established within the private, not the public, sector, a recommendation the department now appears to favor.

In the first session of the 108th Congress, much of the debate over expanded animal ID had occurred within the context of COOL. Although 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, Congress has delayed its implementation. 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 and other implications surrounding animal ID and meat traceability.

Animal ID bills introduced in the 109th Congress include H.R. 1254, the National Farm Animal Identification and Records Act, H.R. 1256, to limit animal ID information disclosure, and H.R. 3170, creating a private Livestock Identification Board to oversee the program. This report will be updated if events warrant.

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Animal Identification and Meat Traceability

Overview

U.S. animal agriculture is seeking to improve its ability to trace the movement of livestock from their birthplace to slaughter. Some also want such traceability to reach all the way to the final consumer. 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 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. Debate over a law requiring retail 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, to a lesser extent, on 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 2002 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) requires 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) postponed mandatory COOL for two years for all covered commodities, except farmed fish and wild fish, to September 30, 2006. Congress postponed it again, until September 30, 2008, in the FY2006 agriculture appropriation (P.L. 109-97). Now pending in the House and Senate Agriculture Committees are bills (H.R. 2068/S. 1333) proposing to replace the mandatory program for meats with a voluntary program.

If the 2002 COOL law is implemented, meats labeled as U.S. origin would have to 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

Existing 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

² See CRS Report RL32922, *Meat and Poultry Inspection: Background and Selected Issues*; and CRS Report RS22345, *BSE (“Mad Cow Disease”): A Brief Overview*, both by Geoffrey S. Becker.

³ See CRS Report 97-508, *Country-of-Origin Labeling for Foods*, by Geoffrey S. Becker.

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 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 of 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 have been 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/>].

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

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). In October 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.

A “U.S. Animal Identification Plan (USAIP)” published in December 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 roles would be to allocate premises and animal numbers, and to coordinate data collection, to be used for animal disease purposes only.

The proposed work plan envisioned by USAIP had 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. 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.”

As this last draft USAIP was being published, BSE was discovered in a Washington state cow. Shortly afterward, the department stated that it would assume a more prominent role in the animal ID effort.

USDA Actions and Funding.⁶ USDA was funding animal ID pilot projects for several years. 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;

⁶ For details on USDA activities see [<http://animalid.aphis.usda.gov/nais/index.shtml>].

in Wisconsin for the Animal Identification and Information System (“A-II”) for all species; and in several other states.⁷

After the BSE discovery, Agriculture Secretary Veneman announced, on December 30, 2003, 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 to be the accelerated implementation of a verifiable system of national animal identification — the “framework” for which was published on April 27, 2004.

During FY2004, USDA transferred \$18.8 million from its Commodity Credit Corporation account to APHIS 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 Congress for, and received, approximately \$33 million for its animal ID activities in each of FY2005 and FY2006.

For FY2006, the House Appropriations Committee said that it expects APHIS to submit quarterly progress reports that cover data usage, confidentiality, and cost issues. The Senate Appropriations Committee said it expects APHIS to consult with private industry and to include industry components in a national ID program, among other things. The House, Senate, and/or conference reports also direct that various amounts be allocated to a number of specified ongoing ID programs.⁸

Recent Developments. Implementation of a national program has been difficult and controversial. According to USDA, its National Animal Identification System (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 early 2006, 50 states, two territories, and five tribal organizations had the capability of registering premises, and nearly 205,000 had been registered, according to USDA.

On May 5, 2005, USDA had released for public comment a draft strategic plan, including timelines, for achieving a nationwide program.⁹ For example, the draft proposed requiring stakeholders to identify premises and animals according to NAIS standards by January 2008, and requiring full recording of defined animal movements by January 2009. USDA noted that formal rulemaking would precede any mandatory program. Comments on this draft were due by July 5, 2005.

Since then USDA appears to have changed its thinking on a national program.

⁷ 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, 2003, press release; and undated “National FAIR Fact Sheet.”

⁸ 109th Congress, 1st Session. H.Rept. 109-102, S.Rept. 109-92, and H.Rept. 109-255 to accompany H.R. 2744.

⁹ The availability of the strategic plan was published in 70 *Federal Register* 23961.

Secretary Johanns on August 30, 2005, announced four “guiding principles” for a national ID system:

- It must be able to allow tracking of animals from point of origin to processing within 48 hours without unnecessary burden to producers and other stakeholders;
- Its architecture must be developed without unduly increasing the size and role of government;
- It must be flexible enough to utilize existing technologies and incorporate new identification technologies as they are developed;
- Animal movement data should be maintained in a private system that can be readily accessed when necessary by state and federal animal health authorities.

More recently, federal officials have revealed that they are now contemplating not a single tracking system, but rather “a metadata repository that USDA would develop and maintain; this potentially will allow us to work with multiple databases collecting information on animal movement.”¹⁰ In the event of a disease incident, APHIS would send inquiries only to those databases with relevant information on those particular animals, officials explained. The APHIS website on animal identification offers further evidence that USDA has reconsidered its initial steps toward a single national mandatory system:

NAIS is currently a voluntary program. To ensure the participation requirements of NAIS not only provide the results necessary to maintain the health of the national herd but also is a program that is practical for producers and all others involved in production, USDA has adopted a phased-in approach to implementation. Although the draft strategic plan references mandatory requirements in 2008 and beyond, to date no actions have been initiated by USDA to develop regulations to require participation in NAIS.¹¹

USDA’s actions seem to reflect a continuing divergence of opinion within animal agriculture over the best policy approach, as well as the concern among many producers about maintaining the privacy of their records. Nonetheless, some producer groups have been complaining that USDA has been beset by indecision, progressed too slowly, and/or sowed considerable confusion, according to many observers.¹²

The National Cattlemen's Beef Association (NCBA) in 2005 announced that it would take the lead on a privately-held ID system that could track cattle and other animal species. The United States Animal Identification Organization (USAIO)

¹⁰ Clifford, John R., APHIS Deputy Administrator, Announcement to National Animal Identification System Stakeholders, January 26, 2006. This announcement references an October 16, 2005, stakeholder meeting held in Kansas City, Missouri.

¹¹ APHIS website, at [<http://animalid.aphis.usda.gov/nais/index.shtml>], accessed March 7, 2006.

¹² See for example: *Food Chemical News*, February 13, 2006; *Food Traceability Report*, February 2006; and *Cattle Buyers Weekly*, January 23, 2006, and December 5, 2005.

formed under NCBA auspices in January 2006. USAIO is "... managing the industry-led animal movement database in accordance with the NAIS and is working with every segment of the animal industry and animal health authorities to provide an effective, efficient, and inexpensive database for the NAIS."¹³ Although the USAIO is available for any animal species, it so far is uncertain whether other producer groups besides cattle and bison will sign onto the initiative.

Some Members of the House Agriculture Committee also have called on USDA to implement a private sector-based system. Complaining that the department had so far failed to consider such a system, these members noted: "This is unfortunate because experience suggests that private-based systems have allowed other nations to implement ID systems swiftly and inexpensively while still maximizing the benefit to producers and the utility for government regulators."¹⁴

Not everyone endorses that approach. R-CALF United Stockgrowers of America, representing some cattle producers, issued an August 31, 2005, statement asserting that protecting U.S. animal health has national security and public accountability dimensions that should not be ceded to the private sector. The Center for Science in the Public Interest (CSPI), a consumer advocacy group, has been pressing for a mandatory national system and criticizing USDA for its "lack of commitment to getting a viable system in place."¹⁵

Selected Policy Issues

Foreign Trade Concerns. Improved traceability is viewed as important for maintaining foreign market access. 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."

When Canada in May 2003 discovered BSE in one of its cattle (but before the United States found its own 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 United States' number one foreign market, purchasing 36%-37% of all U.S. beef exports in recent years (USDA data). (Japan also has been the top importer of U.S. pork.) This Japanese requirement had complicated U.S. deliberations on whether and when to reopen its own border to Canadian beef and/or cattle and other ruminants.

¹³ NCBA, [<http://www.beefusa.org/NEWSAnimalIDTalkingPoints25023.aspx>].

¹⁴ July 20, 2005, letter to Secretary Johanns signed by Agriculture Chairman Goodlatte and six other Committee Members.

¹⁵ *Food Chemical News*, February 13, 2006.

Hoping to satisfy Japanese demands for verification of origin, 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 could request certification from AMS.¹⁶ However, with the December 23, 2003, USDA announcement of a U.S. BSE cow, Japan was among the many countries suspending imports of U.S. cattle, beef, and related products.

After two years of often difficult negotiations, the Japanese market briefly reopened in late 2005 for some U.S. beef, if it was from plants meeting special Japanese requirements and so certified by AMS.¹⁷ The agency also widely offered such export verification (EV) services to U.S. plants seeking to meet the import specifications of other countries besides Japan, and this EV continues. However, the Japanese in January 2006 again blocked all U.S. beef after finding some ineligible beef products (i.e., veal with bone) from one of the EV certified plants. So, USDA and the meat industry are once more trying to satisfy Japanese demands.¹⁸

Separately, an international team that had examined Canada’s BSE response emphasized the need for mandatory ID, and the team 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.

U.S. officials faced their own problems when the first BSE case appeared in the United States. The animal was a Holstein dairy cow with a metal ear tag containing an identifying number. That helped authorities to more quickly 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.¹⁹

Another international panel, asked by USDA asked to review its own handling of the first U.S. BSE case, agreed that the number of infected cattle from that

¹⁶ For details, see [<http://www.ams.usda.gov/bevprocedures.pdf>].

¹⁷ For example, one of the requirements is that only beef from cattle of 20 months or younger is shipped. Roughly 70% of the 35 million U.S. cattle each year are 20 months of age or younger, although verifiable age records may only be available for anywhere from 10% to 25% of cattle, according to estimates by USDA and others.

¹⁸ As noted, BEV is considered voluntary, even though it has been widely viewed as a minimum prerequisite for access to the Japanese and perhaps other foreign markets. See CRS Report RS22345, *BSE (“Mad Cow Disease”): A Brief Overview*, by Geoffrey S. Becker.

¹⁹ USDA press release, “Final BSE Update — Monday, February 9, 2004.”

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."²⁰

Announcing the end of an investigation into the second U.S. BSE case (in a Texas-born cow that died in November 2004), Secretary Johanns again lamented the lack of a national ID system: the investigation "would have taken far less than two months" if a system were in place, a significant matter "because a number of trading partners have been reluctant to make decisions until the investigation is complete."²¹

The *European Union (EU)*, where BSE cases have been concentrated (most in the United Kingdom), now has extensive mandatory programs.²² 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).²³

²⁰ 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.

²¹ Transcript of August 30, 2005, technical briefing with Agriculture Secretary Mike Johanns and others, accessed at [<http://www.aphis.usda.gov/lpa/issues/bse/bse.html>].

²² Sources for this section: Roxanne Clemens and Bruce Babcock, "Meat Traceability: Its Effect on Trade," in the *Iowa Ag Review*, winter 2002; and Sparks, *Linking the Food Chain*.

²³ 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. Canadian and Australian officials testified extensively on their respective ID systems at a House hearing on September 15, 2005. House Committee on Agriculture, Subcommittee

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

Program Characteristics. The USAIP draft plan did not explicitly call for a mandatory program. The USAIP website states in part: "Ultimately there needs to be full compliance for the system to work as effectively as it should." USDA's approach had been to first work on a voluntary system and then reassess the need for making some or all aspects of it mandatory. Whether such a mandatory system will in fact evolve, or continue to meet significant resistance, remains to be seen, despite several years of work both within and outside of USDA. Many other basic structural questions also are still unresolved. How quickly could an ID system be implemented, and which species should it cover (e.g., cattle, swine, poultry)? Should only higher-risk animals within a species (e.g., dairy cows, breeding animals, or older livestock) need to be identified, at least initially? Should some species (like cattle) be covered before others, or all species implemented at once?

As noted, USDA has both funded a number of pilots and participated in the USAIP group. It also has been building upon aspects of the USAIP in trying to design a national plan. Officials have frequently stressed the need for flexibility to use current ID systems or adopt new ones, and to utilize new technologies as they become available. They also want any program to be compatible with current management programs for animal health and quality, among other things. Some lawmakers have expressed a preference for the National FAIR system in part because it already is tested and in place.

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. (The 2002 farm law prohibits USDA from implementing a mandatory ID system for COOL purposes.)

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

²³ (...continued)

on Livestock and Horticulture, *National Animal Identification Systems*, 109th Cong., 1st sess., Serial No. 109-16.

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 will 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 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.²⁴ 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.²⁵

As the extent of traceability increases, so do likely costs. Animal ID *prior* to slaughter, and product tracking *after* slaughter and processing, generally are available (and are often used), 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.²⁶ One company estimated a minimum investment of \$20-25 million per plant to ensure compliance.²⁷ 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.²⁸

²⁴ USAIP, December 23, 2003, table, p. 45.

²⁵ Communication to CRS, March 30, 2004.

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

²⁷ Testimony of Ken Bull, Vice President for Cattle Procurement, Excel Corporation, before the House Agriculture Committee, June 26, 2003.

²⁸ 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.

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:

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.²⁹

It could be argued, on the other hand, that the need to control federal spending should take precedence over public funding for an animal ID program, and that the industry, a primary beneficiary, should shoulder most if not all of the costs. Certain animal ID bills introduced into the 108th and 109th Congress propose appropriations for a program; some also propose 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. Canada has been moving to an RFID system, with a projected cost of approximately C\$2.00 per animal.³⁰

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.³¹

Another issue is whether producers can and should be protected from public scrutiny of their records. 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

²⁹ USAIP, December 23, 2003, p. 2. As noted, the Administration requested and received \$33 million to work on animal ID in both FY2005 and FY2006.

³⁰ Personal communication with Julie Stitt, Canadian Cattle Identification Agency, January 12, 2004. At the House subcommittee hearing, Ms. Stitt stated that the RFID tags were now costing \$2.20 to \$3 (Canadian dollars). Canada had about 15 million cattle in early 2006, compared with about 97 million in the United States.

³¹ Clemens and Babcock.

information collected by USDA to find and damage animal facilities. However, 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 government's role to obtaining disease information only. Nonetheless, many in the industry worry about government intrusion into their business practices generally. That is why some want a private third party, rather than USDA, to collect and maintain animal data. Any agreement between USDA and a private entity would have to clearly stipulate the conditions for use of the information, they assert. Several proposed bills have called for explicitly shielding animal ID data from public scrutiny.³²

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.

Legislation

Some believe USDA has the broad authority, under the Animal Health Protection Act (AHPA; 7 U.S.C. 8301 *et seq.*) to implement an animal ID program, making new legislation unnecessary. Others believe that the AHPA might limit USDA's options. For example, does it empower the Department to require producers to report data to a private entity? Several bills have been offered in recent years aimed at clarifying USDA's authority and/or spelling out what type of program should be established.

In the 109th Congress as of early March 2006, three animal ID bills had been offered. H.R. 1254 would amend the AHPA to require USDA to establish a mandatory program for all farm-raised animals, and authorize federal appropriations to fund it. Another (H.R. 1256) would amend the AHPA to exempt certain information collected under an animal ID program from FOIA disclosure. Meanwhile, H.R. 3170 would establish a privately governed Livestock Identification Board to create and implement a mandatory system.

In the 108th Congress, a number of proposals to establish animal ID programs were introduced but not passed, including S. 1202/H.R. 3546, the Meat and Poultry

³² 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/>].

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.

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 learned more about how animal ID systems could be used for other purposes, most notably to find and eradicate animal diseases like BSE. They also were exposed to more 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.³³

Other policy options, including previous legislative proposals, could emerge in the current Congress, or next one, which is expected to consider, in 2007, legislation to extend and/or change substantially the current farm bill (a policy venue where some of the debate on animal ID could conceivably take place). Although most animal industry lobbyists generally appear to agree in concept on the need for a national plan, a consensus on its key elements is still evolving. 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.

³³ 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.