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Meat Traceability: Its Effect on Trade

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Several livestock and meat-related crises have given rise to increased worldwide consumer concern over meat safety and an increased desire for information about the meat products they purchase. During the past several years, a series of food safety and animal disease crises has occurred in the European Union (EU), including dioxin contamination of livestock feed, the announcement of the possible link between Bovine Spongiform Encephalopathy (BSE) and new-variant Creutzfeldt-Jakob disease, and outbreaks of foot-and-mouth disease and classical swine fever. Many EU consumers have lost confidence in the safety of meat products (especially beef) and in the ability of regulatory agencies to protect the food supply. Not surprisingly, the European Union now leads most other countries in the development and mandatory implementation of traceability protocols for livestock and meat products.

The EU livestock identification and registration system is comprised of ear tags that contain a unique registration number for individual animal identification (double tagging is used); computerized databases of births, deaths, and animal movements; animal passports; and registers for each farm. Effective January 1, 2002, all EU beef products must be labeled with the following information:

- Country of animal’s birth
- Country/countries of fattening
- Reference number linking the meat to an animal or group of animals
- Country of slaughter and establishment number of slaughterhouse
- Member state or states of origin, if different from country of production
- Member state of preparation
- Member state of slaughter
- Establishment number of slaughter plant(s)
- A traceability code

If the beef is from animals born, raised, and slaughtered within a single EU member state, the label may say “Origin: (name of member state)”

If the beef is from a third country (non-EU member), the label may say “Origin: (name of third country)”

Ground beef labels must list the following:

- A traceability code
- Member state of slaughter
- Member state of preparation
- Member state or states of origin, if different from state of preparation

The new EU standards will have a limited direct impact on U.S. meat producers because U.S. exports to the European Union are quite small. However, if countries that are important markets for U.S. meat products adopt the EU traceability standards, the impact could be substantial.

Japan’s Response

Japan has responded to its own meat-related (BSE) crisis by implementing full traceability within its domestic beef industry. Japan is by far the largest market for U.S. beef and pork. Current country-of-origin labeling identifies U.S. beef in retail meat counters, and the U.S. has BSE-free status. The question arises whether this will be sufficient labeling for the Japanese consumer. U.S. meat exporters hope so, and they hope that with traceability, Japanese consumers will regain full confidence in beef, both domestic and imported. But the worrisome question is whether Japanese consumers will discriminate against imported beef that is not traceable, which would create increased demand for meat from countries that adopt full traceability systems.

Australia is acting as if the concern over food safety in Japan and in other export markets is a market-opportunity by moving toward full traceability. Currently, Australian producers apply a registered tail tag number identifying their ranch on all cattle leaving that ranch. A temporary tail tag moves with the animal and then with the carcass to the end of the dressing line. Here, carcass tickets are affixed to each side of the carcasses, which are segregated by lots in the coolers and fabricated according to a production schedule. After fabrication, carcasses, quarters, and boxed cuts are labeled with the establishment number and packed-on date. The system provides traceback of carcasses and cuts to the tail tag and ranch of origin.

Soon the Australian beef industry will use a fully integrated, electronic system that links three technologies: the National Livestock Identification Scheme (NLIS), which uses radio frequency tags to identify and track cattle; the European Article Number (EAN) bar-coding technology already used worldwide in the processing and retail sectors; and the Electronic Data Interchange (EDI), an electronic messaging system.
The state of Victoria has made electronic ear tagging compulsory for all cattle born on or after January 1, 2002 except for calves less than six weeks old sold for slaughter. Eventually, all cattle will be identified and all livestock transactions will be entered into the NLIS database. Some Australian ranchers are resisting the idea of a compulsory system, citing cost, difficulty of implementation because of large ranch sizes, and problems with the new technology. However, others are adopting the technology because it will be required for beef exports to the European Union.

Several other meat-exporting countries are in various stages of developing traceability systems. For cattle, Argentina and Canada identify primary production establishments and herds within or leaving the establishments. They also provide traceback for carcasses and cuts to slaughter facilities and production establishments. Based on current production systems, it would be feasible for Canada to provide individual animal identification for animals leaving the production establishment and link individual animals to carcasses and cuts.

**Issues and Opportunities**

**Nontariff Trade Barriers**

Concern that traceability will be used as an unjustified trade barrier has been expressed within the meat industry. The World Trade Organization (WTO) requires that traceability measures be scientifically justified based on a risk assessment and not be restrictive of trade between the country imposing the measure and other countries. Thus, an importing country cannot enforce more rigorous standards for imported meat than those applied to the domestic industry or use these standards as trade barriers. The U.S. challenge to the EU beef hormone ban has shown that the WTO is not always effective in preventing implementation of meat trade policies that do not conform to WTO rules.

**Increased Costs**

Can the U.S. meat industry provide both traceability from a U.S. farm or ranch to a foreign retail outlet and an economically competitive product? Clearly, costs would increase if line speeds were to decrease with implementation of traceability systems. Thus, smaller plants with slower fabrication speeds may be better equipped to implement traceability to the retail level and may find niche market opportunities.

**Liability**

Like so many of the issues associated with traceability, there are two sides to the liability issue. There is concern among some producers that they will be held liable for contamination or other problems over which they have no control once an animal leaves the farm. The flip side of this perception is that documentation of management practices, animal health programs, inputs, and animal movements can serve as protection against liability because they can prove where animals came from and how they were raised.

**Branded Products**

Danish and Dutch hog producers have used traceability to improve herd genetics, meat quality, and palatability for many years. Now, traceability is being successfully implemented in new supply networks for U.S. branded meat programs to ensure quality, consistency, and safety. Producers agree to accept both the responsibility and economic incentives of raising livestock for these programs, and processors can set higher product standards. Traceability is also a way to provide documented assurance for consumer preferences such as animal welfare and concern for the environment. Branded programs are perceived as one of the best ways to develop new markets for high-value, noncommodity U.S. meats in other countries.

**Marketing Tools**

In the Netherlands, one veal processor is responding to the consumer preference for traceback information by providing an Internet site where a consumer can enter a product code and a password to receive textual and visual information about the farmer, location of the farm, sex and weight of the calf, and the name of the slaughterer. This use of “story meats” as a marketing tool is being used in many countries to reach consumers on a more personal level by linking the product they are about to purchase with a face and a place.

**Raising the Bar**

It should be noted that, although the European Union is leading the charge in implementing traceability regulations, an EU-wide system has not been fully implemented, individual country systems are not yet compatible, and individual country systems operate with varying degrees of accuracy in tracking animal and meat movements. However, the European Union and other countries are setting standards and implementing regulations, and traceability is likely to emerge as a major issue in international meat trade with the potential for a large impact on U.S. meat trade.