

Food Safety And Trade

Regulations, Risks, and Reconciliation

Jean C. Buzby
jbuzby@ers.usda.gov

Lorraine Mitchell
lmitchel@ers.usda.gov



Keith Weller, USDA/ARS

Global food trade is expanding, providing consumers with access to a wider year-round variety of foods at lower prices. Expanding trade has brought into sharper focus the divergence among countries' food safety regulations and standards. These variations may reflect differences among their populations' tastes and preferences, ability to produce safe food, and willingness to pay for risk-reducing technology. Building common ground for food safety regulation through public and private initiatives is helping to achieve the simultaneous goal of improving food safety and enhancing trade.

Differences in food safety regulations and standards among importing and exporting countries can cause friction and even disputes that impede international food trade. Countries are, however, tackling food safety and trade issues by learning from each other's successes in managing food safety to narrow regulatory differences, collaborating to adopt common or international standards set by a third party, or reaching compromises on conflicting standards. Private food safety ini-

tiatives, such as voluntary quality assurance schemes, are also contributing to the resolution of differences across borders.

Countries Have Good Reasons for Different Food Safety Regulations

National tastes and preferences reflect a unique set of experiences and cultural traditions. Some countries may perceive a certain food safety risk as totally unacceptable, while others may place a low priority on addressing that same risk. Imports acceptable to one country may not be acceptable to another. For example, many European countries are willing to accept the risks of *Listeria* in cheese made from unpasteurized milk and select processing standards to minimize these risks. Other countries restrict such imports and even ban the sale of most of these cheeses.

Countries have different food safety experiences and food safety risks in domestic food supplies. Risk levels vary internationally due to differences in available technology (such as refrigeration),

plant and livestock host factors (plants with different levels of contamination or herds with varying infection rates), food production practices (such as the use of veterinary drugs), cultural differences (for example, routine consumption of raw seafood), and geographic or climatic conditions (for example, colder climates may reduce some pathogens, and Aflatoxin contamination is most common in countries with warm and humid climates).

Countries differ both in their ability and willingness to pay for state-of-the-art technology to reduce food safety risks as well as in the optimal ways to reduce these risks. For example, national perceptions about *Salmonella* risks in poultry vary tremendously as do commitments and preferred choices for its control. As a result, standards for *Salmonella* in poultry imports vary tremendously across countries. For example, only poultry product imports that are fully cooked and canned—processes that effectively kill *Salmonella*—are allowed in Chile, meaning that Chile has a zero-tolerance for *Salmonella* risks in imported raw poultry products. Other countries, such as Japan, reserve the right to test poultry shipments for *Salmonella* and to reject any shipments testing positive. Others might require testing for ready-to-eat but not raw products. Many other countries do not specifically mention or target *Salmonella* in their import requirements.

In addition to conflicts resulting from country differences mentioned above, there is some concern that as trade expands, some countries may use food safety regulations as a means to limit imports or to require more regulatory steps than needed to ensure a particular level of food safety risk. Some countries might also apply different standards to imports than to domestic products.

Some disagreements will take considerable time and continued efforts to over-



Brian Prechtel, USDA/ARS

Countries vary in their import requirements for poultry—particularly when it comes to *Salmonella*

Importing country	U.S. products eligible for import	<i>Salmonella</i> -specific regulations/requirements
Hong Kong	Fresh/frozen poultry and poultry products	Products may be subjected to laboratory examination for microbiological contamination and positive-testing shipments refused entry
Russia	Poultry and poultry products, excluding consumer-size packages of ground poultry, mechanically deboned poultry, and giblets	Negative <i>Salmonella</i> test results must be presented to a Food Safety and Inspection Service (FSIS) veterinarian before export certification can be issued; consignments are ineligible if there are more than 1 (in 5 minimum) positive samples
Latvia	Poultry and poultry products, except mechanically separated and ground products; must be certified as not having been fed material originating from sheep	No separate <i>Salmonella</i> -specific requirements
Japan	All domestic poultry, except duckling giblets, coloring agents in raw products, and poultry and poultry products from or passing through Pennsylvania	Japanese Ministry of Health reserves the right to test shipments of ground and mechanically deboned poultry for <i>Salmonella</i> and to reject positive-testing shipments
China	Fresh/frozen poultry products	No separate <i>Salmonella</i> -specific requirements
Canada	Federally inspected poultry and poultry products are eligible for export to Canada, except carcasses, parts, or mechanically separated poultry parts containing kidneys or sex organs	No separate <i>Salmonella</i> -specific requirements for raw products
Korea	Poultry and poultry products, except those imported into the U.S. from a third country	No separate <i>Salmonella</i> -specific requirements
Estonia	Poultry and poultry products	Mechanically deboned poultry product is tested for <i>Salmonella</i> at the port of entry; positive testing shipments will be denied entry
Chile	Fully cooked and canned products	Cooking and canning requirement effectively means no <i>Salmonella</i>

Note: Some countries without specific *Salmonella* standards for raw products do have such standards and sampling procedures for ready-to-eat products

Source: FSIS, 2002.

come. One example concerns poultry exports from the United States to Russia. Russia periodically has raised concerns that U.S. poultry exports do not meet Russia's stringent zero-tolerance for *Salmonella*. Russia also claims that some antibiotics are used which are not approved for use in Russia. In 2002, Russia briefly banned imports of U.S. poultry, disrupting U.S. poultry exports to Russia for several months and reducing prices for some U.S. poultry products.

Divergent regulatory standards can lead to food shipment delays at the border while shipments of imported food are tested for pathogens or can shut down trade altogether between countries. Food safety regulations and any resulting trade interruptions can be costly to countries and affected industries or firms. Despite the periodic disruptions and friction over food safety issues, international trade is expanding, and the amount of trade affected by regulations is small in relation to global trade flows. Disruptions are relatively small, considering the magnitude of global food and agricultural trade (\$436 billion in 2001), the thousands of food categories and products traded, the

Food Safety Challenges

The globalization of the food supply could potentially mean that new food safety risks can be introduced into countries, previously controlled risks can be re-introduced into countries, and contaminated food can be spread across greater geographical areas. However, there is no evidence that food imported into the United States is riskier, *per se*, than domestically produced food. There are many well-established food safety challenges, as well as issues perceived to be food safety concerns, such as:

- ❑ microbial pathogens (that is, illness-causing bacteria, viruses, parasites, fungi, and their toxins),
- ❑ pesticide residues,
- ❑ food additives,
- ❑ environmental toxins, such as heavy metals (for example, lead and mercury),
- ❑ persistent organic pollutants (for example, dioxin),
- ❑ unconventional agents, such as prions associated with "mad cow disease" in cattle,
- ❑ zoonotic diseases that can be transmitted through food from animals to humans (for example, tuberculosis), and
- ❑ foods produced with certain practices, such as irradiation, or animal products produced with growth hormones or antibiotics.

roughly 200 countries participating in food trade, and the range of food safety challenges. Additionally, not having food safety regulations could result in even higher costs to society than trade delays do if unsafe food is imported and causes human illness and death.

Countries Tackle Food Safety Risks Both Individually and Collectively

Both the private and public sectors work within countries to establish good food safety practices. The private sector has strong financial incentives to protect its markets and the reputation of products or industries. In theory, producers world-



Comstock

wide who see the benefits of enhancing food safety and take risk-reducing measures for their products can protect or even expand their export market share. They can also position themselves to take advantage of new markets for products with higher levels of food safety. However, government regulation is needed to ensure food safety because market transactions do not take into account the social costs of food safety—such as medical costs and lost work time—and consumers generally cannot discern the safety of food before buying it.

Countries address food safety and trade issues both as individual nations and collectively through international organizations. Individually, countries learn from each other's successes and adopt common regulatory approaches. Food safety regulatory agencies worldwide are increasingly adopting the Hazard Analysis and Critical Control Point (HACCP) system as a foundation for new regulations to control microbial pathogens in food. HACCP is a system of identifying, monitoring, and controlling hazards at critical control points in the food production and processing chain. The public sector in many industrialized countries mandates HACCP for some foods, while the private sector voluntarily implements it for other foods.

Many countries are involved in collaborative efforts to address food safety and trade issues. In some cases, countries will simply adopt the standards of their trading partners. As many industrialized countries with major food import and export markets adopt new regulations, there are financial incentives for other countries to follow suit. Alternatively, countries can recognize and accept each others' regulations, adopt common or international standards set by a third party (for example, the Codex Alimentarius Commission (Codex) suggests standards for human health meas-

Seven Food Safety Regulatory Trends Commonly Found in Industrialized Nations

- (1) Forming one agency to focus on food safety,
- (2) Using risk analysis to design regulation,
- (3) Recognizing that a farm-to-table approach is often desirable for addressing food safety hazards,
- (4) Adopting the HACCP system as a basis for new regulation of microbial pathogens in food,
- (5) Adopting more stringent standards for many food safety hazards,
- (6) Adding new and more extensive regulation to handle newly identified hazards, and,
- (7) Improving market performance in food safety through provision of information.



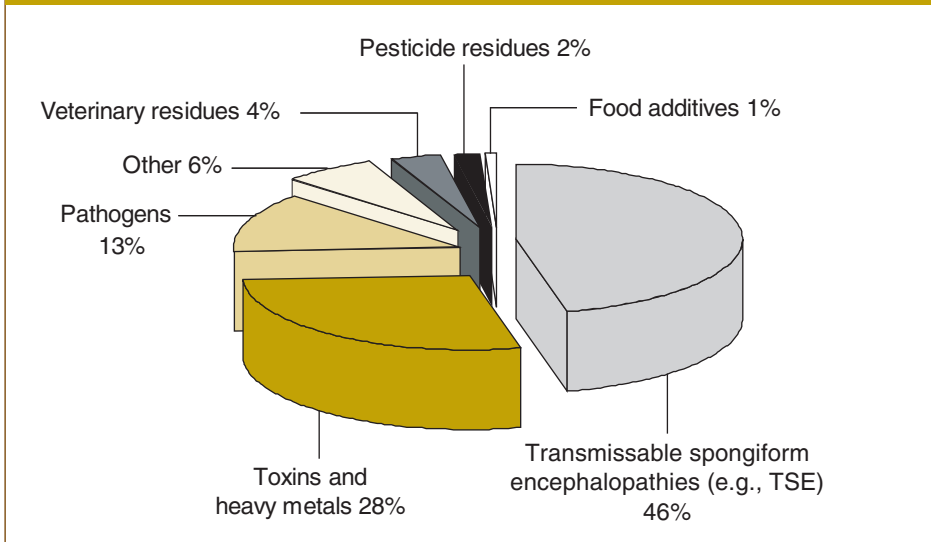
Audiovisual Library European Commission

ures), or hammer out a compromise. For instance, Australia and New Zealand decided in 1996 to formulate many of their food safety regulations jointly in order to reduce regulatory trade barriers and transaction costs for industry. In 1998, the United States and Canada signed a "Record of Understanding" under which they proposed to try to facilitate agricultural trade in a number of different areas, including harmonizing some food safety testing procedures.

New food safety outbreaks, isolated events (for example, the 1999 Belgian dioxin crisis from contaminated animal feed), and emerging crises (e.g., mad cow disease) will arise from time to time and shock international food markets. When a new food safety hazard or event is first identified, countries take steps to gather information and limit the extent of the crisis. Later, as the event is resolved, countries may develop new protocols and regulations to prevent recurrence. These crises can initially be a source of friction but ultimately they offer opportunities for international collaboration.

During a food safety crisis, producers of the suspect foods may stop production of the foods or seek other markets, retailers must find other sources of supply, and consumers must find substitutes. As most foods are perishable or have a limited storage life, a major food safety event can be disastrous for producers, exporters, and importers. For example, a series of foodborne illness outbreaks from the *Cyclospora* parasite began in 1996 in the United States and Canada. The outbreaks were attributed to Guatemalan raspberries, leading to a severe reduction in demand across the Guatemalan raspberry industry and adversely affecting Guatemalan blackberry producers as well. California strawberry growers also lost millions in revenue when strawberries were at first mistakenly implicated.

Distribution of complaints to the Sanitary Phytosanitary Committee, 1995-2001



The U.S. Centers for Disease Control and Prevention, the U.S. Food and Drug Administration, Health Canada, and the Canadian Food Inspection Agency took aggressive actions to solve the *Cyclospora* problem, protect human health, and restore access to safe raspberry imports. Meanwhile, the private sector, including the Food Marketing Institute, a U.S. organ-

ization representing food retailers, also pitched in. Guatemalan growers developed a Model Plan of Excellence program, which was mandatory for all Guatemalan raspberry exporters. The plan requires compliance with a detailed list of specific food safety practices, almost daily field inspections during the harvesting season, and trace-back capability. However, the new safety

protocols are prohibitively expensive for many Guatemalan producers, and very few remain in business. There have been no new outbreaks since 2000.

Member nations of the World Trade Organization (WTO) have the option of using the WTO to resolve differences. The WTO establishes global rules of trade to help producers, importers, and exporters conduct business. The WTO recognizes each country's right to have different preferences for risk reduction and to take different measures to protect their populations. Based on available and relevant information, WTO members have the right to set and follow standards for a higher level of consumer protection than the level set by international health standards. The WTO, however, requires that countries base their food safety regulations affecting trade on a review of scientific research and encourages countries to recognize regulatory systems that provide an equivalent level of protection.

The number of food safety-related trade disputes worldwide is unknown. However, since 1995, WTO members have registered in the meetings of the Sanitary and Phytosanitary (SPS) Committee of the WTO 108 trade concerns related to food and feed regulations as well as measures that are designed to protect human health. The SPS committee deals with measures designed to control animal and plant pests and diseases. These human, animal, and plant health measures represent a larger class of technical barriers to trade. However, only one food safety trade concern has ever advanced all the way through the SPS Committee dispute process to a WTO dispute panel. Most disagreements are settled among countries before this stage. The 1989 growth hormone ban by the European Union (EU) originated from concerns about the effects of growth hormones on human health. The scientific basis of the ban was later



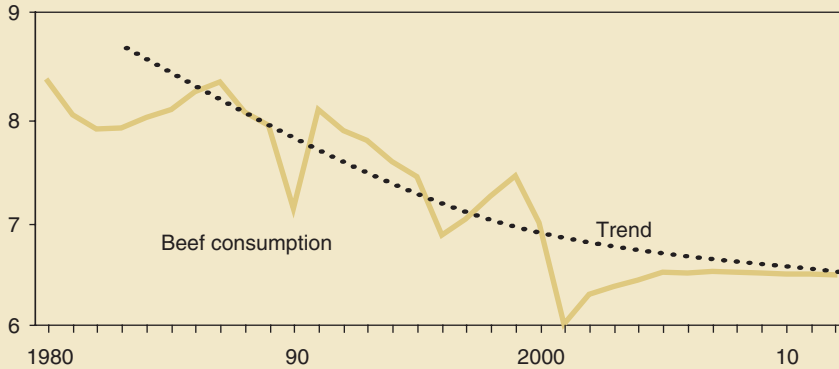
Brian Prechtel, USDA/ARS

BSE, A Prominent Food Safety Issue

"Mad cow disease" or bovine spongiform encephalopathy (BSE) is an emerging crisis that has shocked food safety systems worldwide and presents an ongoing challenge as more countries identify cases within their borders. Domestic beef consumption in the EU fell sharply during the 3 critical years of the mad cow disease crisis. In 1988, BSE-infected cattle were first discovered in the United Kingdom (UK); in 1996, infected cattle were discovered in other EU countries, and it was announced that BSE was potentially linked to a fatal human illness; and in 2000, more BSE cases and the first related human illnesses were discovered outside the UK.

European Union domestic beef consumption

Million metric tons

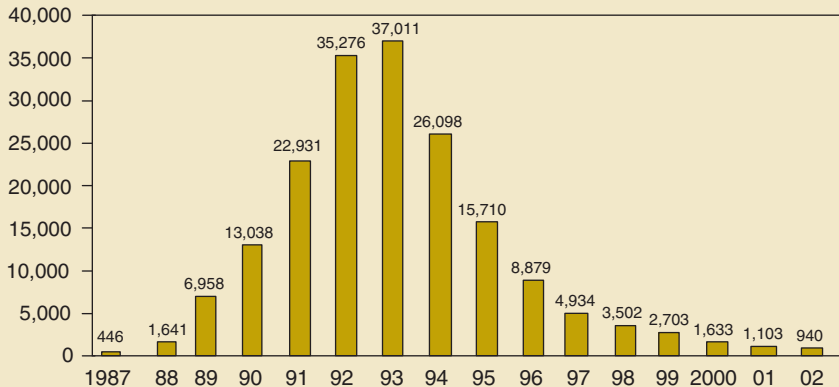


USDA Production, Supply, and Distribution database, 1980-2001; baseline projection, 2002-11.

The UK adopted an extensive set of programs to ensure that cattle used for beef production were BSE-free. These actions included the Over Thirty Month Cattle Slaughter Rule, which as the name implies, mandated that all cattle over 30 months of age be destroyed (BSE is not believed to affect cattle below this age) and banned all meat and bone meal (thought to be a carrier of BSE) in cattle feed. These actions led to a rather remarkable decline in newly identified BSE cases in the UK between 1993 and 2001. Many other countries have adopted similar initiatives, but BSE continues to be found in small numbers in other countries. For example, Canada just identified one BSE case in a domestically raised cow.

Confirmed cases of BSE in the United Kingdom by year of clinical onset peaked in 1993

Cases



Note: 2002 data as of September 9, 2002.

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challenged successfully by the United States and Canada but the EU has still not lifted its ban.

A closer look at the trade concerns related to human health measures provides some insight into the sources of current tensions over regulations in international agricultural markets. Most striking is that 46 percent of the SPS trade concerns are related to the regulation of transmissible spongiform encephalopathies (TSEs), which include bovine spongiform encephalopathy (BSE) or "mad cow disease." In essence, regulations to reduce potential risks due to BSE appear to have caused more international debate than any other particular food safety issue. Some of these BSE-related trade concerns were directed at the initial emergency measures adopted by countries in 1996 while others followed the implementation of new, extensive BSE regulations in the EU. Examples include Chile's and Peru's complaints against the EU's ban on the use of fish meal in ruminant feed.

Advances in hazard detection technology and greater understanding of food safety risks will help nations identify new concerns. In some instances, regulatory differences may cause some countries to alter and improve their food safety systems so that they can trade in particular markets. The growing demand worldwide for food safety suggests that improving food safety and expanding international trade can be compatible and even mutually reinforcing goals. *W*

This article is drawn from...

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