



AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search
<http://ageconsearch.umn.edu>
aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

FOOD SAFETY: TRADE BARRIER OR TRADE ENHANCER?

Laurian J. Unnevehr

Professor, Agricultural & Consumer Economics
University of Illinois at Urbana-Champaign

My presentation starts from two observations about the global food economy. First, food safety issues and disputes in trade are increasing due to changes in the global food system. Second, food safety is improving and barriers to trade are being reduced by public agencies and private industry. This good news/ bad news scenario provides the framework for the following remarks.

Food Safety as a Barrier to Trade

There are at least three categories of change driving the growing attention to food safety. First, the links between food safety and public health are increasingly recognized. Second, changes in the global food system are altering the incidence and nature of food safety risks. These changes include increased reliance on food preparation outside the home and increased trade in fresh and minimally processed foods. With rising affluence, consumers are demanding better safety and quality in their food. Third, publicly regulated food safety standards are becoming stricter in the industrialized nations. New standards are being created and existing standards are strengthened.

Given these trends, it is not surprising that well-publicized crises and disputes have emerged around food safety issues in international trade. Food safety can be a non-tariff barrier to trade for several reasons. Differences in how food is grown and prepared lead to variation in risk incidence among countries. Therefore, countries may have differing standards even when risk preferences are similar. Producers face increased costs of meeting higher standards or varying standards in different markets. In addition, there are costs of monitoring for importers and costs of certification for exporters.

Issues for U.S. Commodity Sectors

From the U.S. industry and consumer perspective, food safety issues arise for exports in terms of market access and for imports in terms of consumer safety. Issues of product reputation and the equal application of standards are important to producers everywhere.

Within the U.S. meat and grain sectors, several issues are currently in dispute with respect to food safety standards. These include the long-standing dispute with the EU over the use of growth hormones in beef, application of salmonella standards to poultry in some Eastern European importers, and increased scrutiny of non-therapeutic antibiotic use. An emerging issue for grain exports is the EU and Japan requirement to label and trace sources of genetically modified crops. While the GM crop issue is not strictly speaking a food safety issue, it is often motivated by consumer concerns. Many food

safety issues are linked in consumer perceptions with other quality and process issues. Disputes with the EU over risk perceptions and appropriate risk management are likely to continue, and the outcomes will create precedents for standards in other countries.

U.S. consumers are eating more seafood, fruits, and vegetables. Imports of these commodities are rising and many of the new sources are developing countries. What little evidence exists suggests that the risks from imported and domestic food are similar. An examination of FDA import detention data shows that pesticide residues on vegetables and microbial pathogens on fishery products are the most important sources of violations. When imports are implicated in a food borne illness outbreak, it can have impact product reputation for U.S. producers. Furthermore, it may lead to adoption of new standards for all producers to prevent future outbreaks. An example is the *Cyclospora* outbreak traced to Guatemalan raspberries. California strawberries were mistakenly implicated and lost sales. The FDA's GAP guidelines were developed in response to this and similar outbreaks, and are now widely used as a voluntary standard for both U.S. producers and exporters to the U.S.

Food Safety and Trade Enhancement

Turning now to the "good news", food safety is improving and barriers are being reduced by public and private efforts. Better food safety can enhance the ability to export when it meets consumer demand for higher quality. Many quality attributes, including safety, are more easily managed in a vertically coordinated system with process controls and third party certification. Trade can provide consumers with healthy dietary alternatives and can potentially lower the costs of providing safer products.

The public sector in the industrialized nations is adopting a common approach to food safety regulation. Elements of this common approach include use of HACCP approaches, farm to table risk assessment, and greater use of policies to create incentives for safety. In several countries, new food safety regulatory agencies have been created with the express purpose of integrating and focusing expertise from both agriculture and public health. These common trends should lead to greater fundamental agreement about food safety standards.

The private sector is aggressively addressing safety as part of providing higher quality to consumers. Use of quality assurance "meta-systems", such as HACCP, ISO 9000, or GAPs, is increasing as a way of providing universally recognizable certification. Vertical coordination and use of production contracts is increasing, even across borders. Private third party certification is also a growth industry for trade in fresh and minimally processed foods. Often, this certification is facilitated by the public sector which can provide credible guidelines and standards. An example in the U.S. is the USDA "Quality through Verification" program for fresh produce.

At the international level, the SPS agreement under the WTO provides a framework for dispute resolution. Beginning in 1995, it established the principles of transparency, equivalency, science-based standards, national sovereignty, and international harmonization for measures that protect animal, plant, and human health. The SPS

agreement has increased transparency and provided a mechanism for resolving disagreements before they become formal disputes. This has been particularly effective for new standards to address emerging threats, such as BSE. There has been less progress, however, in establishing equivalency among countries or in harmonizing international standards. Finally, the beef hormone dispute highlights the difficulties that arise when there are differences in consumer risk perceptions. While the formal ruling upheld the use of science-based standards, the failure of the EU to abide by the ruling undermines this principle.

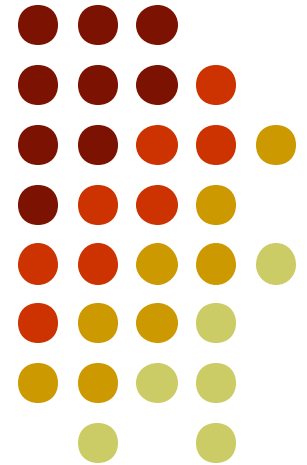
Conclusions

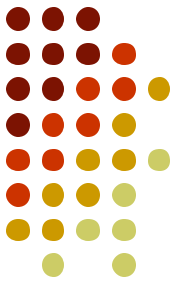
Summing up, there is good news. International food trade is increasing in volume, value, and variety with remarkably little disruption. There is progress in resolving food safety issues through the international framework, the common approaches to regulation among countries, and the use of private standards. On the bad news side, barriers remain and disputes will continue to arise. Increased trade or new hazards will create high profile disruptions occasionally. Rising standards create challenges for new market entrants, especially developing countries. Differences in risk perceptions and preferences make some disputes difficult to resolve.

There is a shared responsibility for food safety from farm to table and this now extends across borders. Both industry reputation and consumer health are international public goods. Thus, it will require international cooperation to improve food safety, reduce barriers, enhance industry reputations, and enlarge consumer choice.

Food Safety: Trade Barrier or Trade Enhancer?

Laurian Unnevehr, Professor
Dept. of Agricultural and
Consumer Economics
University of Illinois

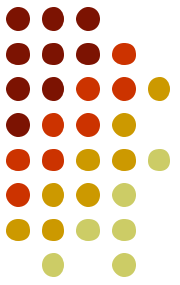




Overview

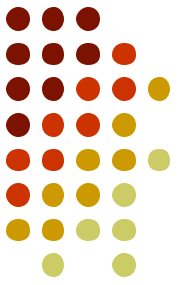
- **Food safety issues and disputes in trade are increasing due to changes in the global food system.**
- *But*, food safety is improving and barriers to trade are being reduced by public agencies and private industry.

Food Safety Gets More Attention– Public health



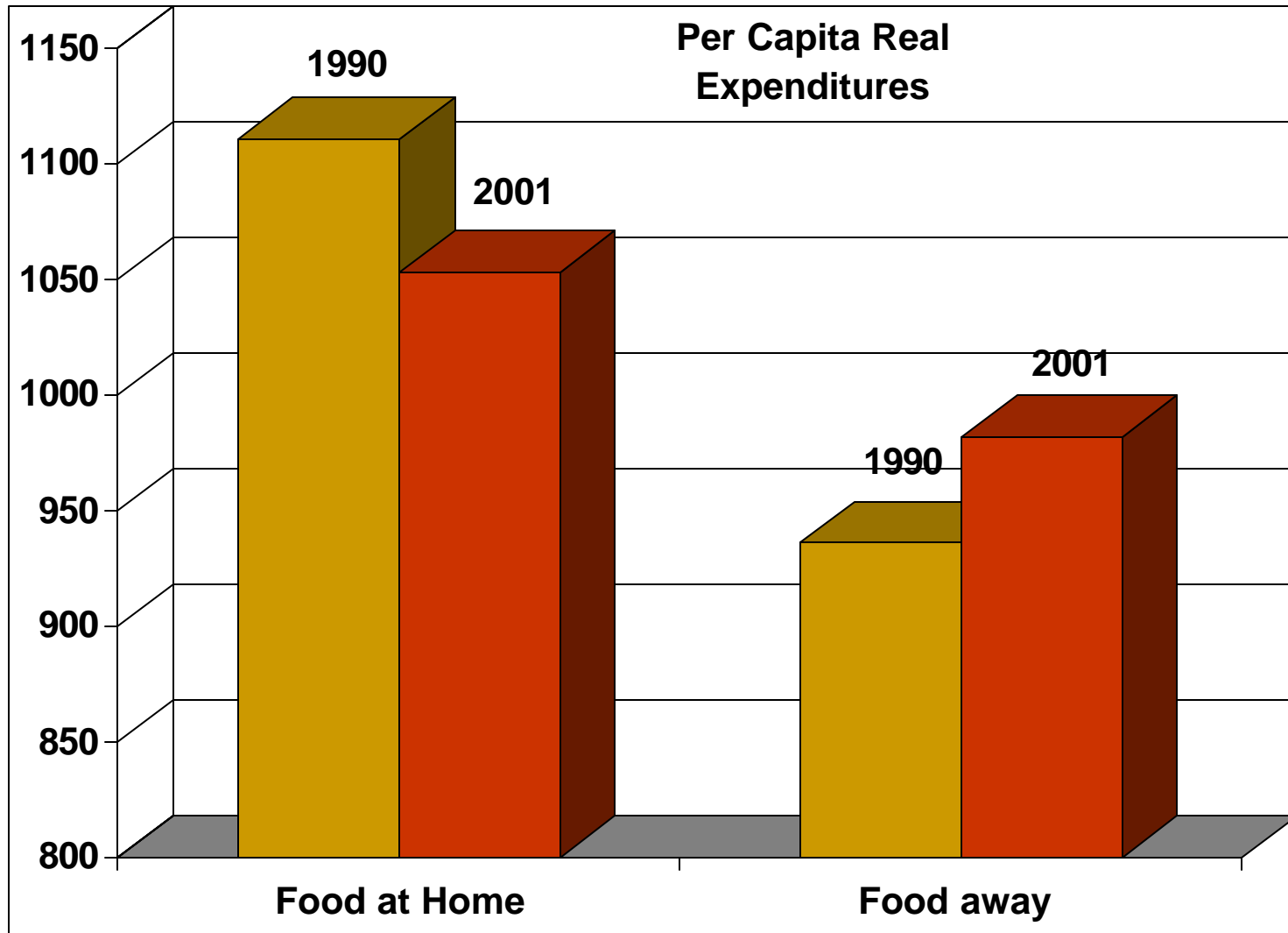
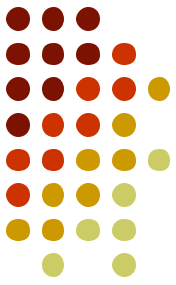
- Emerging pathogens, such as BSE / nvCJD and *E.coli* O157:H7
- Rising incidence of food borne illness in some countries
- Increased monitoring and understanding of long term consequences

Food Safety Gets More Attention— Changing Food System

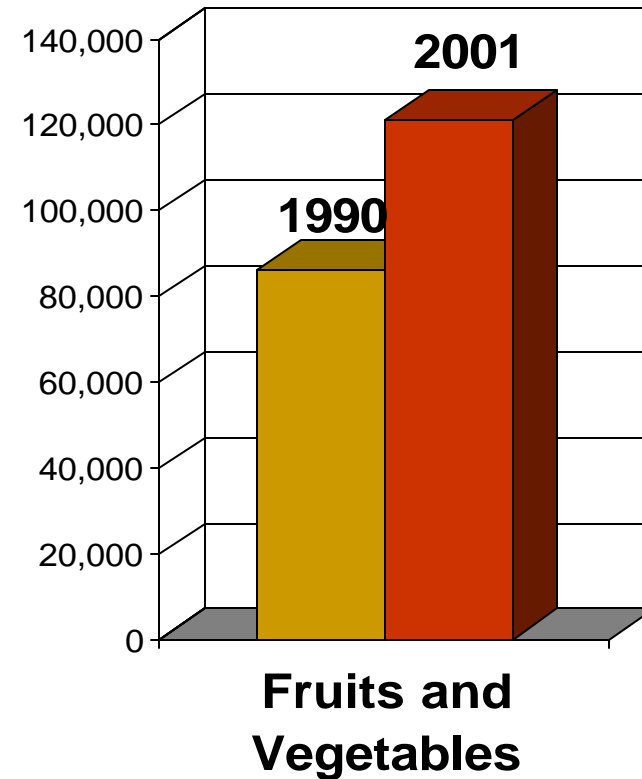
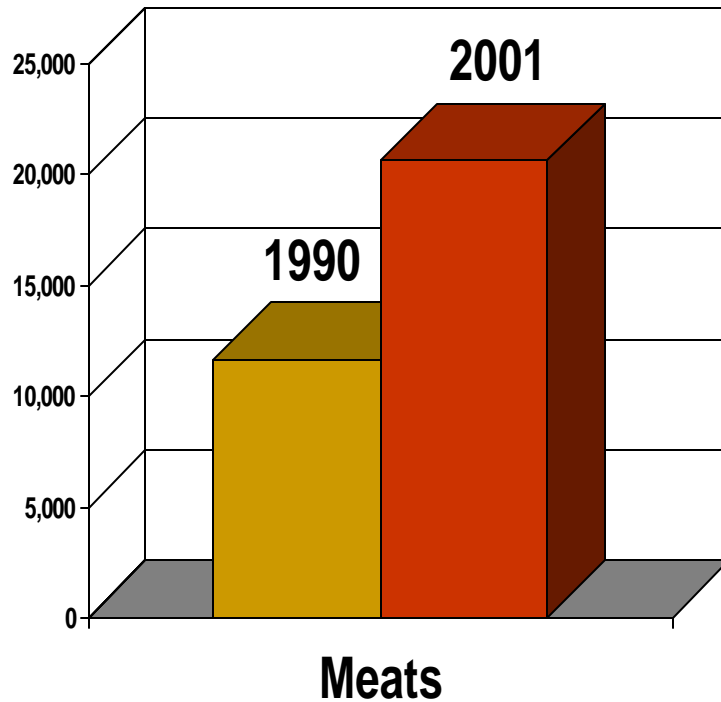
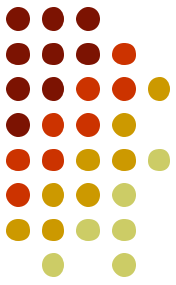


- More food prepared away from home
- International trade in fresh and minimally processed food products rising
- Increased consumption of animal and fish products and changes in how produced
- Growing consumer awareness, rising incomes lead to demand for greater safety

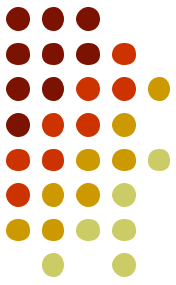
U.S. Consumers Spend More on Food Away from Home



World Trade in Perishables Has Increased

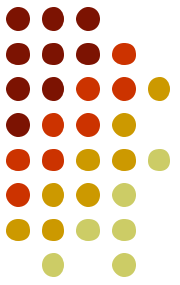


Rich Countries Import Fish, Fruit, Vegetables & Export Meat, Cereals



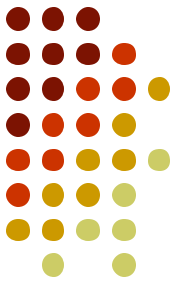
Net imports (million mt)	High Income Countries	Developing Countries
Fish	9,857	-7,044
Fruit and Veg	33,195	-43,198
Meat	-3,031	1,591
Cereals	-119,197	113,151

Food Safety Gets More Attention– Rising Standards



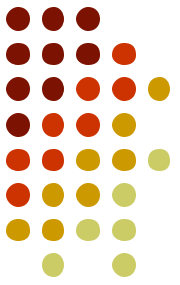
- Existing standards made more stringent
 - U.S. FQPA for pesticide residues
 - EU mycotoxin standards
- New standards for emerging hazards
 - EU BSE regulations for feeds, traceability
 - U.S. Pathogen Reduction regulation

Food Safety as a Potential Trade Barrier, and Vice Versa



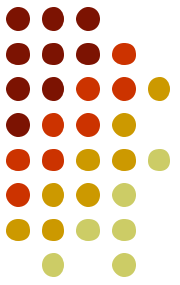
- Differences in how food is produced and eaten means risks vary
- Trade may introduce unfamiliar hazards or new hazards can disrupt trade
- Standards vary and may not be easy to enforce by testing at borders
- Costs associated with meeting varying standards, monitoring, certifying

Food Safety Trade Issues for U.S. Commodities



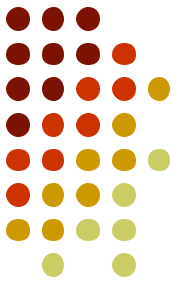
- Export sectors
 - market access
- Import sectors
 - consumer safety
- Both sectors
 - Product reputation
 - “Level playing field” in application of standards

Food Safety Disputes in U.S. Export Sectors



- Meat and Poultry
 - Growth hormones
 - Antibiotic use
 - *Salmonella* standards
 - BSE
- Grains
 - use of animal by-products in feeds
 - GMO labeling

Sample Case– BSE Regulations



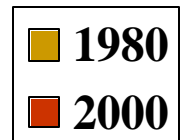
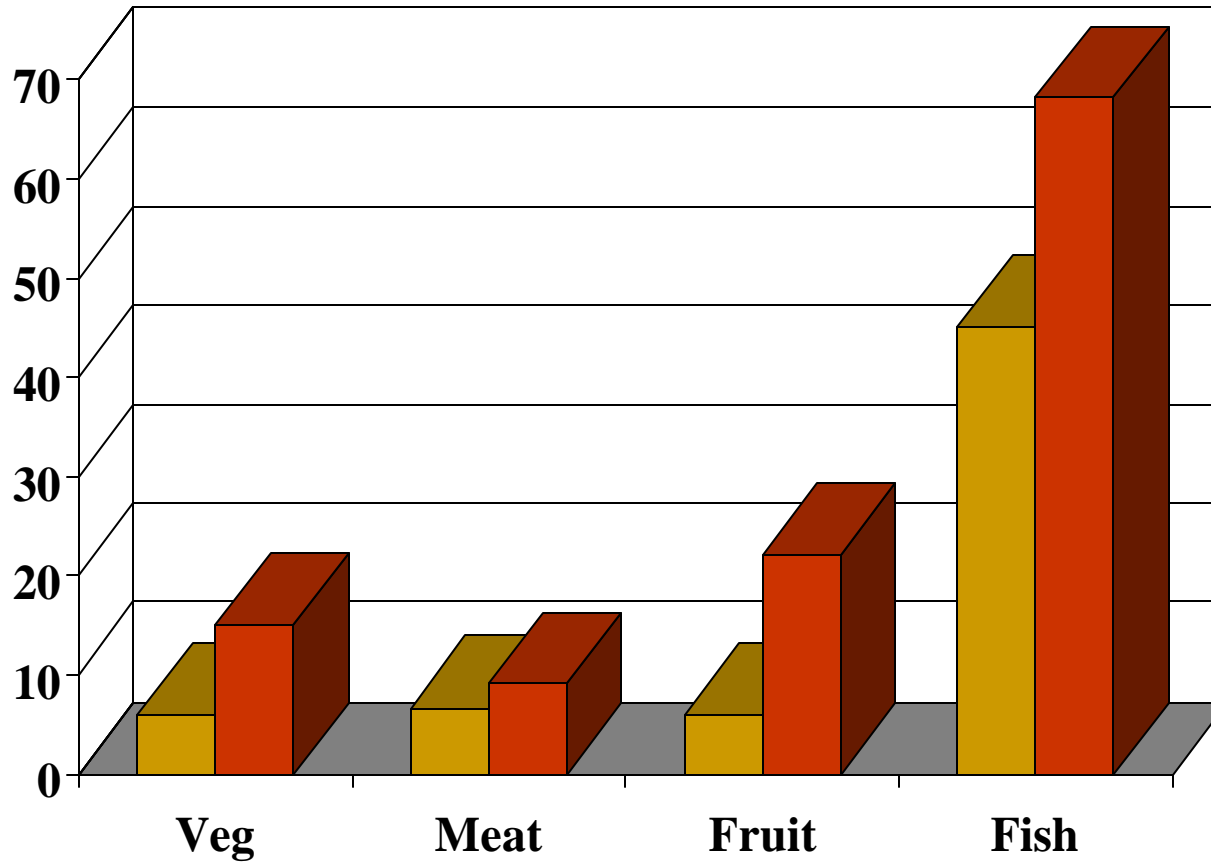
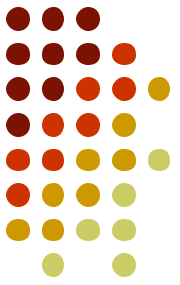
- U.S. should have advantage due to no infections and early feed use intervention
- EU regulations in 2000:
 - Put U.S. in next to lowest risk category
 - Excluded some U.S. beef by-products exports, eg pet food and gelatin
 - Requires greater separation of animal by-products in feed supply chain
- Emerging hazard has consequences even when U.S. not infected

Food Safety Disputes for U.S. Imports

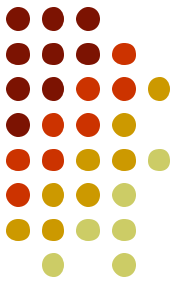


- Consumption and imports growing for seafood, fruits/vegetables
- Most imports are from LDCs
- Risks from imported food sources similar to risks from domestic sources
- Seafood—
 - microbial pathogens and other sanitary issues
- Fruits/vegetables—
 - pesticide residues, occasional microbial issues

Import Share of U.S. Food Consumption Has Grown

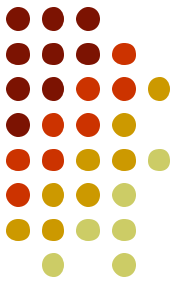


FDA Import Detentions for Adulteration, 2001 (preliminary)



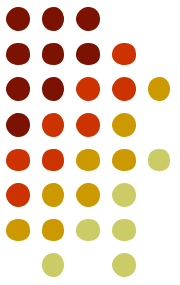
Product category	No. detentions	Most important reason
Vegetables	6,247	Pesticides
Fishery	5,561	<i>Salmonella</i>
Fruit	2,694	Filthy
Dairy	1,259	<i>Listeria</i>
Cereal	888	Filthy
TOTAL- all products	18,583	

Sample Case- Guatemalan Raspberries

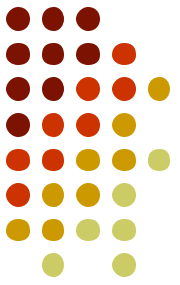


- 1996 outbreak of *Cyclospora* traced to Guatemalan raspberries
- 1997 voluntary export embargo; loss of market share to Mexico
- 1999 joint industry/govt program to manage and audit food safety; number of growers reduced
- Product reputation impact for U.S. producers— eg CA strawberries
- Development and use of FDA GAPs for domestic and foreign suppliers result from these kinds of outbreaks

Summary of Issues for U.S. Commodities



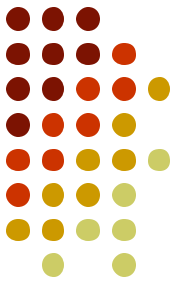
- Export sectors
 - Risk management is globally shared
 - Continued disagreements with EU over both risk standards and methods of risk management
- Import sectors
 - Technical assistance is playing a role in helping LDCs adapt to higher standards
 - U.S. producers can have new standards, product reputation impact



Overview

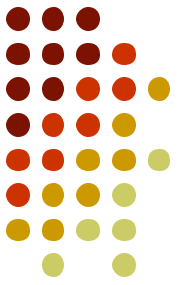
- Food safety issues and disputes in trade are increasing due to changes in the global food system.
- ***But, food safety is improving and barriers to trade are being reduced by public agencies and private industry.***

Food Safety as a Potential Trade Enhancer, and Vice Versa



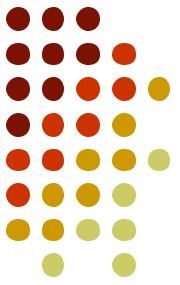
- Growing demand for quality attributes, including safety, is driving changes in food system
- Trade and value are enhanced for producers that can manage and certify product attributes
- Trade can provide alternatives for consumers and potentially lower costs of safety

Reducing Barriers-- The Public Sector



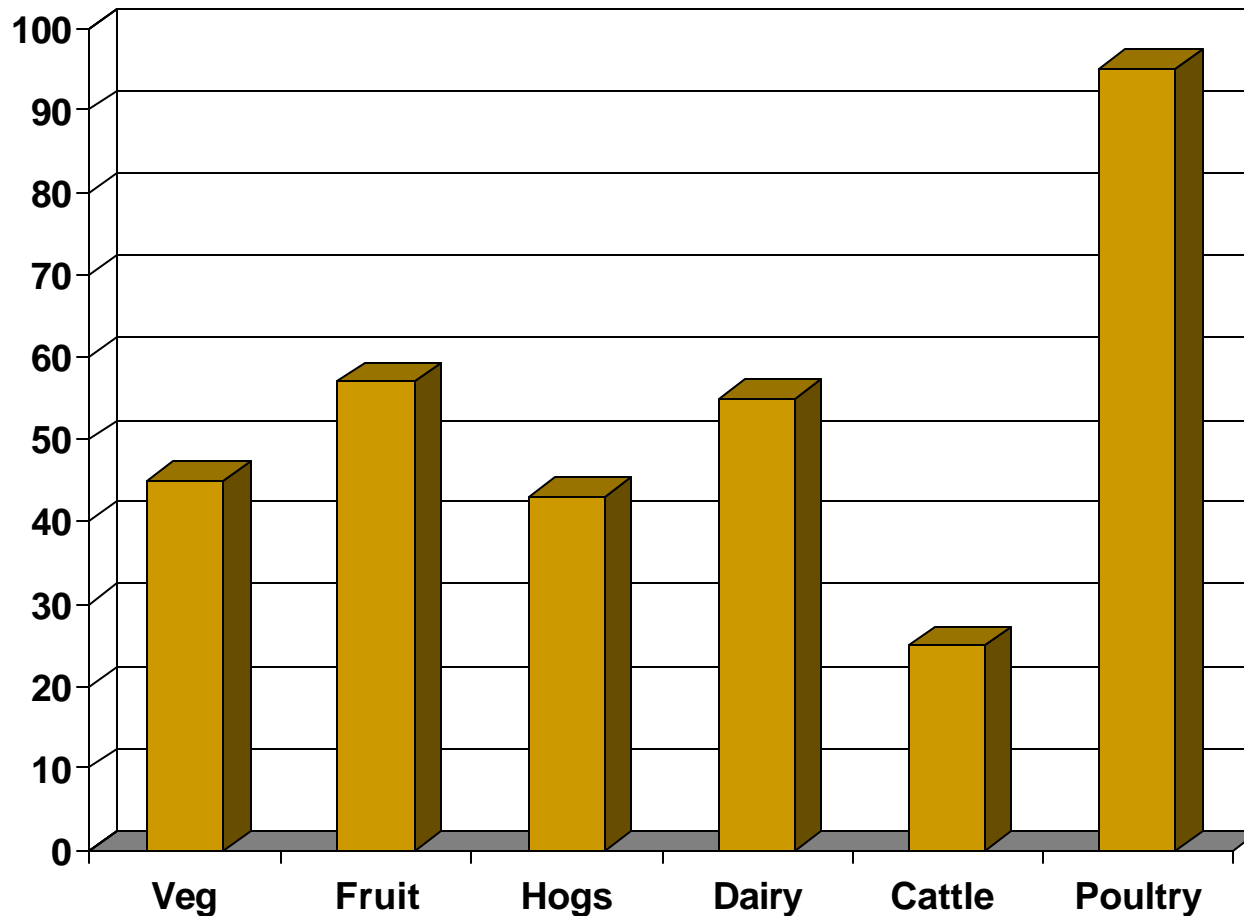
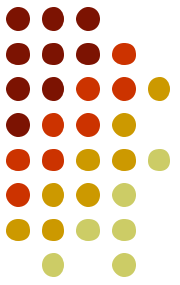
- Common approaches to food safety regulation emerging in industrialized nations
- HACCP used as regulatory standard with farm to table risk assessment
- New agencies formed in many countries with greater health focus
- Greater public role for certification of food safety and quality

Reducing Barriers-- The Private Sector



- Safety is only one of many attributes that increasingly demanded by consumers
- Use of “meta-systems” for quality assurance such as HACCP, ISO 9000, GAPs
- Increased vertical coordination and use of contracting in all ag sectors
- Increased use of third party certification, sometimes in partnership with public sector

Contract Production is Common for Many U.S. Commodities



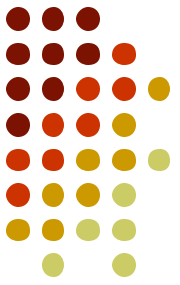
Percent of Production Under Contract, 1998

Public Sector Can Support Industry Food Safety Efforts



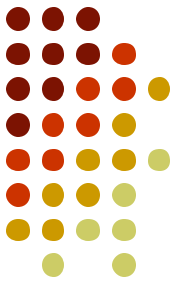
<i>Approach</i>	<i>Partnership Example</i>
Guidelines	UK – <i>FABPIG</i> guidelines for farms to reduce <i>Salmonella</i> in pigs US - <i>Good Agricultural Practices</i> to reduce microbial hazards in fresh fruits and vegetables
Third Party Certification	US - <i>Quality Through Verification</i> program certifies that fresh produce is produced under HACCP Netherlands - <i>IKB</i> programs for livestock producers

Reducing Barriers– The SPS Agreement



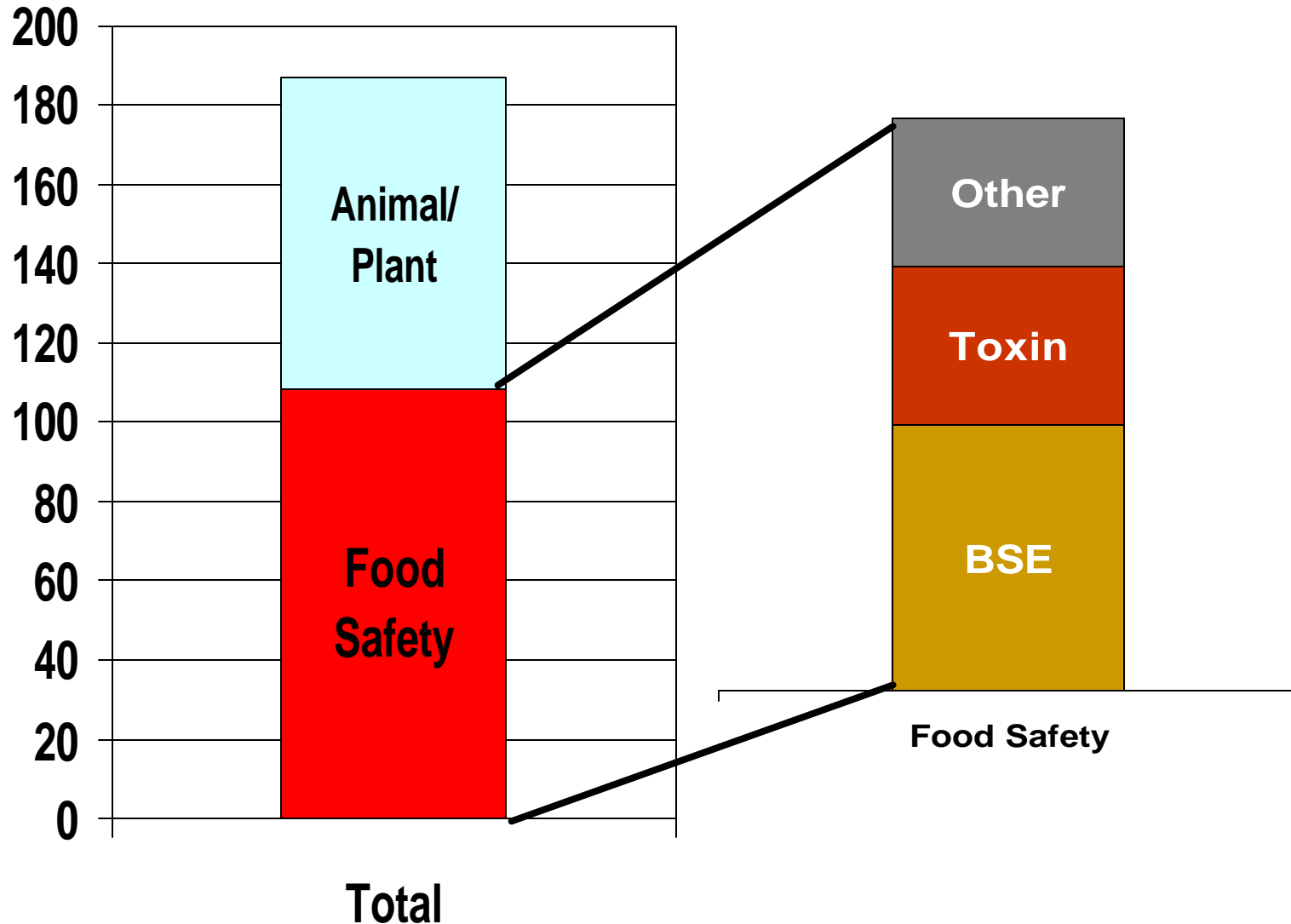
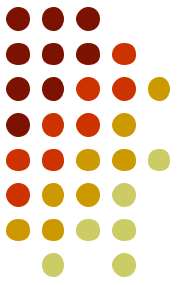
- 1995 Uruguay Round result
- Principles for setting SPS standards
 - Transparency
 - Science-based
 - Equivalence
 - National sovereignty
 - Harmonization through Codex

SPS Agreement Progress in Dispute Resolution

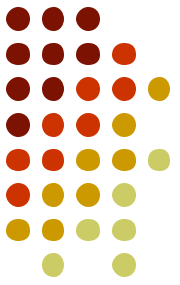


- Improved transparency and many disputes resolved before formal process
- Less progress on equivalency or harmonization
- Beef growth hormone dispute is unique, but does raise questions about the role of science and consumer perceptions

Cross-Notifications Filed under SPS, 1995-2001

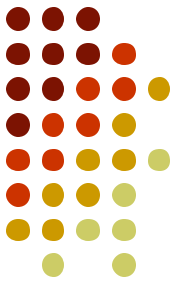


Summing Up- Barrier or Enhancer?



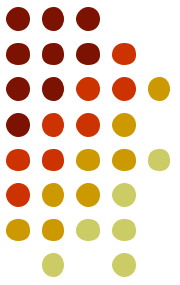
- Good news-- enhancement underway
 - International food trade increasing in volume, value, variety with remarkably little disruption
 - Progress in
 - International framework
 - Common approaches to regulation
 - Use of private standards

Summing Up– Barrier or Enhancer?



- Bad news-- barriers remain
 - Increased trade or new hazards create high profile disruptions in trade
 - Rising standards create challenges for new market entrants, particularly LDCs
 - Differences in risk perceptions and preferences make some disputes difficult to resolve

Summing Up– Food Safety is an International Public Good



- Shared responsibility for food safety extends across borders
- Industry reputation and consumer health are international public goods
- Barriers can be reduced, industry reputation enhanced, consumer choice enlarged, and food safety improved