

Risk of imported food

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In cooperation with
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Center for Human Performance and Risk Analysis &
The Center for World Affairs and the Global Economy (WAGE)

Managing Risk of Imported Food in the Global Economy

- A three year collaborative study sponsored by WAGE (The Center for World Affairs and the Global Economy)
 - <http://wage.wisc.edu/research/collaboratives/safety/>
- Collaborators include:
 - CHPRA (The Center for Human Performance and Risk Analysis) in the College of Engineering – Vicki Bier
 - Law School – Stephanie Tai
 - Food Research Institute – Chuck Czuprynski
 - All slides and comments are my own

Project overview

- Evaluate hazards in suppliers up the food chain
 - Through private (market-based) risk assessment & management
 - Through public (governmental) regulatory means of risk management
 - Or through a combination of the two
- Market-based regulation (private) is generally driven by consumer demands based on perception,
 - while public (governmental) regulation is often based on science (Roberts, 2010)
- Participation in the global economy provides benefits of lower prices along with costs of unforeseen hazards in the imported product

Risk assessment

- Public health risk assessment involves hazard identification, exposure estimates and dose-response
- Risk models help to evaluate the value of information and analyze potential mitigations and their costs
 - Need to know how large, how uncertain, and where they arise in the life cycle
- Risk assessment models can attribute harm to specific steps in the life cycle
- Risk assessment models may aid public health decision making

Examples of un-intentional contamination at various points in the supply chain

- Raspberry import Cyclospora outbreak
 - traced back to Guatemala and confirmed (1996-98)
- Unregistered canning processes
 - Bulging cans rejected at border (Buzby et al 2008)
 - Lead in seams may also be issue
- Farmed fish
 - Mercury, PCBs, dioxins from poorly regulated feeds
- Prior incompatible use of bulk shipping containers
- Brokers consolidating shipments to meet volume requirements

Examples of intentional contamination

- Economic fraud
 - Melamine in dairy products -2008
 - and melamine pet food -to mimic protein -2007
 - Heparin substitute -81 deaths, 2008
 - Honey Laundering – chloramphenicol
 - Diethylene glycol in toothpaste
 - Illegal coloring and sweeteners
- Criminal fraud and terrorism

Sourcing issues & risk

- Some ingredients are only available from China:
 - Citric acid, and some other “food-grade” chemicals
 - Dehydrated vegetables
 - Liquid vitamins, apple juice,...
- Structure of overseas market results in difficulties with quality assurance
 - Auditing
 - Many producers on cash basis; spot markets
 - Volume requirements vs. price

Issues affecting regulation in originating country

- Fragmented regulatory and oversight structures
 - Numerous government departments at national level
 - Little coordination with lower levels of government (usually responsible for enforcement)
- Lack of traceability or documentation
 - Due to lack of suitable standards or enforcement infrastructure
- Marketing systems dominated by large numbers of small firms shipping small volumes of product
 - Often with trade conducted on a cash basis
- Compliance for food safety can be expensive
- High levels of corruption
 - Which can defeat any regulatory system (Jiang, 2009)

Project recommendations to improve import safety

1. Improve communication and resource-sharing in federal oversight. (GAO, 2009)
 - CBP, USDA and FDA border inspection as well as state and local surveillance (Corby, 2009)
2. Improve consignment inspection rate at the border and
 - Improve the ability to identify high risk shipments using model PREDICT, with unique firm identifier.

Project recommendations to improve import safety

3. Build an EU-style rapid alert system for food (and feed)
 - Including surveillance support from states and the FDA reportable food registry
 - As well as traceback and alert/recall system as recommended by IFT (2009)
4. Intelligent, cost-effective forms of public-private cooperation
 - Shipment expedition systems, e.g., CT-PAT
 - Public-private partnerships in rapidly developing economies: education/training; verification/auditing; targeted testing for defects

Project recommendations to improve import safety, globally

5. Private strategies: supplier qualification programs for brand protection
 - Easier for large companies to leverage
 - How to deal with 2 or 3 suppliers upstream?
6. Expand global governance to include an organization for food protection
 - Develop capacity for food safety in other countries
 - Public: Organization for Food Protection (Sperber 2009)
 - Improve public health, education & training, resources
 - Private: The industry-led Global Food Safety Initiative (GFSI, 2000)
 - Including international standards GS1, BRC, SQF, FSSC