Risk of imported food

Lorna Zach, PhD.
Independent Consultant

In cooperation with
The University of Wisconsin – Madison
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/](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
   - 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