Disease Problems in the Global Food Supply
Prof. Corrie Brown, University of Georgia
A Webber Training Teleclass

DISEASE PROBLEMS IN THE GLOBAL FOOD SUPPLY – WHY? AND WHO DOES WHAT?

Emerging Diseases – 3 WAVES
- Brand new and spectacular
- Bioterror and new geographic areas
- Trade-generated, chronic

Emerging Diseases
- Brand new and spectacular

Emerging Diseases
- Bioterror, New geographic areas

Emerging Diseases
- Bioterror, New geographic areas

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Emerging Diseases – 3 WAVES
- Brand new and spectacular
- Bioterror and new geographic areas
- Trade-generated, food related

Globalization
"an ongoing process characterized by the integration of markets, nations, and technology to create an interdependent, worldwide economy.”

Seeds of Globalization
3 critical "inventions"
+ 2 key leaders

51 of the world’s 100 largest economies are corporations, not countries.

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Complex interdependence

Processed food industry
75% of total world food sales, $3.2T

World Trade Organization

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**Trade agreements**
- Consensus decisions
- Dispute settlement
- Enforcement by equivalent trade tariffs

**Sanitary and Phytosanitary Measures**
- Harmonization
- Equivalence
- Risk assessment using adequate methods
- Transparency
- Testing and certification – labs and ID

**The three sisters**
- WTO
- SPS
  - Animal health
  - Food safety
  - Plant health

**Specifics…**
- Joy of Cooking
- For all the little details

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Melamine – dog food
Thousands of deaths – dogs, cats
Pet food industry in US $38B

Salmonella wandsworth
Rare strain of Salmonella – in seasoning mix
99% of cases in children <3 years old

Shigella sonnei
- Denmark, Australia
- >130 cases
- MDR
- Imports from Thailand

Diethylene glycol – cough syrup

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Heparin recall
- 350 adverse events Dec 07 – Jan 08
- Heparin-like compound found in vials – as much as 5-20%
- Exact mechanism of contamination unknown but ingredients shipped from another country

The three sisters

US System for Food Safety
- "unified system"
- FDA for all products EXCEPT meat and poultry
- USDA for meat, poultry and eggs

5 principles:
1. Only safe and wholesome foods may be marketed
2. Regulatory decision-making in food safety is science-based
3. The government has enforcement responsibility
4. Manufacturers, distributors, importers and others are expected to comply and are liable if they do not
5. The regulatory process is transparent and accessible to the public.

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FDA’s Integrated Plan Provides Three Elements of Protection
PREVENT Foodborne Contamination
Promote Increased Corporate Responsibility to Prevent Foodborne Illnesses
Identify Food Vulnerabilities and Assess Risks
Expand the Understanding and Use of Effective Mitigation Measures

INTERVENE at Critical Points in the Food Supply Chain
Focus Inspections and Sampling Based on Risk
Enhance Risk-Based Surveillance
Improve the Detection of Food System “Signals” that Indicate Contamination

RESPOND Rapidly to Minimize Harm
Improve Immediate Response
Improve Risk Communications to the Public, Industry and Other Stakeholders

E. coli in spinach
- 204 cases
- 104 hospitalizations
- 31 had renal failure
- 3 deaths

Salmonella Tennessee
- Identified through PulseNet, early 2007
- 628 people, 47 states
- 20% hospitalized
- From one plant, Sylvester, Georgia

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Salmonella schwarzengrund

- 62 cases in humans
- 40% < 1 year old

Hallmark/Westland Meat Packers

- 143 million pounds of beef recalled
- Class II hazard

Acanthamoeba keratitis

- Contact lens solution
- 220 people, in 37 states
- 20 needed corneal transplants

Teleclass Education, April...

- Disease Problems in the Global Food Supply
  Prof. Corrie Brown, University of Georgia
- Antibiotic Resistance - Can We Hold Back the Tide?
  Dr. Mark Thomas, Auckland District Health Board
- Study Strategies for the CIC Exam
  CBIC Board Members and Guests
- Case Study: What I Learned in Kindergarten Was Very Useful in Controlling a Large VRE Outbreak
  Dr. Dick Zoutman, Queen’s University

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