


# 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?**



**Corrie Brown, DVM, PhD**  
Professor of Veterinary Pathology  
University of Georgia, Athens, GA




Hosted by Paul Webber  
paul@webbertraining.com  
www.webbertraining.com

**Emerging Diseases – 3 WAVES**

- Brand new and spectacular
- Bioterror and new geographic areas
- Trade-generated, chronic




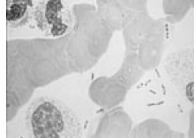

**Emerging Diseases**

**LYME DISEASE ALERT**  
Stay Safe, Remove & Tuck  
- Using tweezers, grasp tick near the mouth parts, as close to skin as possible.  
- Pull tick in a steady upward motion away from skin.  
- DO NOT use benzene, matches, or petroleum jelly to remove tick.  
- Disinfect site with soap and water, rubbing alcohol or hydrogen peroxide.  
- Record date and location of tick bite. If rash or flu-like symptoms appear, contact your health care provider immediately.  
DISEASE RISK IS REDUCED IF TICK IS REMOVED WITHIN 48 HOURS.  
New York State Department of Health

Brand new and spectacular

**Emerging Diseases**

Bioterror, New geographic areas


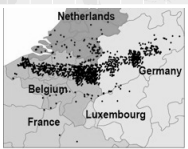


**Emerging Diseases**




"Buddy" before "Buddy" after

Ask your vet about BOWOTOX for your pet!  
BOTOX: Not just for humans anymore.

**Emerging Diseases**

Bioterror, New geographic areas

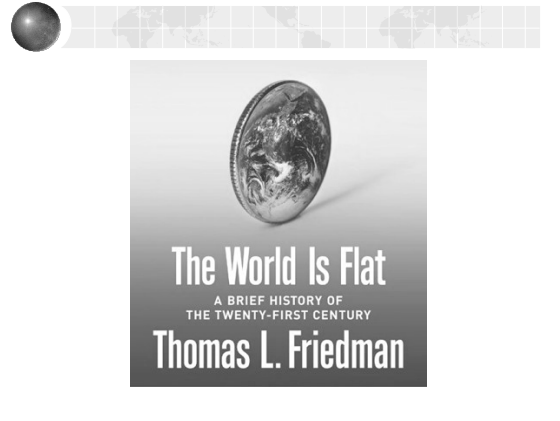
Hosted by Paul Webber paul@webbertraining.com  
www.webbertraining.com

# Disease Problems in the Global Food Supply

Prof. Corrie Brown, University of Georgia  
A Webber Training Teleclass

## 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

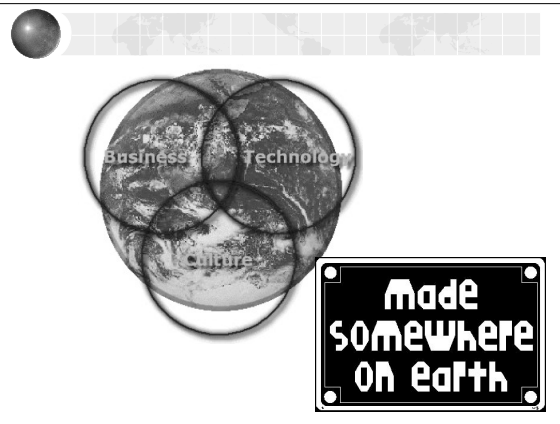


3 critical “inventions”



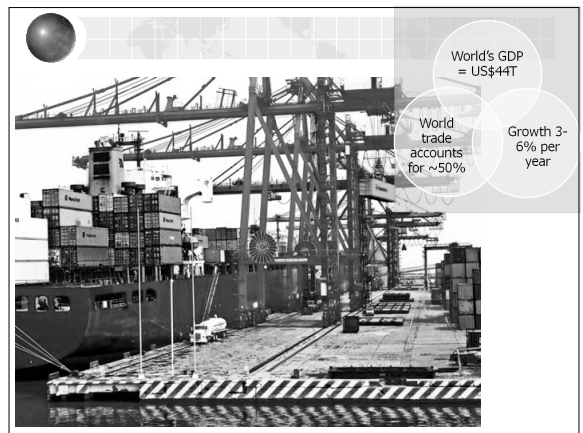
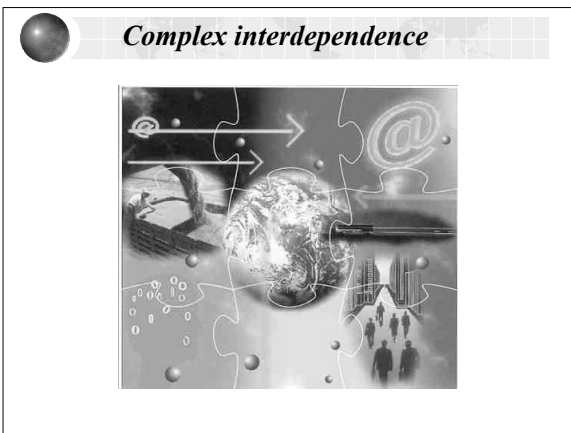
+ 2 key leaders

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



# Disease Problems in the Global Food Supply

Prof. Corrie Brown, University of Georgia  
A Webber Training Teleclass



# Disease Problems in the Global Food Supply

## Prof. Corrie Brown, University of Georgia

### A Webber Training Teleclass

### Trade agreements

- Consensus decisions
- Dispute settlement
- Enforcement by equivalent trade tariffs



The principles

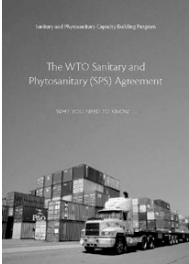

The trading system should be ...

- **without discrimination** – a country should not discriminate between its trading partners (giving them equally "most favored nation" or MFN status), and it should not discriminate between its own and foreign products, services or nationals (giving them "national treatment").
- **free** – barriers coming down through negotiations.
- **predictable** – foreign companies, investors and governments should be confident that trade barriers (including tariff and non-tariff barriers) should not be raised arbitrarily; tariff rates and market-opening commitments are "bound" in the WTO.
- **more competitive** – discouraging "infant" practices such as export subsidies and dumping products at below cost to gain market share.
- **more beneficial for less developed countries** – giving them more time to adjust, greater flexibility, and special privileges.




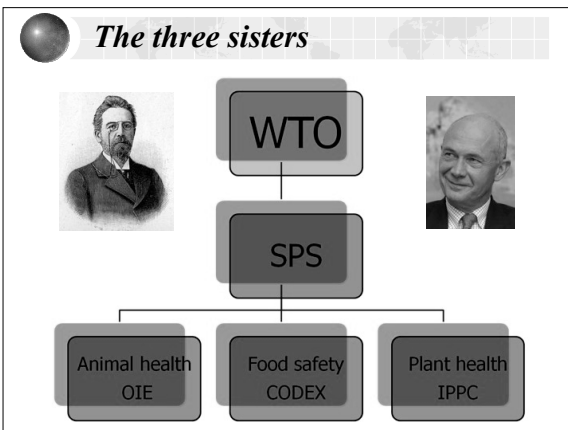
How to know if you're mom's favorite.....

### Sanitary and Phytosanitary Measures

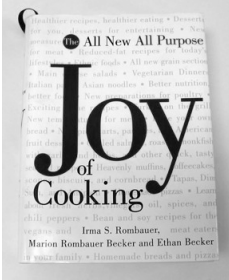
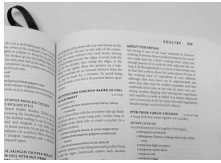



### SPS Articles

- Harmonization
- Equivalence
- Risk assessment using adequate methods
- Transparency
- Testing and certification – labs and ID

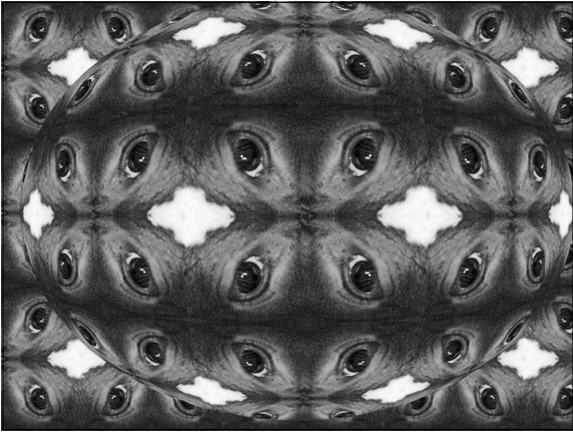
### Specifics.....

For all the little details

# Disease Problems in the Global Food Supply

Prof. Corrie Brown, University of Georgia  
A Webber Training Teleclass



## Melamine – dog food

March 2007

Are You Feeding Me Contaminated Food?

## Melamine – dog food

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

## Salmonella wandsworth

Rare strain of *Salmonella* – in seasoning mix  
90% of cases in children <3 years old

\*New York State case count -  
New York State case count

## Shigella sonnei

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

## Diethylene glycol – cough syrup

U.S. Food and Drug Administration

From China to Panama, a Trail of Poisoned Medicine

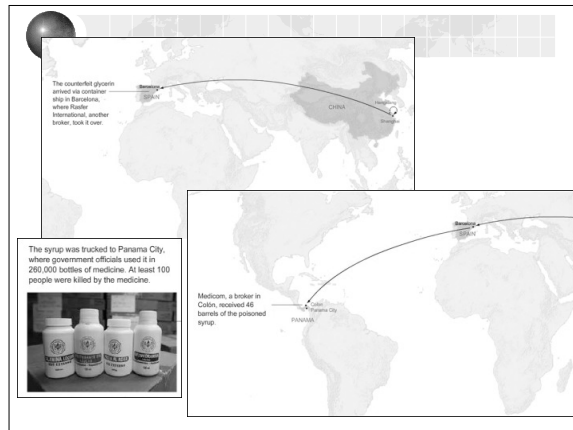
- Contaminated toothpaste in Dominican Republic, Panama, Australia
- >100 deaths in Panama from cough syrup

[http://www.nytimes.com/ref/world/20070506\\_POISON\\_GRAPHIC.html](http://www.nytimes.com/ref/world/20070506_POISON_GRAPHIC.html)

# Disease Problems in the Global Food Supply

## Prof. Corrie Brown, University of Georgia

### A Webber Training Teleclass



### 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

**<sup>1</sup>H-NMR Spectroscopy**

### Heparin, Import Alert – FDA's Role

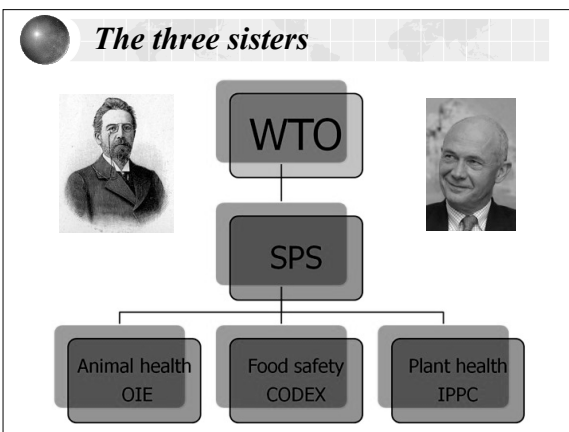
As of March 14, 2008

**PRODUCT ENTRY**  
Heparin, including Active Pharmaceutical Ingredient (API) and finished heparin, enter U.S. ports from overseas.

**IMPORT ALERT**  
FDA issues import alert on shipments from specified manufacturer and product. If product is imported from manufacturer, investigators will detain shipment.

**INDUSTRY & FDA RESPONSE**  
If industry provides information and FDA confirms that appropriate corrections have been made, FDA will remove the manufacturer and product from the import alert.

**SAFE PRODUCT SUPPLIED**  
FDA continues to engage with industry to help ensure adequate supply of safe heparin reactive patients.



### 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.

# Disease Problems in the Global Food Supply

## Prof. Corrie Brown, University of Georgia

### A Webber Training Teleclass




**U.S. Food and Drug Administration**  
CENTER FOR FOOD SAFETY AND APPLIED NUTRITION

**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



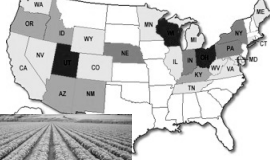


Department of Health and Human Services  
Centers for Disease Control and Prevention

CDC en Español


Search:

***E. coli* O157:H7 Outbreak from Fresh Spinach**

Aug - Sept 2006







Salinas Valley, California - "Salad Bowl of the World"  
2B bags of fresh salad per year





***E. coli* in spinach**

- 204 cases
- 104 hospitalizations
- 31 had renal failure
- 3 deaths






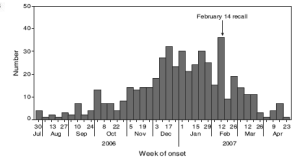
***Salmonella* Tennessee**

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



■ = states with reported cases



**FIGURE 1.** Number of confirmed cases (n = 481)\* of *Salmonella*/a Tennessee infection associated with consumption of peanut butter, by week of symptom onset — United States, August 1, 2006–April 23, 2007


\* Cases with outbreak-associated pulsed-field gel electrophoresis pattern and for which date of symptom onset was available.

# Disease Problems in the Global Food Supply

## Prof. Corrie Brown, University of Georgia

### A Webber Training Teleclass



**Salmonella schwarzengrund**



Dry pet food  
62 cases in humans  
40% < 1 year old

**Hallmark/Westland Meat Packers**

- 143 million pounds of beef recalled
- Class II hazard

**USDA RECALL CLASSIFICATIONS**


Class I This is a health hazard situation where there is a reasonable probability that the use of the product will cause serious, adverse health consequences or death.

Class II This is a health hazard situation where there is a remote probability of adverse health consequences from the use of the product.

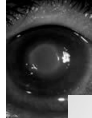

Class III This is a situation where the use of the product will not cause adverse health consequences.

February, 2008


**Acanthamoeba keratitis**



*Acanthamoeba Keratitis --- Multiple States, 2005--2007*

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



Expect the unexpected!



**Teleclass Education, April . . . Around the World**

- April 3** *The Human and Environmental Toxicity of Microbicidal Chemicals: Are Safer Alternatives Available*  
Dr. Susan Springthorpe, University of Ottawa
- April 10** *Disease Problems in the Global Food Supply*  
Dr. Corrie Brown, University of Georgia
- April 16** *Antibiotic Resistance - Can We Hold Back the Tide?*  
Dr. Mark Thomas, Auckland District Health Board
- April 17** *Study Strategies for the CIC Exam*  
CBIC Board Members and Guests
- April 22** *Live broadcast from Central Sterilisation Conference, Liverpool*  
Prof. Shaheen Mehtar, South Africa
- April 24** *Case Study - What I Learned in Kindergarten Was Very Useful in Controlling a Large VRE Outbreak*  
Dr. Dick Zoutman, Queen's University