Food Emergency Response at the SHL - Chemistry

Presented by:

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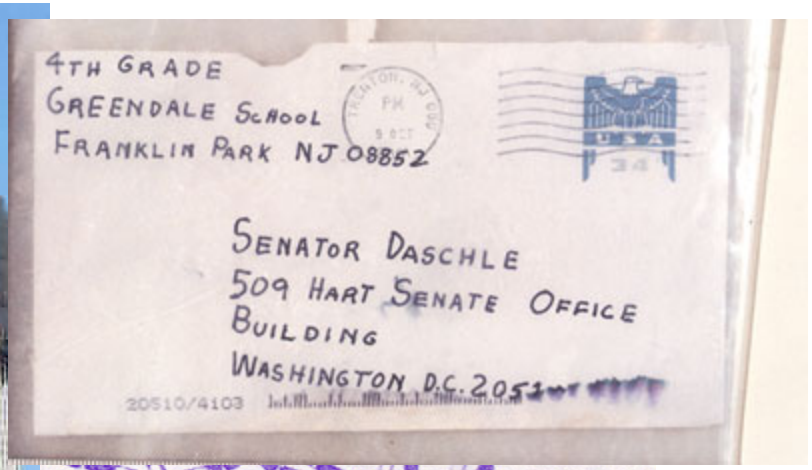
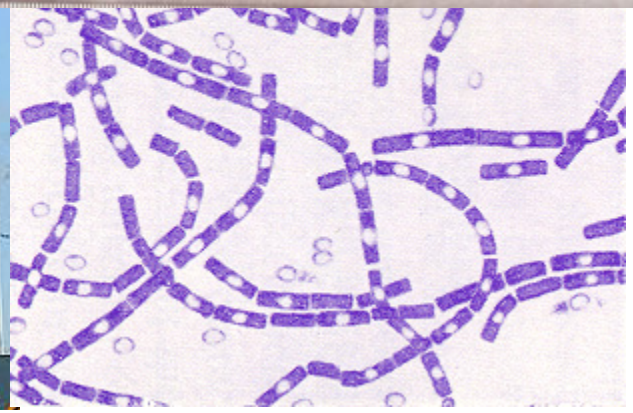
Changing World





Food Safety and Security

Safe food supplies are critical to the well-being of our citizens and for the national economy.

Agricultural commodities and finished food products are vulnerable to deliberate or accidental contamination.

The source of contamination can be biological, chemical, or radiochemical.

Incidents of Deliberate Adulteration

- 1984 - Rajneeshee bioterror attack in Oregon. Spiked salad bars with *Salmonella* at local restaurants to suppress voter turnout for election.
- 2009 – Harvard University. Coffee spiked with sodium azide.

Homeland Security Presidential Directive 9 (HSPD-9)

- Issued in January 2004.
- Established a national policy to defend the agriculture and food system against terrorist attacks, major disasters, and other emergencies.
- HSPD-9 addresses the need for the development of:
  - Surveillance and monitoring systems for early detection and awareness of food contamination events
  - Tracking systems
  - Mitigation strategies in response to events
  - Response planning and recovery activities that will be integrated into the National Response Plan
  - Nation-wide laboratory networks for food, veterinary, plant health, and water quality that integrate existing federal and state laboratory resources, are interconnected, and utilize standardized diagnostic protocols and procedures.

FERN

Food Emergency Response Network

Consortium of federal, state, and local laboratories and agencies prepared to respond to accidental and deliberate contamination of the nation's food supply

The SHL is a member of the FERN network in chemical, microbiological, and radiochemical testing.

The SHL has cooperative agreement grants from the FDA for chemical testing and from the USDA/FSIS for microbiological testing.

Mission of FERN

- To integrate the nation's food testing laboratories at the local, state, and federal levels into a network that is able to respond to emergencies involving biological, chemical, or radiological contamination of food.

Main Objectives of FERN

- Prevention – Early detection of threats to food supply via monitoring.
- Preparedness – Prepare nation's food testing laboratories to be ready to test food samples in response to an actual emergency.
- Response – Ensure adequate laboratory capacity to respond to food emergencies.
- Recovery – Surveillance testing of food samples after threat is over to restore consumer confidence. Improve national surge capacity.

Achieving Objectives

- Integration of nation’s food testing laboratories.
- Development and standardization of food testing methodologies
- Training
- Proficiency testing

Federal Agencies in FERN

- CDC
- DHS
- DOD
- FBI
- US Customs and Border Protection
- USDA
- USEPA
- USFDA
- FERN coordinated by USFDA and USDA/FSIS

FERN Regional Coordination Centers

- Five RCCs are located throughout the U.S., one in each region, and are staffed by FDA and FSIS personnel
  - General duties - Identify needs of the region and convey those needs to the NPO

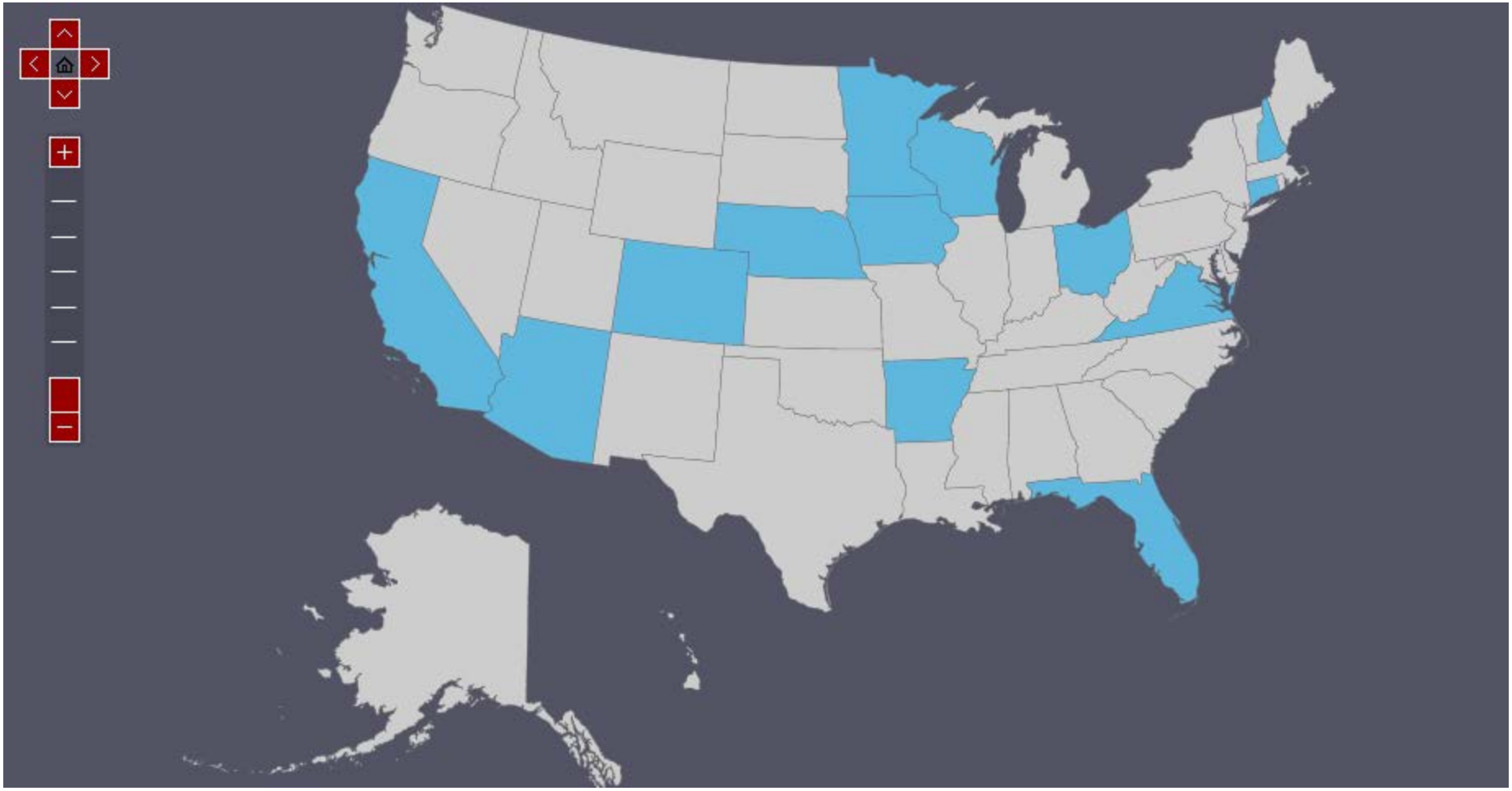
National Laboratory Response Networks

- Laboratory Response Network
- Environmental Laboratory Response Network
- Food Emergency Response Network
- National Plant Diagnostic Network
- National Animal Health Laboratory Network

FERN cCAP Program

- Consortium of 14 state laboratories working with the FDA
- Provide laboratory surge capacity support
- Assist with method development/method validation of food testing methods
- Provides analytical equipment on loan to participating labs
- Funds used to hire staff, purchase needed labortory supplies

FERN cCAP Labs



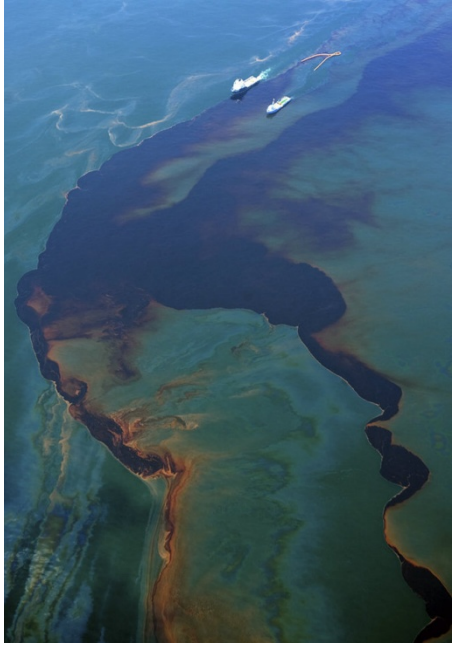
Melamine in Pet Food (2007)

- Deaths of companion animals linked to pet food using raw ingredients from China.
- Melamine and cyanuric acid identified as contaminants by FDA lab.
- FDA lab developed testing method.
- FDA and state labs analyzed pet food, raw ingredients, pork, and fish with over 200 samples tested.

Large-scale food events

- Melamine in Milk Products
  - FERN chem labs assisted FDA in the analysis of samples
  - FDA assignment written for FERN chemistry labs.
  - FERN helped clear very large FDA sample backlog

PAHs in Seafood (2010)



- Response to oil spill in Gulf of Mexico.
- Need to test fish/seafood for contamination.
- Tested for PAHs.
- Necessary to ensure fish/seafood products from the region were safe to consume.
- State and federal FERN labs participated with the testing.

Arsenic (2012)

Selected Chemistry Activities At SHL

- Testing imported Asian food products for melamine and cyanuric acid.
- Testing arsenic in juice and rice.
- Metals speciation.
- Testing for lead in processed deer meat.
- Screening foods from national political conventions for various inorganic and organic contaminants.




Questions???