

Science, Technology and Security: Knowledge for the Post-9/11 World

Presentation by:

Dr. Steve Weber

Veterinary Service

USDA-APHIS, Fort Collins, CO

Bioterrorism and Animal Agriculture

The background is a solid teal color. At the bottom of the image, there is a dark teal silhouette of a mountain range with jagged peaks and valleys.

Role of USDA APHIS Veterinary Services

- ◆ 1500 employee agency within APHIS
 - Animal and Plant Health Inspection Service
- ◆ Traditional Role
 - Prevent entry of Foreign Animal Diseases into the US
 - Control and eradication of existing animal diseases of importance to animal agriculture

Role of Veterinary Services

- ◆ Approximately 400 field veterinarians
- ◆ Work collaboratively with State Departments of Agriculture, State Veterinarians
- ◆ National Veterinary Services Laboratory – Ames IA, Plum Island, NY
- ◆ Animal Biologics oversight, Ames IA
- ◆ Policy and program staff, Riverdale, MD
- ◆ Center for Epidemiology and Animal Health – Ft. Collins, CO

Role of Veterinary Services

- ◆ Impact of Animal Agriculture
 - Domestic economy
 - ◆ 2001 Farm Related Income - \$ 42.4 B
 - International Trade
 - ◆ 2001 Total Agriculture Exports - \$ 53 B
 - ◆ 2001 Total Livestock Exports - \$ 13 B

Current Response Capability

- ◆ Refocus due to increase of outbreaks of disease in foreign countries 5 years ago
- ◆ Began working on State- Federal Emergency Management Capacity
- ◆ States have defined and refined their response capability, capacity and critical links with other agencies

Current Response Capability

- ◆ Foreign animal disease investigations
- ◆ Incident Command System
 - Used successfully by Forest Service
 - Employed with recent outbreak of Low Path Avian Influenza
- ◆ Increased vigilance at international border ports,
 - 489 million passengers crossed border in 2002
 - 38,000 animals daily
 - work with HS in future
- ◆ Increased education of Federal, State, Military veterinarians on Foreign Animal Diseases
- ◆ Updating and increasing capacity at National Veterinary Services Laboratories

Current Preventative Capability

- ◆ Augmenting animal disease surveillance system in collaboration with other agencies and industry – domestic and international
- ◆ Risk assessment of animals and animal products scheduled for import into the US
 - Pathway analysis for introduction of FAD's into the US

New Approaches for Preventing and Responding to Bioterrorism

- ◆ Homeland security grant for rapid field identification of potential bioterrorism agents
 - Positive id within 1 hour
 - Foot and mouth disease virus,
 - Rinderpest
 - Rift Valley fever
 - Classical swine fever
 - Highly pathogenic avian influenza
 - Contagious bovine pleuropneumonia
 - Vesicular stomatitis
 - Swine vesicular disease
 - Newcastle disease
 - African swine fever

New Approaches for Preventing and Responding to Bioterrorism

- ◆ Bioterrorism Response Act – June 2002
- ◆ CDC/DOJ/APHIS must share information regarding “select agents.”
- ◆ List of 23 select agents has been developed.
- ◆ List was sent to all labs. They must respond back whether or not they have that agent. Due back by 10/10. (Being done by CDC contractor)
- ◆ Information on agents and all individuals with access to agents will be reviewed by DOJ. DOJ will send a recommendation on each individual’s suitability for continuing that work.
- ◆ Need database that will store information such as an identification of the location of agents, and registration data reviewed by DOJ. Database will be classified as “secret.”
- ◆ Database must be up and functional by Dec.

New Approaches for Preventing and Responding to Bioterrorism

- ◆ Comprehensive Surveillance
 - Identify New and Emerging Diseases
 - Identify incursion of FAD's
 - Establish prevalence of existing diseases
 - ◆ Disease control programs
 - ◆ Exportation of animals/animals products
 - Domestic and international components

New Approaches for Preventing and Responding to Bioterrorism

- ◆ National Animal Health Laboratory Network
 - Share information between State DX Labs and the National Veterinary Services Laboratory
 - Share information with CDC
 - Automate labs which currently don't have sufficient IT technology
 - Initial \$\$ provided by Homeland Security

New Approaches for Preventing and Responding to Bioterrorism

- ◆ Industries collaborating on initiating animal identification for all species
 - Assist in rapid traceback of disease
 - ◆ Live animal
 - ◆ Meat/Dairy products
 - Assist in identifying potential areas of spread for disease

Critical Areas for Research and Enhancement for Prevention and Response

- ◆ Increased education of veterinary practitioners, animal health specialists on potential pathogens, FAD's
- ◆ Capacity and capability for Animal Diagnostic Labs to process and identify pathogens
- ◆ Increased surveillance, recording of data and subsequent analysis to detect baseline trends in disease and abnormalities – domestic and international

Critical Areas for Research and Enhancement for Prevention and Response

- ◆ Infrastructure for surveillance and capacity to respond to multiple outbreaks of disease – State and Federal - Recent Safeguarding Review
- ◆ Humane, capability for disposal of large volumes of carcasses
- ◆ Ability to retain confidentiality of surveillance information
- ◆ Increased capability to attract and retain necessary scientific expertise – Biotechnology, GMO's

Critical Areas for Research and Enhancement for Prevention and Response

- ◆ Increased availability and efficacy of vaccines
- ◆ Increased sensitivity and specificity of diagnostic tests
- ◆ Need to prioritize and coordinate necessary research to be completed in a timely manner