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

Presentation by:

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Bioterrorism and Animal Agriculture
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