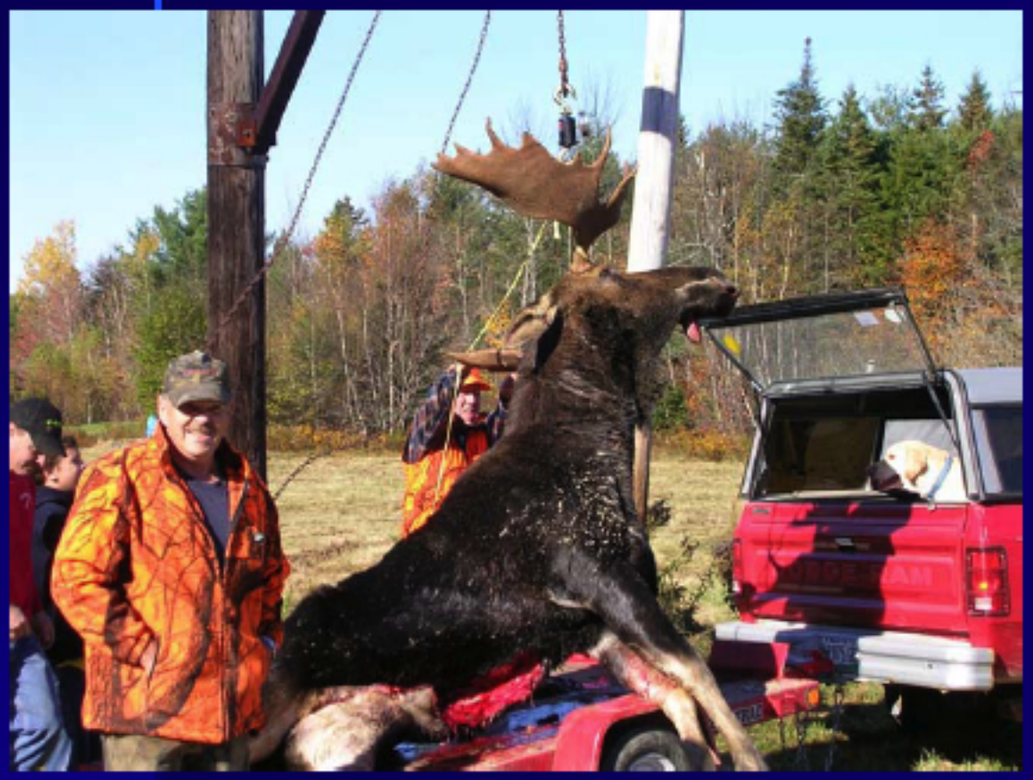
From Carcass Disposal to Carcass Management:

Exploring the Meaning of a Name Change…



Bethany O'Brien, V.M.D.

USDA APHIS

FAZD Center Nov 2006

Where we are

- Carcass Disposal
- Agent Destruction
- Primary Countermeasure for FAD
- Confluence of Interest regarding Federal Regulations
- One Hazard

Where we want to be

- Carcass Management
- Alternative Management Strategies
  - Energy re-use/recycling
  - Protein salvation
  - Vaccine and Anti-viral countermeasures
- National consistency in animal emergency response

Historic Solution

New Paradigms

Tools to help us get there:

- FADT Strategic Plan
- NVS
- Ag Biomass Disposal Tool

Protecting Against High Consequence Animal Diseases: Research & Development Plan for 2008-2012

The National Science and Technology Council's
Subcommittee on Foreign Animal Disease Threats

Top-level drivers

National Veterinary Stockpile (NVS)

Priorities of NVS Steering Committee (AI, FMD, RVF); 'Customer' for deployment of vaccines & immunomodulators

National Animal Health Laboratory Network (NAHLN)

'Customer' for deployment of validated diagnostics

NBII Wildlife Disease Information Node

'Customer' for data acquisition, management, archiving, curation, and distribution

Veterinary Countermeasures

- Diagnostics;
- Vaccines;
- Immunomodulators

Modeling

- Intervention strategies;
- Countermeasure requirements

Disposal & Decontamination

- Data on agent;
- Affordable, acceptable, disposal technologies

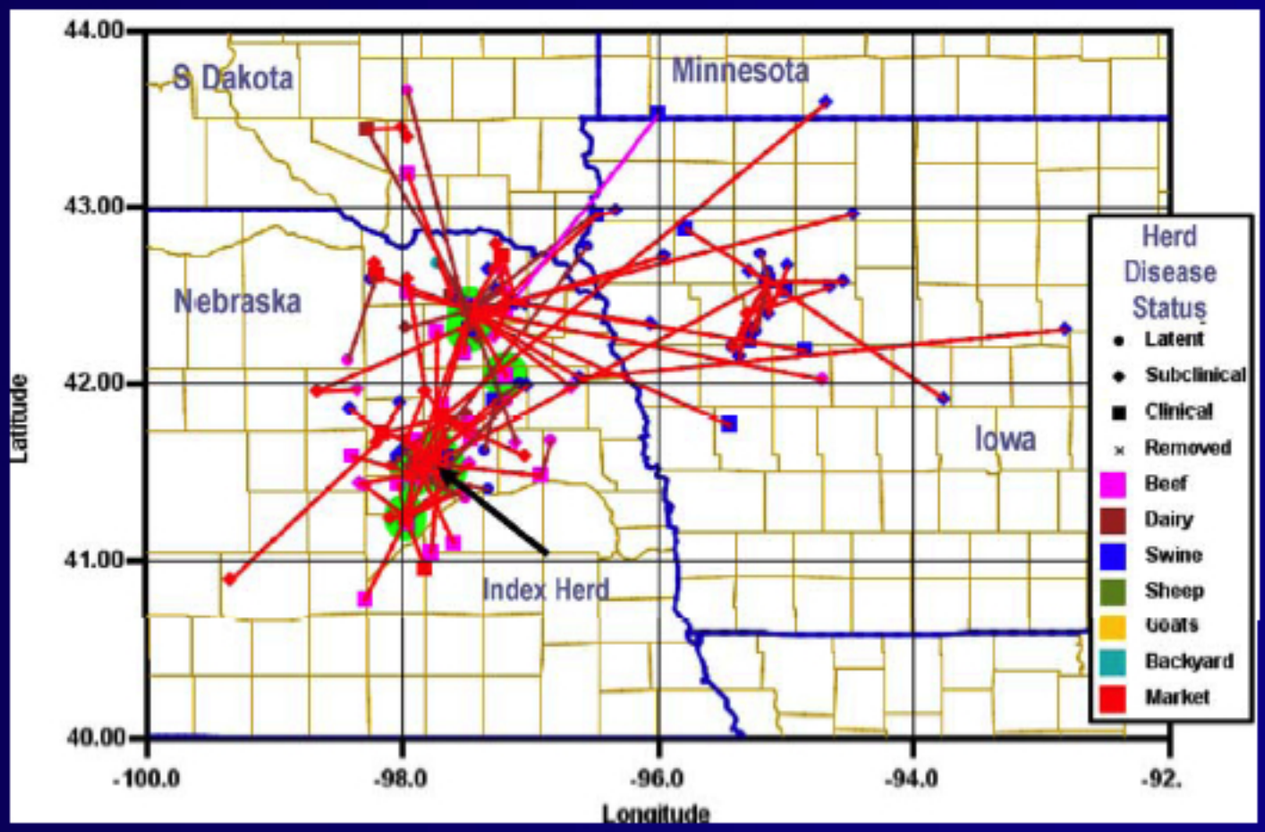
Basic Research

- How a pathogen interacts with its host and is spread;
- How a pathogen exists in nature and in wildlife reservoirs

Major Modeling Capabilities by 2008

- 4-10 HPAI and FMD scenarios and analysis
- Updates to the National Veterinary Stockpile
- Modeling outputs to guide disposal and decontamination

- Modeling outputs for economic modelers
- Establishment of data archives



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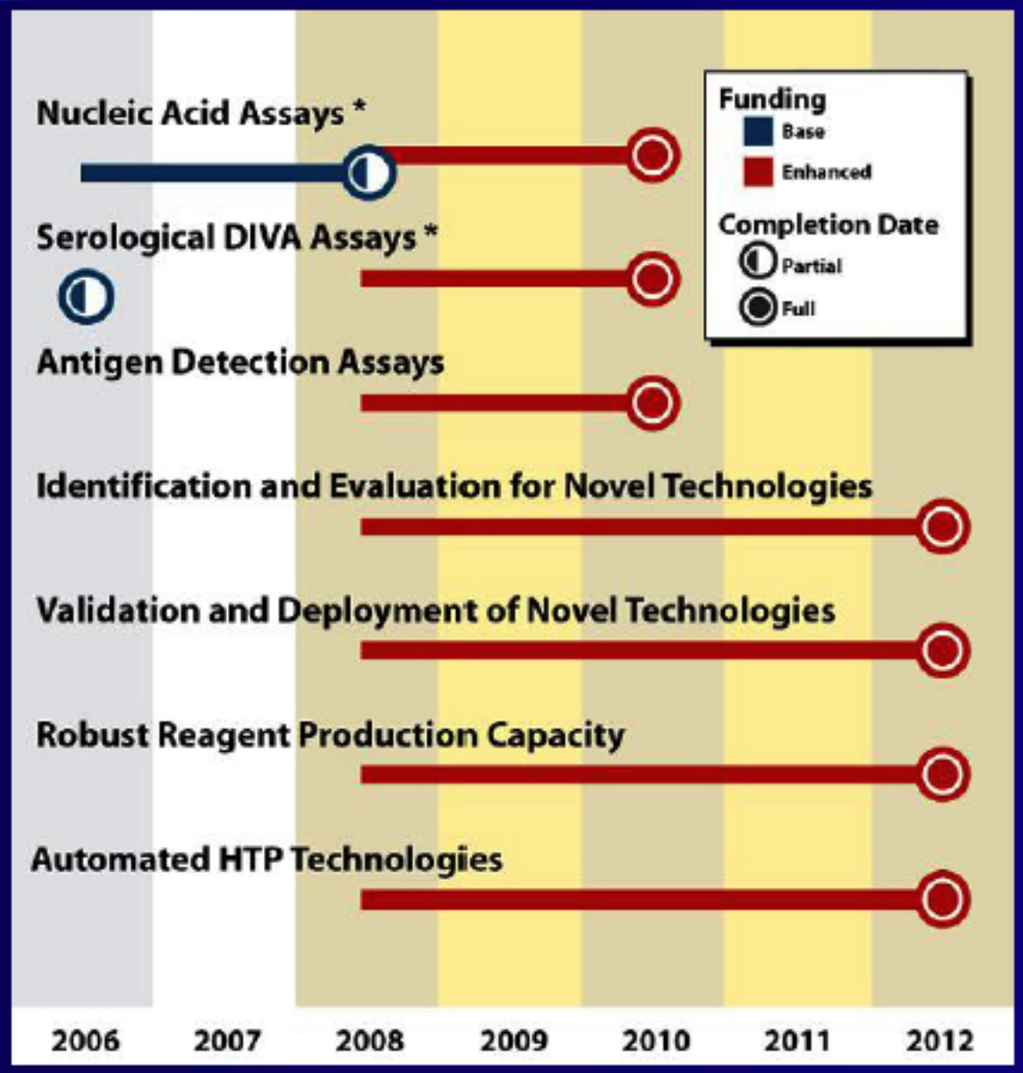
Diagnostic Countermeasures

Assays currently in development:



- RT-PCR for CSF
- DIVA assays for FMD & CSF
  - Detection of vaccinated vs. infected animals
- Pen-side assays
- Microarrays

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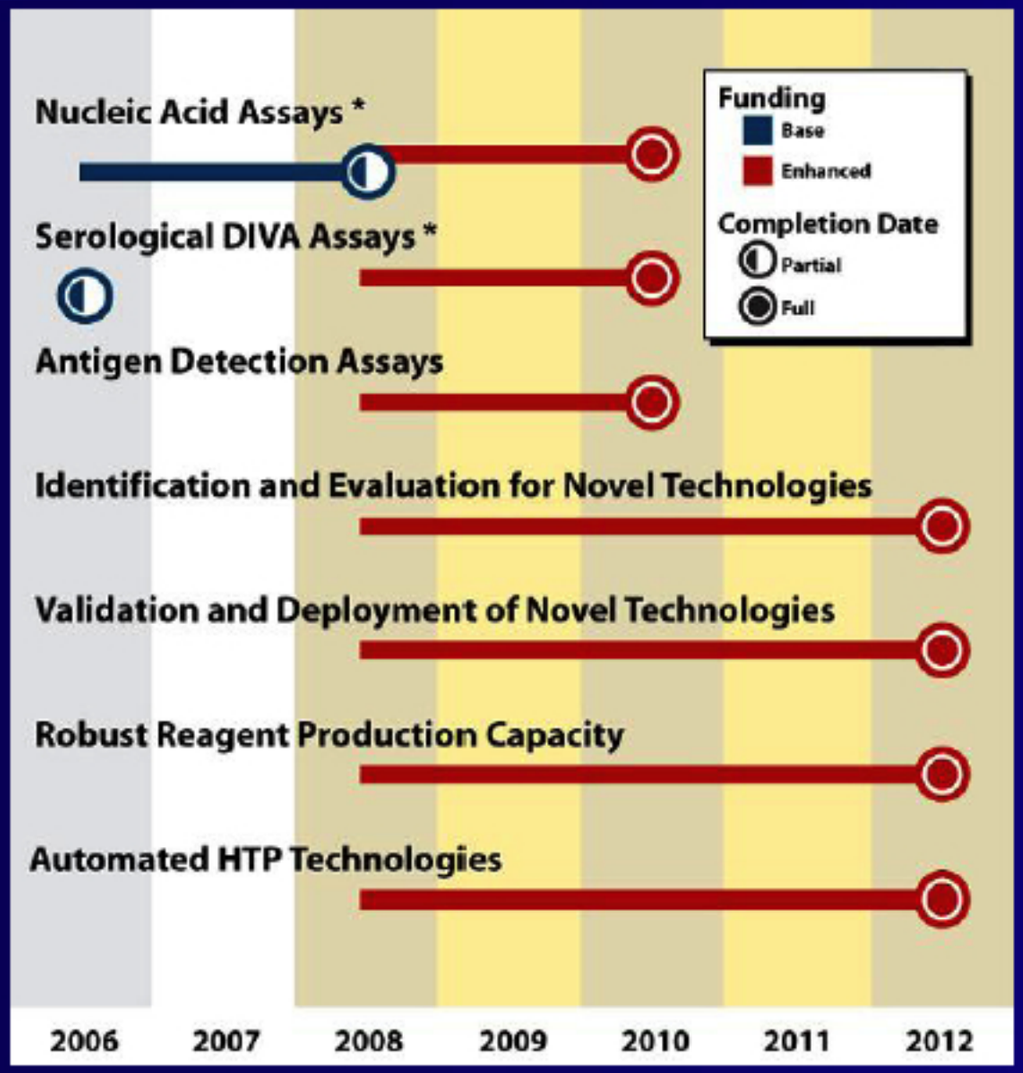
Diagnostic Countermeasures

High throughput (HTP) diagnostics:



- Demonstrated 1000 samples per day with 2 technicians
- In coordination with USDA/ VS/-IT/LIMS system, transitioning some HTP technology to NAHLN
- Looking to place more HTP at NAHLN & FADDL

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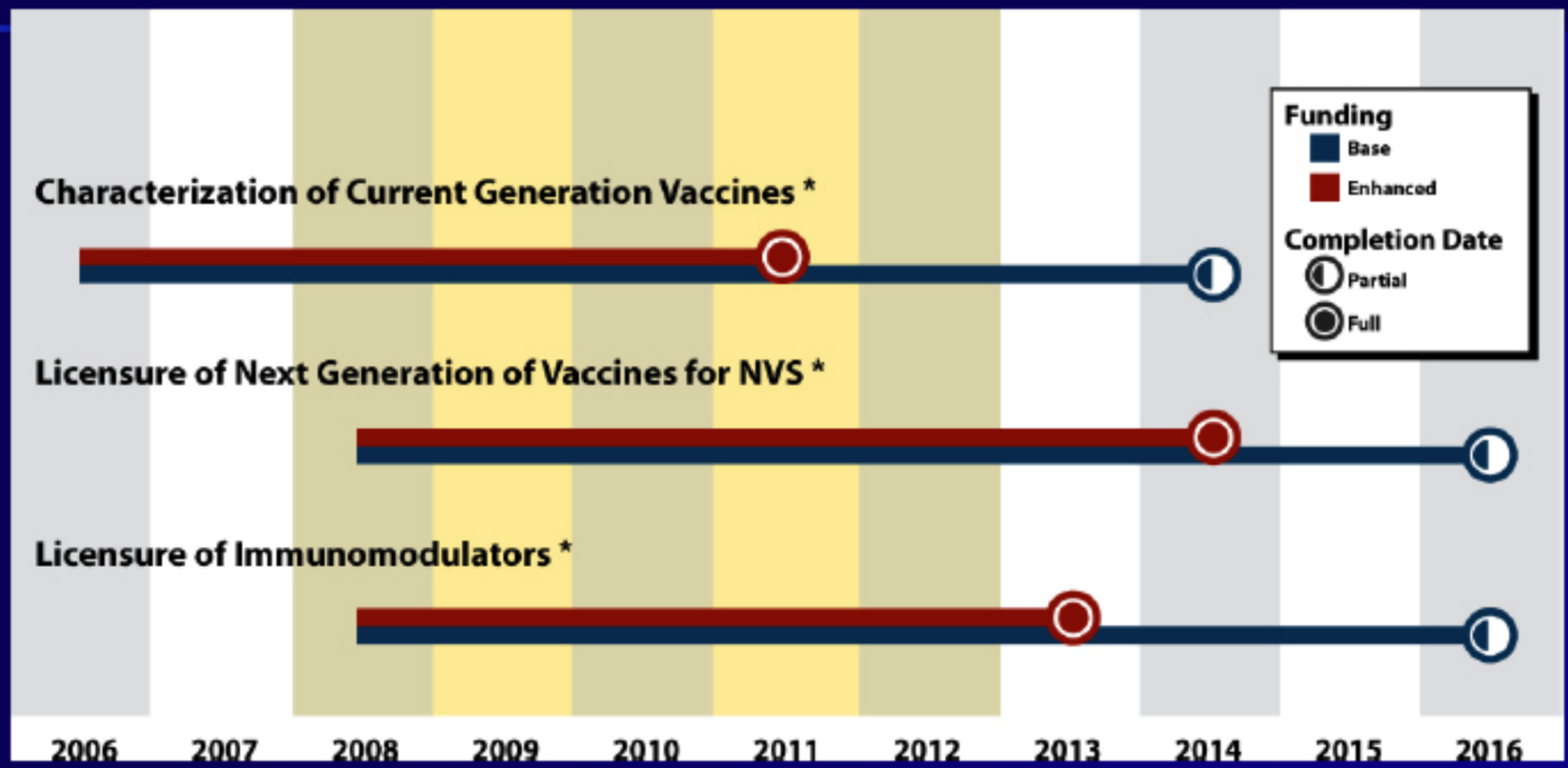
Vaccine Countermeasures



Completion of these projects could be accelerated
from 8-10 years to 5-8 years for HPAI, FMD, END, and RVF.

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Disposal & Decontamination

- Disease agent persistence, fate and transport
- Disposal method cost/benefit analysis
- Ecological and human health risk assessment
- Surrogate equivalency
- Disinfectant efficacy and registration

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Top-level issues

Decontamination and Disposal (D+D) is significantly under-funded, and authorities map to multiple agencies (confluence of interest). A national system of operations not yet in existence remains the critical first-step in the utilization of R&D products

National Veterinary Stockpile

Animal and Plant Health Inspection Service
U.S. Department of Agriculture

Dr. Glen Garris, Director

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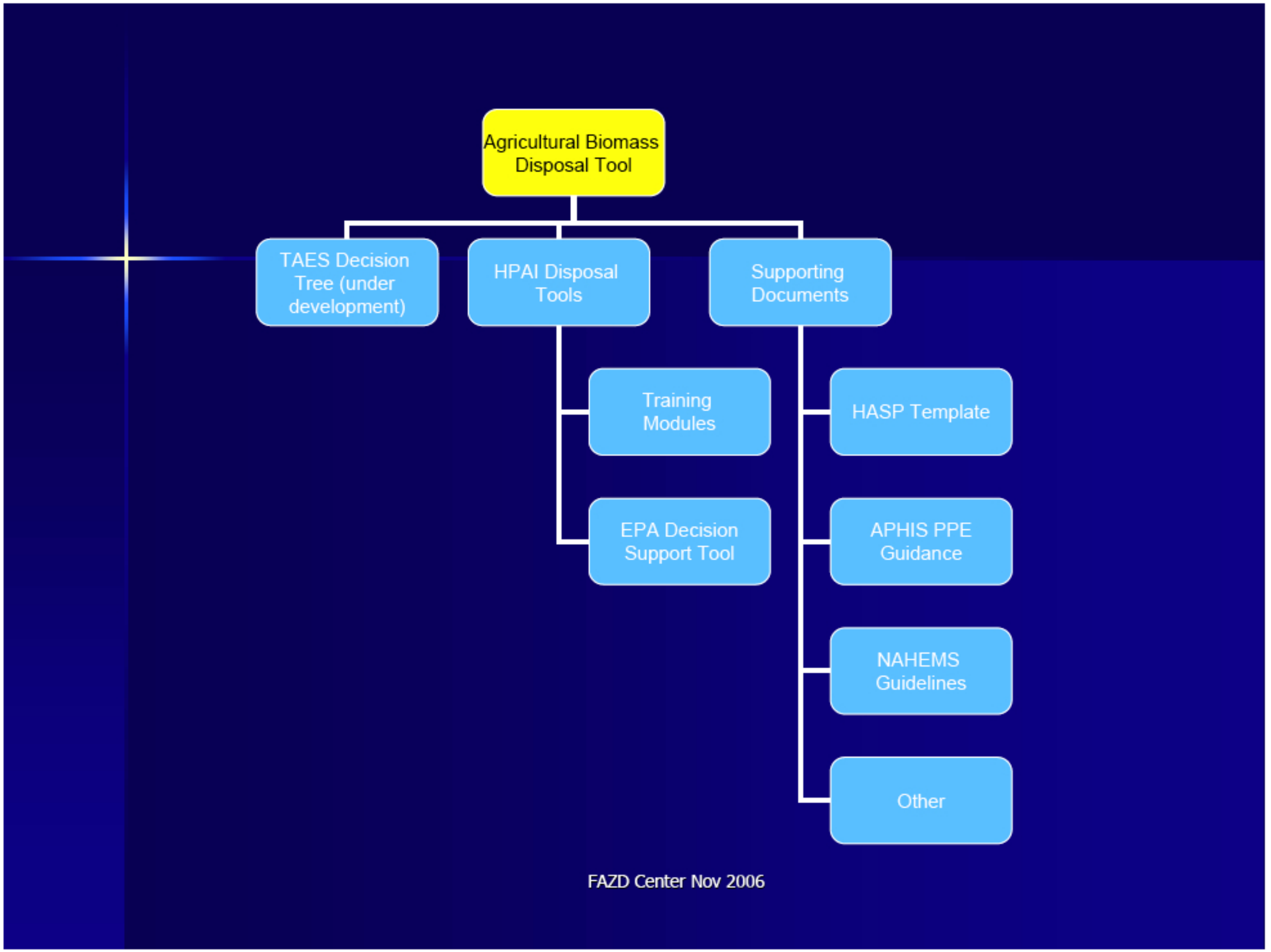
Background

- Homeland Security Presidential Directive 9
  - Directed the Secretary in 2004 to establish the National Veterinary Stockpile (NVS)
  - Required the NVS to
    - Augment local/state resources by deploying within 24 hours "sufficient amounts of animal vaccine, antiviral, or therapeutic products to appropriately respond to the most damaging animal diseases affecting human health and the economy"
    - Leverage the work done by the Strategic National Stockpile at CDC

Background

- Homeland Security Presidential Directive 9
  - Reflects national leadership's concern that terrorists could release simultaneously, in multiple locations, disease threats of a magnitude far greater than anything the nation has ever seen, thus the need for an NVS that could provide huge quantities of critical veterinary supplies at the right time in the right place for as long as is necessary.


Agricultural Biomass Disposal Tool
TAES Decision Tree (under development)
HPAI Disposal Tools
Supporting Documents
Training Modules
EPA Decision Support Tool
HASP Template
APHIS PPE Guidance
NAHEMS Guidelines
Other
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National Center for Animal Health Emergency Management - Microsoft Internet Explorer

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Address http://www.aphis.usda.gov/vs/ep/ Go Links Norton AntiVirus

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Veterinary Services
Safeguarding Animal Health

National Center for Animal Health Emergency Management

Header Image

United States Department of Agriculture — Animal and Plant Health Inspection Service

Emergency Management Response System

Report a Pest or Disease

Response Documents

Reference Library

Training

Subscribe to the EMOC Notification List

Site Map

Mission Functions Staffs Search

We are sti ...active

Add "Agricultural Biomass Disposal Tools" link to APHIS EM website

News and Information

Hot Issues at APHIS
Incident Command System (ICS) Resource Center
Centers for Epidemiology and Animal Health (CEAH)
- Center for Emerging Issues (CEI)
- National Center for Animal Health Surveillance (NCAHS)

National Veterinary Services Laboratories (NVSL)

Other Federal Agencies involved in Animal Health Emergency Management

Food and Drug Administration (FDA)
Food Safety and Inspection Service (FSIS)
Department of Homeland Security - Federal Emergency

Internet

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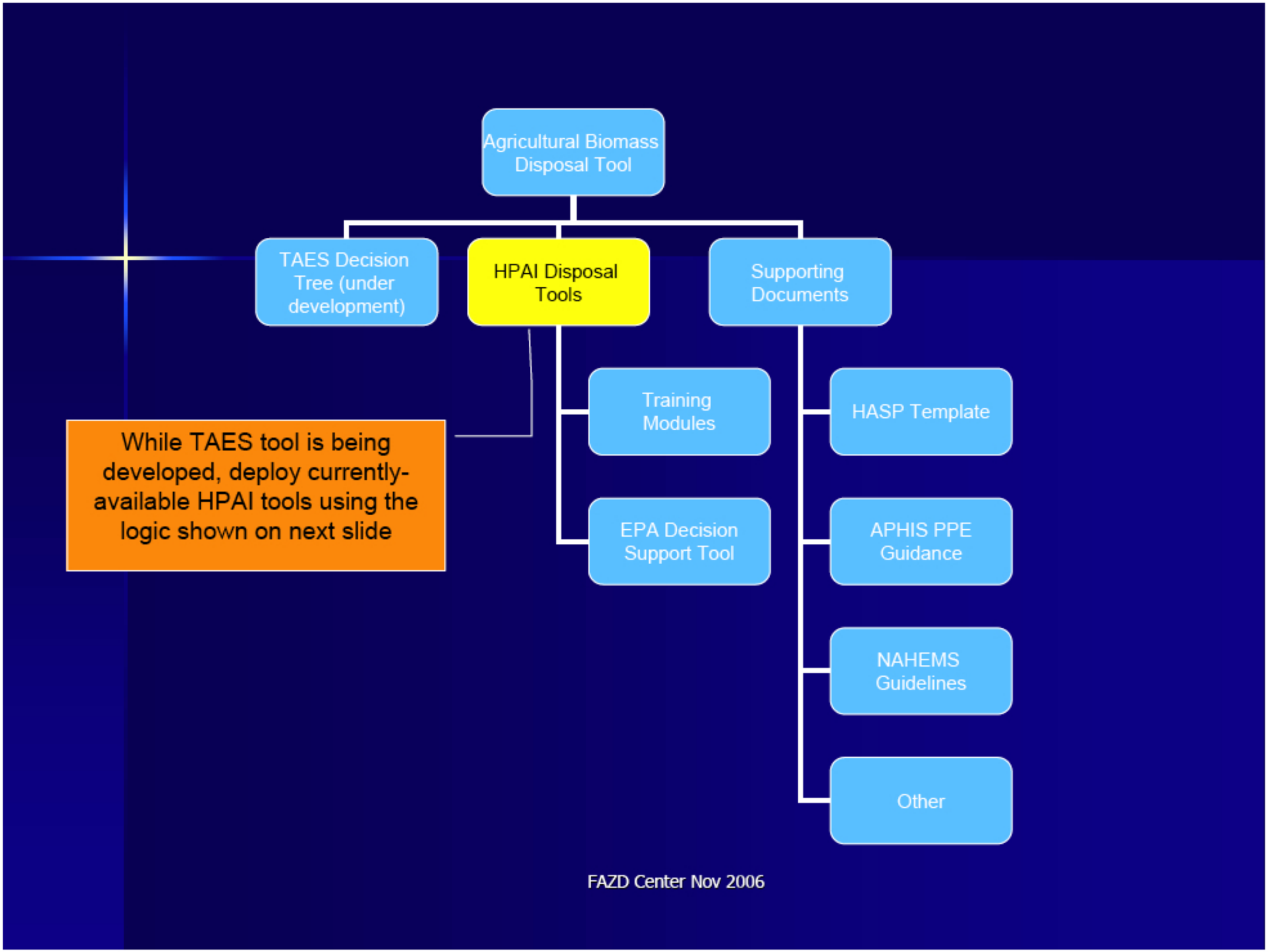
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Other
While TAES tool is being developed, deploy currently-available HPAI tools using the logic shown on next slide
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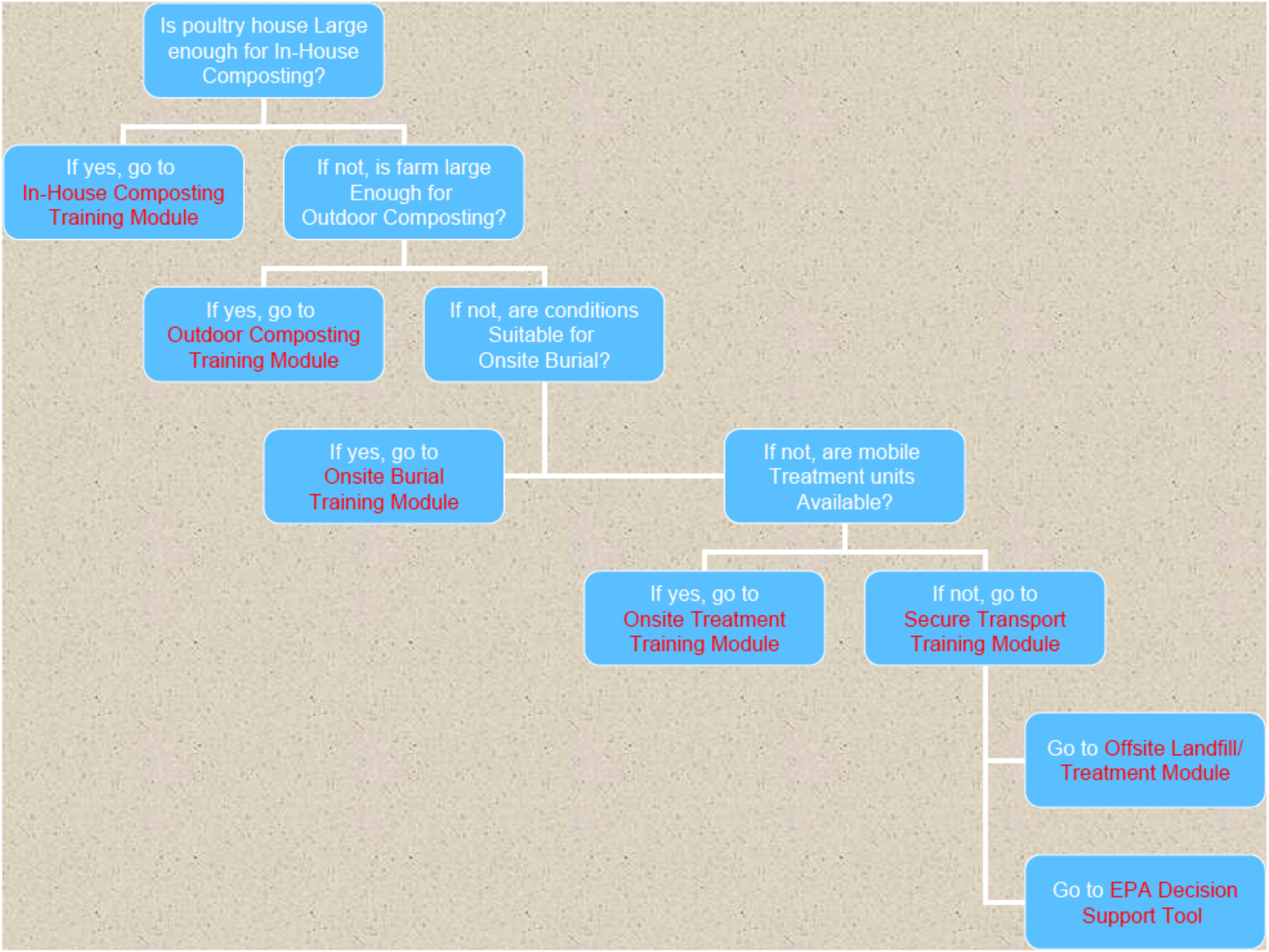

Is poultry house Large enough for In-House Composting?
If yes, go to In-House Composting Training Module
If not, is farm large Enough for Outdoor Composting?
If yes, go to Outdoor Composting Training Module
If not, are conditions Suitable for Onsite Burial?
If yes, go to Onsite Burial Training Module
If not, are mobile Treatment units Available?
If yes, go to Onsite Treatment Training Module
If not, go to Secure Transport Training Module
Go to Offsite Landfill/ Treatment Module
Go to EPA Decision Support Tool

National Carcass Disposal Symposium, 2006
Connecting Carcass Disposal Research, Regulations, and Response
December 5-7, 2006

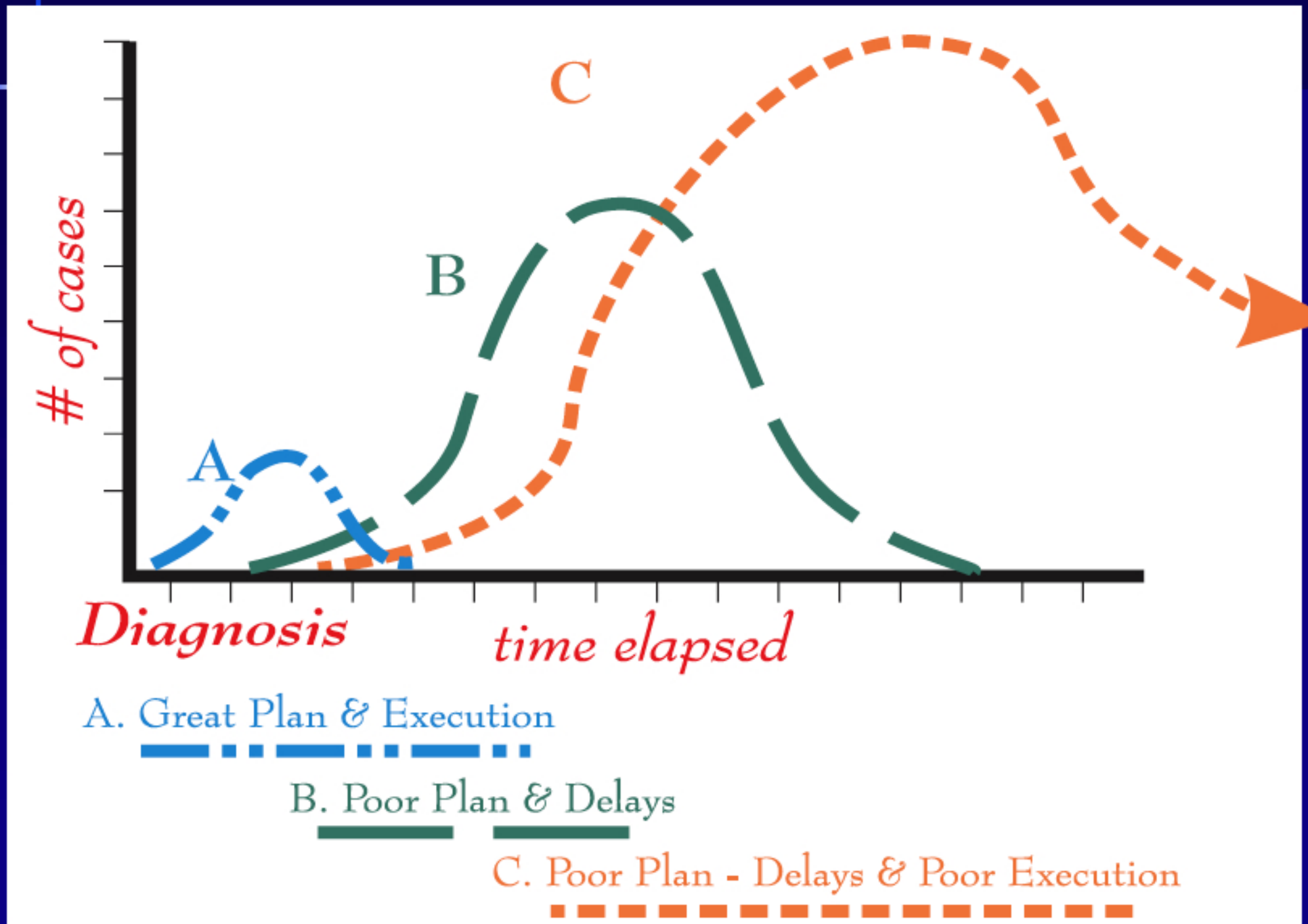
Themes to be addressed include

- research in emerging technologies
- carcass treatment options and final product disposition
- public policy on disposal
- agricultural mortalities in response to routine mortalities, natural disasters, and disease outbreaks

Guidelines, Guidance Galore

- NAHEMS CD Unit Leader Guidelines
- EPA CD Guidance
- Federal Food/Ag Decon+Disposal
- DHS/USDA CD Field Guide (K State Compendium)

DISPOSAL: Disaster Plans Affect Number of Animals Needing Disposal



Federal Food/Agriculture Authorities

Linkages to Statutes, Policy, and other National Plans

Statutes

- **Homeland Security Act**
- **CWA CAA**
- **Food Drug Cosmetic Act**
- **CERCLA RCRA**
- **Plant Protection Act**
- **FIFRA**
- **Stafford Act**
- **Animal Bioterrorism Protection Act**
- **Animal Health Protection Act**

HSPDs

- **HSPDs - 1 & 2** Homeland Security Council & Immigration
- **HSPD - 5** Domestic Incidents
- **HSPD - 7** Critical Infrastructure Protection / NIPP
- **HSPD - 8** National Preparedness
- **HSPD - 9** Food/Ag
- **HSPD - 10** Biodefense

Federal Plans

- National Contingency Plan (**NCP**)
- National Response Plan (**NRP**)
  - **ESF8** Public Health
  - **ESF10** Oil/Hazmat
  - **ESF11** Food/Ag — **USDA:** SOPs
  - Hazmat Incident
  - Bio Incident
  - Food/Ag Incident
- Food/Ag Sector-Specific Plans
- **FDA**: Chem & Bio Emergency Response Plan
- **FDA**: BSE Emergency Response Plan
- **USDA**: NAHEMS Guidelines — Facility Manuals Food/Ag response plans
- **USDA**: Plant Disease Response System Roadmap
- **USDA**: FSIS Food Disposal/Decontamination Guidelines
- **USDA**: HSPD-9 Response Plan
- Interagency CONOPS for Food/Ag Decon and Disposal

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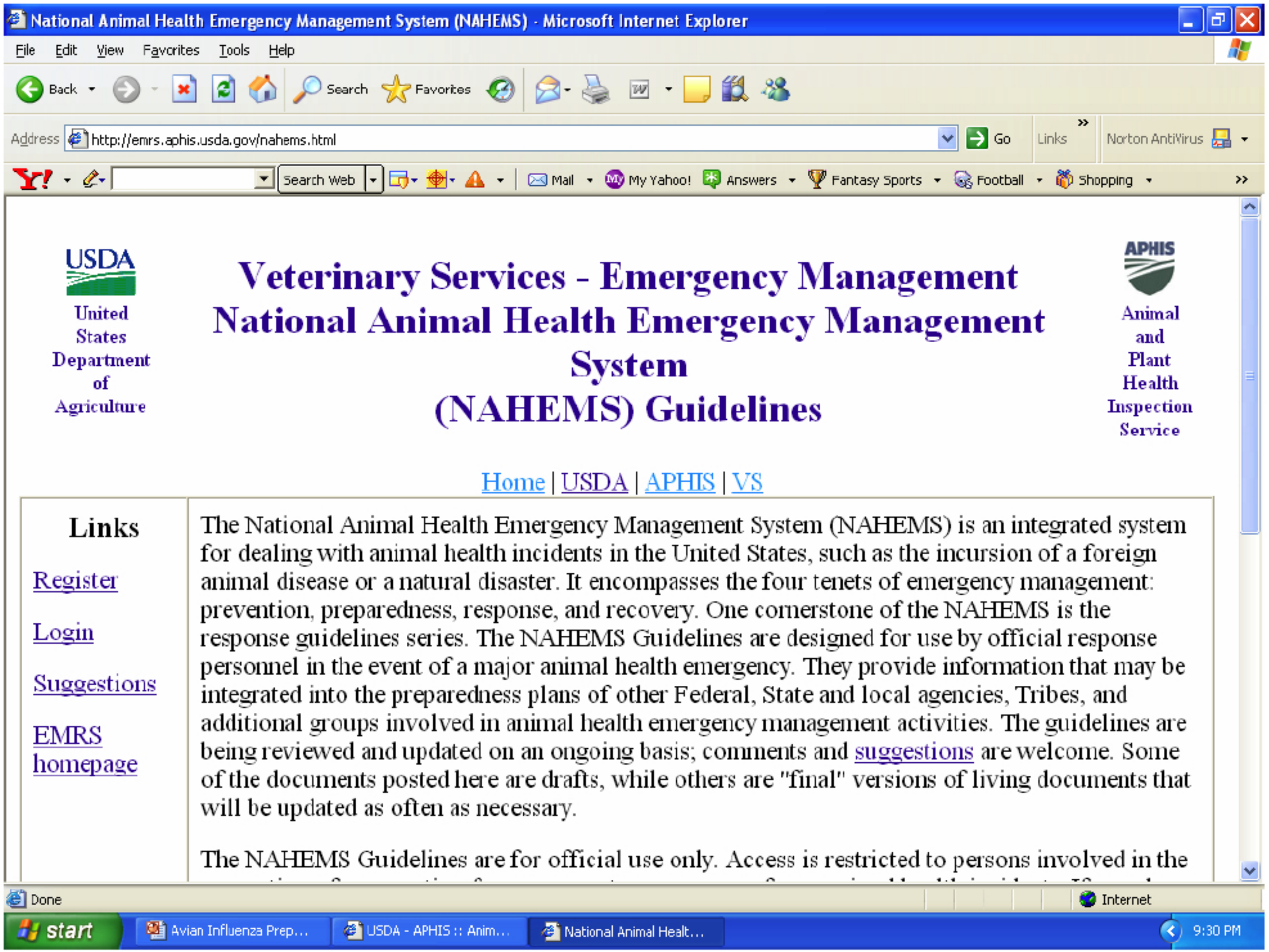
National Animal Health Emergency Management System (NAHEMS) - Microsoft Internet Explorer
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Back Search Favorites
Address http://emrs.aphis.usda.gov/nahems.html
Go Links Norton AntiVirus
Search Web Mail My Yahoo! Answers Fantasy Sports Football Shopping
USDA
United States Department of Agriculture
Veterinary Services - Emergency Management
National Animal Health Emergency Management System
(NAHEMS) Guidelines
APHIS
Animal and Plant Health Inspection Service
Home | USDA | APHIS | VS
Links
Register
Login
Suggestions
EMRS homepage
The National Animal Health Emergency Management System (NAHEMS) is an integrated system for dealing with animal health incidents in the United States, such as the incursion of a foreign animal disease or a natural disaster. It encompasses the four tenets of emergency management: prevention, preparedness, response, and recovery. One cornerstone of the NAHEMS is the response guidelines series. The NAHEMS Guidelines are designed for use by official response personnel in the event of a major animal health emergency. They provide information that may be integrated into the preparedness plans of other Federal, State and local agencies, Tribes, and additional groups involved in animal health emergency management activities. The guidelines are being reviewed and updated on an ongoing basis; comments and suggestions are welcome. Some of the documents posted here are drafts, while others are "final" versions of living documents that will be updated as often as necessary.
The NAHEMS Guidelines are for official use only. Access is restricted to persons involved in the
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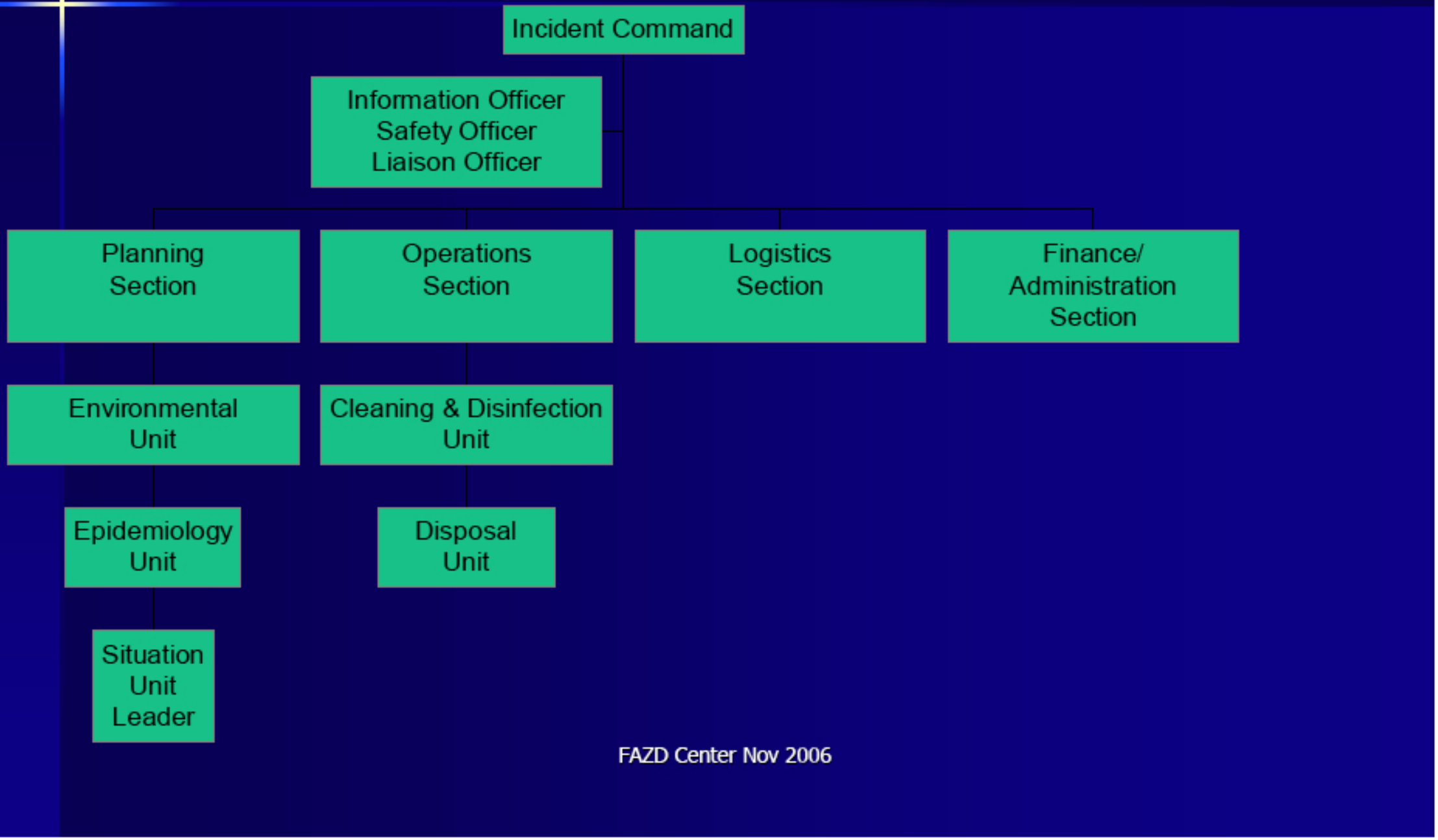
Disposal Unit in ICS



Disposal Unit

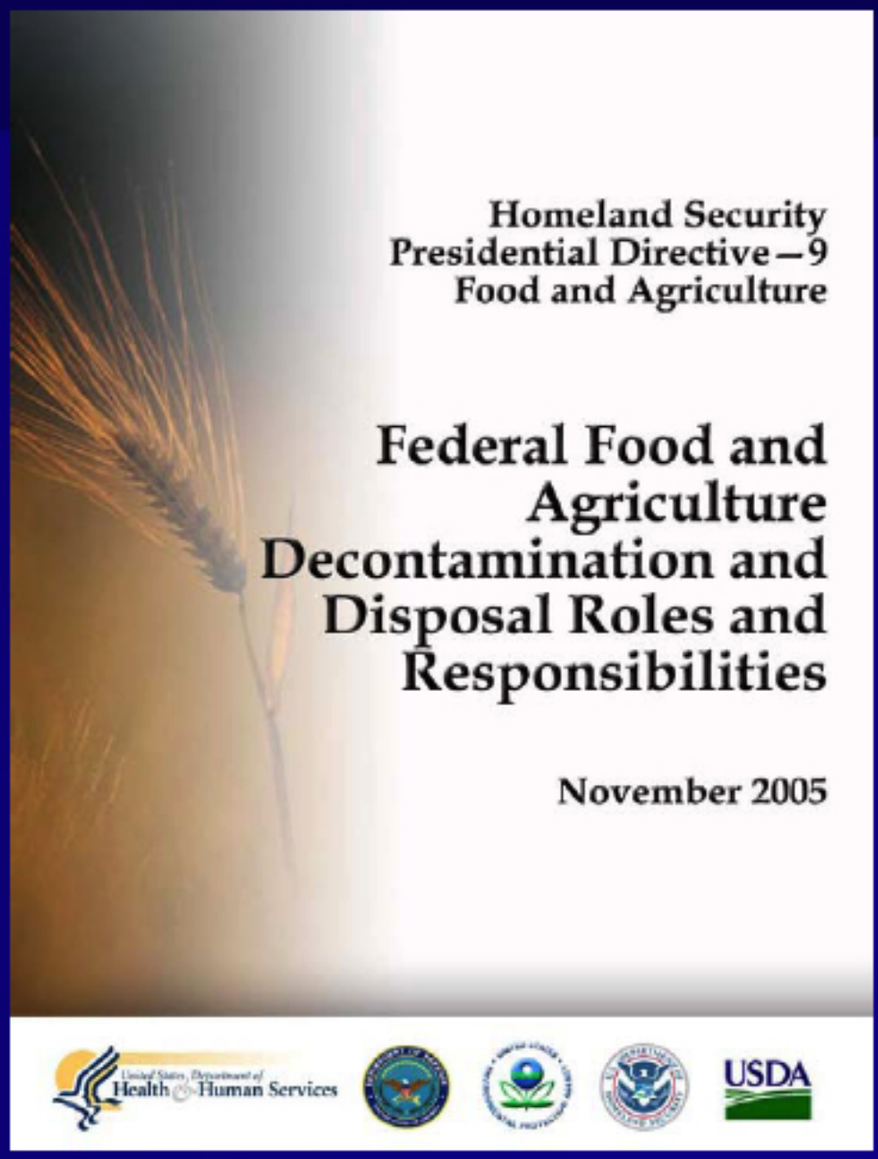
- Disposal Unit Leader
- Disposal Team Manager
- Disposal Team Members

- Team assigned to each premises as soon as possible after it is declared an infected or contact premises

"Federal Food and Agriculture Decon and Disposal Roles and Responsibilities"

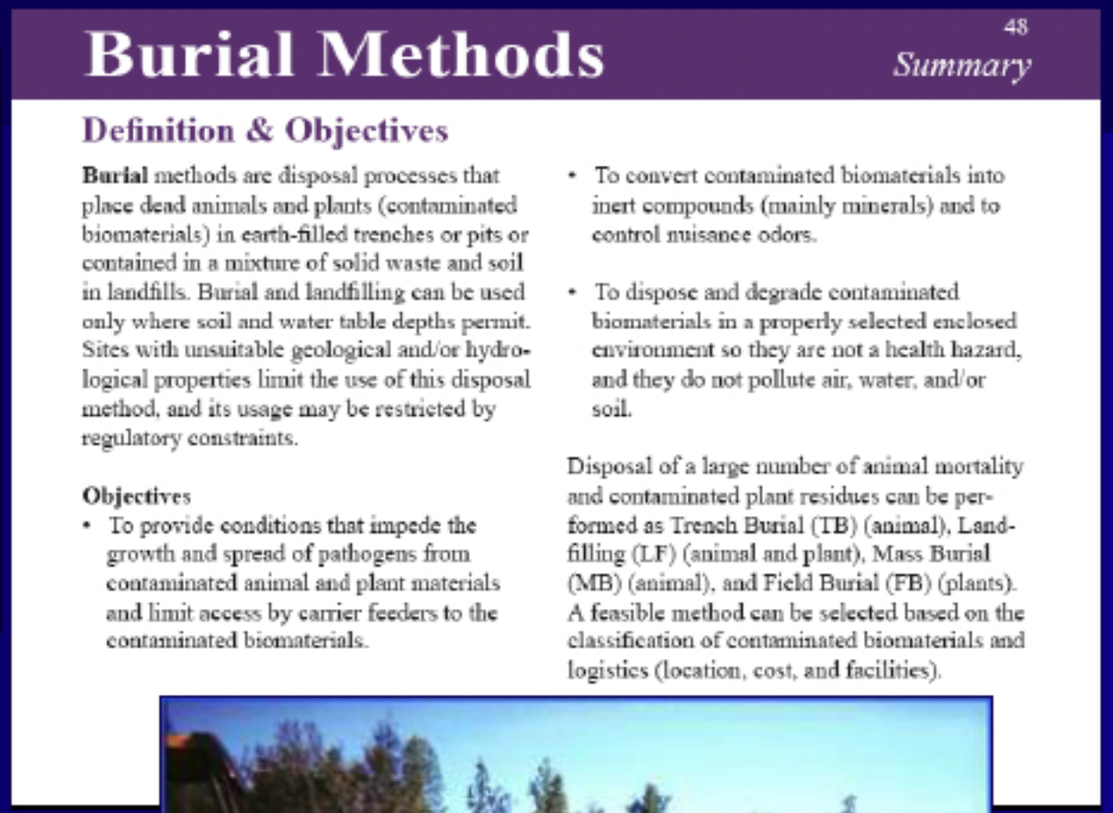
- Who does what, order of activities, and outcomes
- Summaries of laws & homeland security plans
- Contacts in Federal agencies
- Help State, Tribal, Local agencies and industry plan and respond
- www.epa.gov/homelandsecurity

Agriculture and emergency management communities must be prepared to work together closely to deal with an animal health emergency



Guidelines for Disposal of Contaminated Plant and Animal Waste (IN-2496)

Clear, concise, and easy-to-use handbook on best practices and guidelines for the disposal of contaminated plant material and animal carcasses.



Burial Methods

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Summary

Definition & Objectives

Burial methods are disposal processes that place dead animals and plants (contaminated biomaterials) in earth-filled trenches or pits or contained in a mixture of solid waste and soil in landfills. Burial and landfilling can be used only where soil and water table depths permit. Sites with unsuitable geological and/or hydrological properties limit the use of this disposal method, and its usage may be restricted by regulatory constraints.

Objectives

- To provide conditions that impede the growth and spread of pathogens from contaminated animal and plant materials and limit access by carrier feeders to the contaminated biomaterials.
- To convert contaminated biomaterials into inert compounds (mainly minerals) and to control nuisance odors.
- To dispose and degrade contaminated biomaterials in a properly selected enclosed environment so they are not a health hazard, and they do not pollute air, water, and/or soil.

Disposal of a large number of animal mortality and contaminated plant residues can be performed as Trench Burial (TB) (animal), Landfilling (LF) (animal and plant), Mass Burial (MB) (animal), and Field Burial (FB) (plants). A feasible method can be selected based on the classification of contaminated biomaterials and logistics (location, cost, and facilities).

- Draft version of the handbook undergoing review by Government subject matter experts
- Texas Agricultural Experiment station to deliver handbook May 2007.

Stating the Problem

- Death is a sad but inescapable fact of farming life. Sheep especially have a quite remarkable propensity for dropping dead at a moment's notice, but any farming operation involving livestock, no matter how well ordered, will have its share of casualties.

Worker Health and Safety

Carcass Handling


9 22 '99

Hazmat

Location

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"…raising the importance of animal health to an issue of national security"

Dr. Marc Mattix, MT Dept Livestock

One: Hazard, Health, Medicine, World