Protecting Food and Agriculture—A Department of Homeland Security Priority

2010 Symposium on Food and Agriculture Security

Multi-State Partnership for Security in Agriculture

October 18, 2010

Doug Meckes, DVM
Branch Chief, Food, Agriculture & Veterinary Defense
Office of Health Affairs
Department of Homeland Security

Homeland Security

DHS Office of Health Affairs (OHA)

VISION

A Nation prepared for the health consequences of **catastrophic incidents**

MISSION: The Office of Health Affairs serves as the Department of Homeland Security's principal agent for all medical and health matters. Working throughout all levels of government and the private sector, the Office of Health Affairs leads the Department's role in developing and supporting a scientifically rigorous, intelligence-based biodefense and health preparedness architecture to ensure the security of our Nation in the face of all hazards.

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Food, Agriculture and Veterinary (Animal/Public Health) Defense (FAVD) Branch

Responsible for oversight & management of the Departments implementation of the Defense United States Agriculture & Food

- Integrate efforts of DHS Components

- Coordinate with appropriate Departments & Agencies

- Coordinate with tribal, state and local governments and the private sector

- Provide subject matter expertise to all Food, Agriculture & Veterinary (Animal/Public Health) efforts within DHS

"Health Security: State of preparedness…achieved when health threats are identified, vulnerabilities and consequences to human, animal, agriculture, food, water and environmental health are minimized…"*

*OHA Working Definition of Health Security
March 2009

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# of Authority & Secretarial Memo Direct Agriculture and Food Defense Activities

- OHA's Delegation of Authority grants the Assistant Secretary of Health Affairs responsibility for:

"Providing oversight and management of the Department's implementation of Homeland Security Presidential Directive – 9, Defense of United States Agriculture and Food, integrating the efforts of other DHS Components and coordinating those efforts with appropriate Federal Departments and agencies, tribal, state and local governments and the private sector"

- Homeland Security Presidential Directive – 9 (HSPD-9) established the national policy to defend food and agriculture against terrorist attacks, major disasters and other emergencies

Secretary

U.S. Department of Homeland Security
Washington, DC 20528

Homeland Security

March 28, 2007

MEMORANDUM FOR: All Component Heads

FROM: Michael Chertoff

SUBJECT: Designation of the Assistant Secretary for Health Affairs and Chief Medical Officer as the Single Senior DHS Official to be Accountable for Coordinated Implementation of all DHS Food Sector Responsibilities

This February, the DHS Office of the Inspector General issued a report,[1] identifying the need to designate a senior official as the principal agent accountable for the implementation of all Department food sector responsibilities.

In accordance with this and other recommendations, and effective April 1, 2007, the Assistant Secretary for Health Affairs and Chief Medical Officer will serve as the designated DHS official accountable for the implementation of the Department's responsibilities for veterinary, food and agriculture security. Subject to existing law and delegations, the Assistant Secretary for Health Affairs and Chief Medical Officer will also coordinate the Department's responsibilities for implementation of Homeland Security Presidential Directive 9, Defense of United States Agriculture and Food.

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Executing the Mission

- ## HSPD-9: Defense of United States Agriculture and Food

Lead (5)

1. **Develop Biological Threat Awareness Capacity for Detection of Attacks (10)**

2. **Ensure Adequate Local Response Capabilities for Potential Terrorist Attack on Agriculture, Disease Outbreak or Natural Disaster (14)**

3. **Develop a Coordinated Agriculture and Food-Specific Standardized Response Plan (15)**

4. **Establish Information Sharing and Analysis Mechanisms in Cooperation with Appropriate Private Sector Entities (19)**

5. **Establish University Based Centers of Excellence in Agriculture and Food Security (25)**

Co-Lead (7)

1. Develop and Enhance Intelligence Operations and Analysis Capabilities for Agriculture, Food and Water Sectors (9)

2. Expand and Conduct Vulnerability Assessments for Agriculture and Food Sectors (11)

3. **Develop and Implement Mitigation Strategies to Protect Vulnerable Critical Production Nodes (12)**

4. **Expand Development of Common Screening Procedures for Agriculture and Food Items Entering the United States (13)**

5. Development of Specialized Training in Agriculture and Food Protection (22)

6. **Accelerate / Expand Development of Countermeasures Against Introduction of Catastrophic Animal or Plant Diseases (23)**

7. **Develop a Plan to Provide Secure Biocontainment Laboratories for Researching Improved FAD Diagnostic Capabilities (24)**

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Current FAVD Initiatives

- **Food & Agriculture Readiness Measurement (FARM) Tool**

- **Grants Guidance Tool**

- **Food, Agriculture & Veterinary Defense page on Lessons Learned Information Sharing (LLIS.gov) website**

- **NASDA update of Food Emergency Response Plan (FERP) template**

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FARM Tool

- To assist State and local food sector stakeholders in **identifying preparedness, response, and recovery gaps**

  ➢ Benchmarking at the State level determines performance criteria that drives preparedness and operational capability for a catastrophic food emergency

  ➢ Toolkit will connect users to best practices and additional information to inform and enable planning activities

- To assist State and local food sector stakeholders in **identifying and securing additional funding** and **increase preparedness** by using community sanctioned methods and processes

- To **foster relationships** between the food sector, the emergency management community, and the private sector

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FARM Tool—Impact and Value: States

- **Collaborate and coordinate** with food-sector and emergency management stakeholders within your state

- Discover opportunities for **improving preparedness**, response, and recovery capabilities

- Identify opportunities for training, funding sources, and best practices in **food emergency management**

- **Compare** current capabilities to national averages to determine opportunities for improvement

- Provide evidence to assist states to **Advocate** the importance of food issues; **Demonstrate impact of funding** on capabilities over time and to **Drive policy** at the federal level by demonstrating needs

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Grants Guidance Tool

- FAVD has developed a Grants Guidance Tool to assist with improving access to resources for Food and Agriculture Sector state and local entities.

- This Tool is accessible to all via FoodSHIELD.org.

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Lessons Learned Information Sharing

- FAVD has developed a partner page on LLIS.gov that groups the important articles and links for the food and agriculture sector on a single page for ease of use in locating food, agriculture and veterinary defense related content.

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NASDA FERP

- In 2006 NASDA, in cooperation with USDA's Food Safety Inspection Service (FSIS), the Food and Drug Administration (FDA), and the Department of Homeland Security (DHS), announced the availability of a model Food Emergency Response Plan Template.

- The template addressed the goal of enhancing the protection of the United States' agricultural industry and food security through increased prevention, detection, response, and recovery planning.

- The template provided states with a guide for developing a food emergency response plan. It was designed to assist the states with development of either a stand-alone plan for responding to a food-related emergency or an addendum to an existing all-hazard state emergency response plan.

- The template was also a "building block" in the national effort to develop a seamless system of food defense from local, state and federal perspectives. In addition, the template provided a baseline structure for preparing state-level plans to protect critical infrastructure and key resources identified through the National Infrastructure Protection Plan (NIPP).

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Integrate Efforts of DHS Components

DHS Food, Ag and Vet (FAV) Defense Programs

S&T
- Vaccines/Diagnostics
- Modeling
- JADO
- PIADC (Plum Isl.)
- NCFPD
- FAZD
- FBADS
- NBACC
- BKC
- NBAF

FEMA
- NRF/ NIMS
- Grants
- Training
- Citizen Corps
- Resource Typing

NPPD
- FASCC/GCC
- NIPP
- SPPA
- HITRAC
- HSIN
- IICP
- NICC
- Water

CBP
- Agricultural Programs & Liaison
- Policy/Planning
- Safeguarding
- Countermeasures

OHA
- Health Threats Resilience Division
  - NBIC
  - BioWatch
  - Food/Ag Defense
- Planning&Exer
- State/Local Coordination
- Workforce Health & Medical Support

I&A
- I&A

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Integrate Efforts of DHS Components and Coordinate with Federal, State, local, tribal and Private Sector
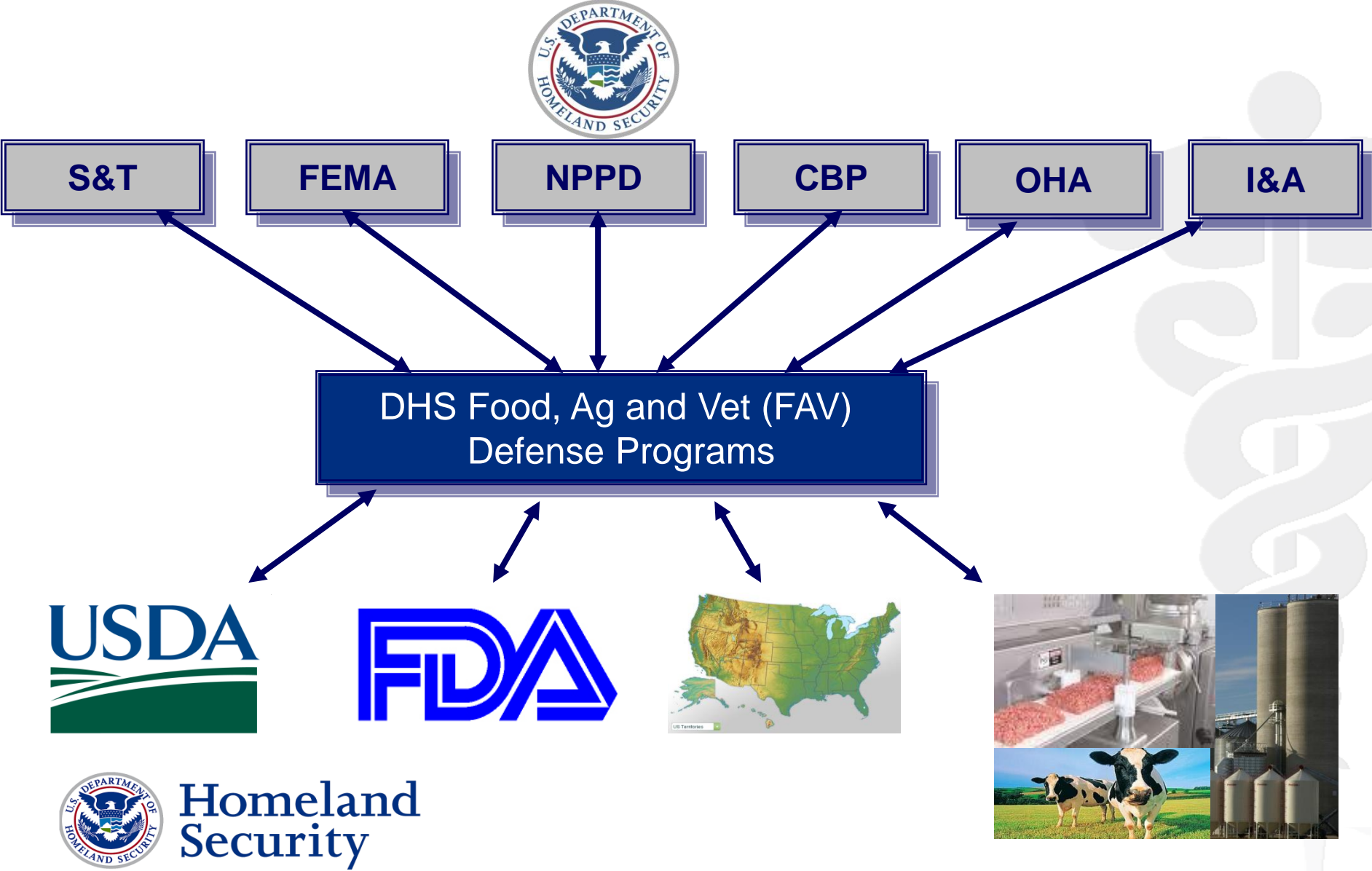
DHS Component Collaboration

- **S&T** – FAVD collaborates with S&T in the development of Gaps in the Agriculture IPT process and serves as the Co-chair for the Agriculture Sub-IPT

- **FEMA** – FAVD is facilitating the coordination between FEMA and IP on the development of an implementation plan to assist States to prepare and implement a food emergency response plan.

- **NPPD** – FAVD actively collaborates with IP on the Food and Agriculture Sector Government Coordinating Council/ Sector Coordinating Council activities

- **CBP** – FAVD has worked closely with CBP to coordinate on preparing comments and input from DHS to the President's Food Safety Working Group.
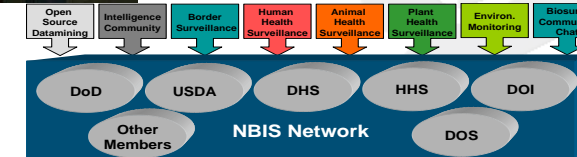
- **OHA** – FAVD provides technical support to NBIC through subject matter expertise in food, agriculture, animal health & veterinary public health issues on a 24/7 basis.

- **I&A** – FAVD is providing technical expertise to promote food, agriculture, animal health and veterinary public health coordination at the State, local and tribal fusion centers.
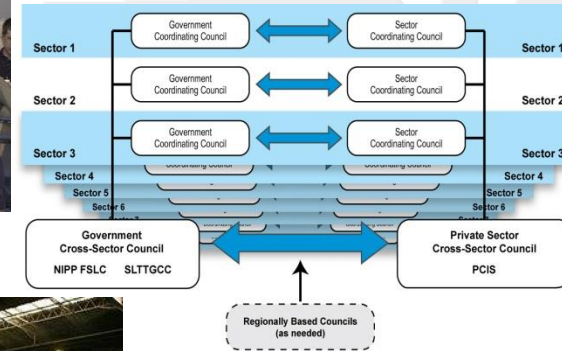
OHA: BioWatch

Mission:

Provide, maintain and support a 24/7/365 biodetection capability

Tasks:

- Detect and characterize bioterrorist attacks against our Nation's cities, other high value assets, and special events

- Improve biodetection capability and capacity while constraining costs

- Provide BioWatch-specific consequence management guidance and assistance to federal, state, and local agencies

- Ensure interoperability with other national bio-aerosol threat monitoring and response systems

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OHA: National Biosurveillance Integration Center (NBIC)

Biosurveillance Cross-Domain Integration and Analysis

MACHINE (automated) **HUMAN (participatory, collaborative)**
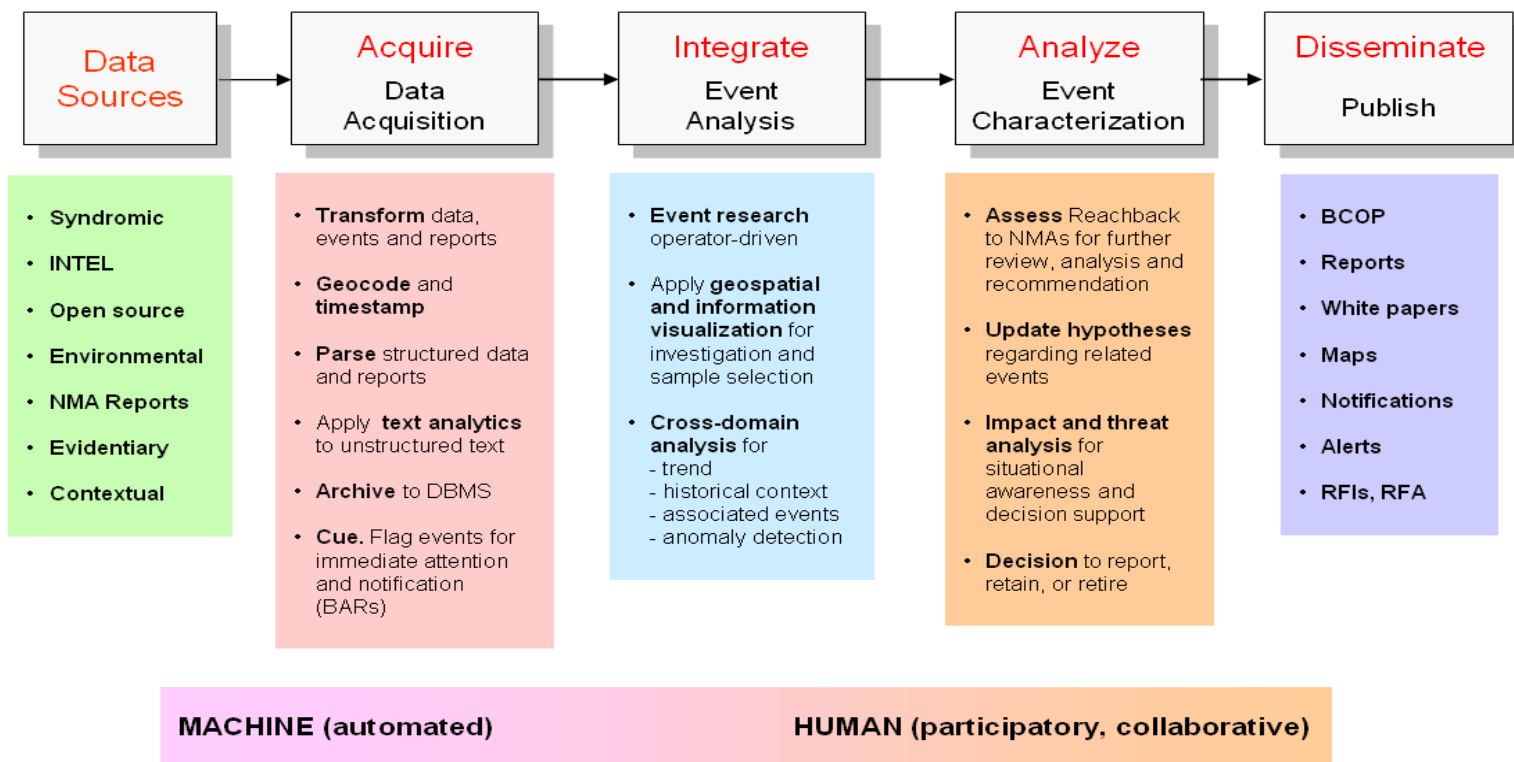
Using automation to support human analysis, customized filters are applied to data sources and relevant information is flagged and forwarded for review

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FEMA National Training and Education Division

- **Center for Agriculture and Food Security and Preparedness (CAFSP), University of Tennessee**
  - CAFSP has three major programs: the *Agriculture and Food Vulnerability Assessment Program (Vulnerability)*, the *Program on Credentialing of Animal Emergency Responders (Credentialing)*, and the *Program on Effective Sharing of Information and Intelligence Related to the Importation and Transportation of Food (Sharing)*.

- **National Center for Biomedical Research and Training (NCBRT), Louisiana State University**
  - NCBRT has developed and is delivering three certified training programs: *Preparing Communities for Agroterrorism* (AWR-117), *A Coordinated Response to Food Emergencies: Practice and Execution* (PER-273), and *Preparedness and Response to Food and Agricultural Incidents* (MGT-322).

- **The Agro-Terror Preparedness Center, Kirkwood Community College (Iowa)**
  - Provides DHS- and USDA-approved training for area responders to foreign animal diseases like foot and mouth disease and avian influenza, agroterrorism and biosecurity, plus training on quarantine, PPE, depopulation disposal of animals, and cleaning and disinfection.

- **Western Institute for Food Safety & Security (WIFSS), University of California Davis**
  - WIFSS has developed courses is geared to introduce the concepts of agroterrorism to both frontline response teams and agricultural industry leaders to prepare participants with the skills and knowledge to recognize agroterrorism vulnerabilities.

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FEMA: Grants

Homeland Security Grant Program Overview

One of the core missions of the Department of Homeland Security (DHS) is to enhance the ability of state, territory, local, and tribal governments to prevent, protect against, respond to and recover from terrorist attacks and other disasters. FEMA's comprehensive suite of grant programs is an important part of the Administration's larger, coordinated effort to strengthen homeland security preparedness. These programs implement objectives addressed in a series of post-9/11 laws, strategy documents, plans and Homeland Security Presidential Directives (HSPDs).

The Homeland Security Grant Program (HSGP) is comprised of four interconnected grant programs:

- State Homeland Security Program (SHSP)
- Urban Areas Security Initiative (UASI)
- Metropolitan Medical Response System (MMRS)
- Citizen Corps Program (CCP)

The HSGP is one tool among a comprehensive set of measures authorized by Congress and implemented by the Administration to help strengthen the Nation against risks associated with potential terrorist attacks.

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FY03-FY07 Funding by Target Capability (DHS Grant Programs)

Communications

WMD and Hazardous Materials Response and Decontamination

CBRNE Detection

Emergency Operations Center Management

Intelligence and Information Sharing and Dissemination

Counter-Terror Investigation and Law Enforcement

Explosive Device Response Operations

Responder Safety and Health

Community Preparedness and Participation

Planning

Risk Management

On-Site Incident Management

Fire Incident Response Support

Emergency Public Information

Medical Surge

Critical Infrastructure Protection

Search and Rescue (Land-Based)

Critical Resource Logistics and Volunteer

Citizen Evacuation and Shelter-in-Place

Mass Care

Mass Proph

Emergency

Information Gathering and Recognition of Indicators and Warnings

Emergency Public Safety and Security

Intelligence Analysis and Production

Medical Supplies

Economic

Animal

Struc

Fatal

Food and

Restoration

Labora

En

Epide

Iso

Block size is proportional to funding.
Green spectrum is higher funded and black is lower funded.

Includes available data from: HSGP, BZPP, PSGP, TSGP, EMPG and CHEMBZPP.
Source: FEMA C2C 2008

Ranges from **$2.2B** for **Communications** (top left) to **$7M** for **Isolation and Quarantine** (bottom right)

26 TCs (in red border) are < Communications TC funding.

Notice the variance between the top left (communication) and the bottom right target capabilities.

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Food and Agriculture

Customs and Border Protection (CBP) Office of Field Operations

- **Agriculture Programs and Trade Liaison (APTL)**
  - Agriculture Programs and Trade Liaison (CBP-APTL) and APHIS carefully monitor the movement of regulated agricultural commodities during the period of time they are transiting the United States, prior to clearance or re-export, to ensure they are adequately safeguarded and re-exported in the specified timeframe.

- **CBP Agriculture Specialists**
  - CBP agriculture specialists prevent the entry of harmful plant pests and exotic foreign animal diseases and confront emerging threats in agro-terrorism and bioterrorism.

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CBP: Joint Task Force with USDA

- The infusion of the agricultural mission into DHS in 2003 spread the mission over a broader workforce, creating the potential for an exponential strengthening of the safety of U.S. agricultural and natural resources. At the same time, the transfer of APHIS employees to CBP contributed to the overall security of the United States by increasing the U.S. capacity for inspections focused on security needs.

- Whether plant pest and foreign animal disease introductions are intentional or unintentional, the negative consequences can be severe.

- In April 2007, APHIS and CBP convened a Joint Task Force to evaluate the effectiveness of our agriculture programs and develop recommendations for improvements in areas identified by stakeholders and Government oversight agencies.

- APHIS and CBP are committed to working cooperatively to ensure the safety of the United States, its food production, and its ecosystems.


On a typical day, CBP Agriculture Specialists make 4,125 seizures at ports of entry of prohibited meat, plant materials or animal products, including 435 agricultural pests.

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Science & Technology Directorate (S&T)

- **Chemical and Biological Division**
  - Agricultural Defense Branch

- **Office of University Programs**
  - DHS Centers of Excellence

- **Office of National Labs**
  - NBAF
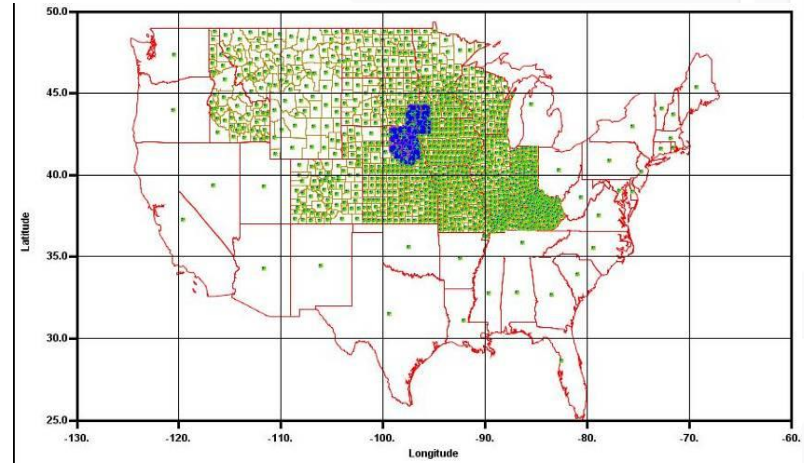
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CBD Agricultural Defense Branch Mission

The Agricultural Defense mission is to enhance current capabilities and develop state-of-the-art countermeasures for high priority foreign animal diseases. This includes near- and long-term research and development for vaccines and diagnostics, in coordination with internal and external stakeholders.

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Agricultural Defense Branch Focus Areas

- Vaccines and Diagnostics
  - Next-generation FMD vaccines
  - High threat FAD diagnostics
  - Testing of current generation Foot and Mouth Disease (FMD) vaccines
- Disease Simulation and Analysis Tools
  - FAD Modeling and Simulation
  - JMAC: Joint Modeling and Analysis Center
  - RAPIDD: Research and Policy for Infectious Disease Dynamics
  - NIMBioS: National Institute for Mathematical and Biological Synthesis
- Joint Agrodefense Office
  - Enhanced coordination of interagency strategic planning and cooperation for FAD defense R&D programs (Foreign Animal Disease Threat Subcommittee)
- Agricultural Screening Tools
  - Identify and prioritize component and interagency stakeholder needs for screening and inspection tools and protocols

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Vaccines and Diagnostics

Develop more effective vaccines, diagnostics, and biotherapeutics for high priority FAD, in partnership with the USDA and industry.

- **Molecular FMD Vaccines**
  - New serotype- and subtype-specific, marked, molecular vaccines (pipeline)
- **Biotherapeutics**
  - Novel, FAD broad acting biotherapeutics for rapid, short-lived protection against clinical disease
- **Countermeasures for Other FAD**
  - Prioritized agents identified by key customer (USDA-APHIS Emergency Management – NVS)
- **Diagnostics**
  - DIVA technologies compatible with DIVA countermeasures
  - Next-generation technologies for surge
- **Enhanced characterization of current vaccine antigens** (N. American FMD Vaccine Bank) and commercial FMD vaccines
 - Efficacy at 7 days post-vaccination

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FAD Modeling and Simulation

The Foreign Animal Disease (FAD) Modeling program supports basic and applied research projects developed in concert with inter-agency partners to:

- Improve the state-of-the-art of FAD modeling;

- Leverage lessons learned from infectious disease modeling, and advances in the interface of mathematics and biology;

- Address critical gaps identified in first generation platforms;

- Lay the foundation for next-generation national-scale simulation models and analysis tools

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S&T University Programs
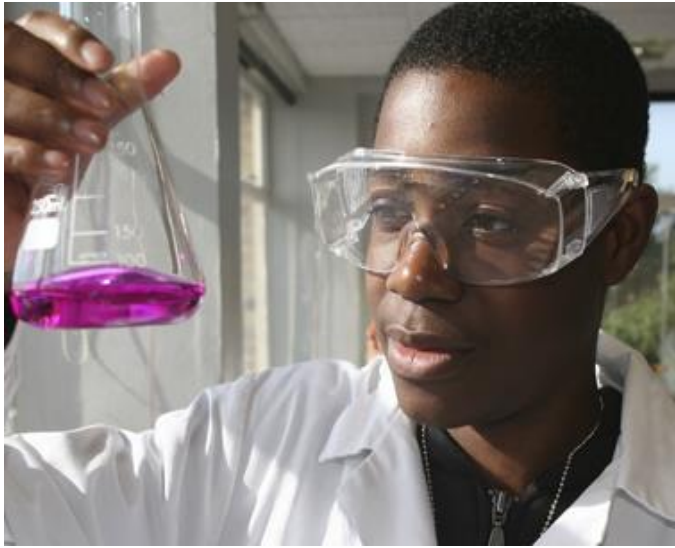
- **12 Homeland Security Centers of Excellence aligned with one or more of the six DHS S&T divisions**

- **Funding Vehicles: Grants, Cooperative Agreements, and Basic Ordering Agreements**

- **Over 200 U.S. colleges and universities, including several Minority Serving Institutions (MSIs)**

- **More than 180 other partners from laboratories, private industry and think tanks**

- **47 states and territories represented**

- **Approximately 550 Scholars and Fellows (since 2003)**

- **Science education grants for universities and MSIs**

- **New fellowships to attend COEs for DHS employees**

- **Support for AAAS Fellows**

- **Cost-effective technologies being used by federal, state and local agencies**

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DHS Centers of Excellence

> "**The Secretary, acting through the Under Secretary for Science and Technology, shall designate a university-based center or several university-based centers for homeland security. The purpose of the center or these centers shall be to establish a coordinated, university-based system to enhance the nation's homeland security.**"
>
> **– Homeland Security Act of 2002**

COE Success Stories: NCFPD and FAZD

- **Food and Agriculture Sector Criticality Assessment Tool (FAS-CAT):** In 2009, The National Center for Food Protection and Defense's (NCFPD) Food and Agriculture Criticality Assessment Tool (FAS-CAT) enabled 30 states/regions to evaluate their most critical food and agriculture infrastructure. DHS Homeland Infrastructure Threat and Risk Analysis Center (HITRAC) designated FAS-CAT and the results from assessments as the criteria by which states can nominate a sub-system or asset as eligible for Level 1 or Level 2 funding. This is the first time that the criteria are accessible to the food and agriculture infrastructure. In addition, the Southern Agriculture and Animal Disaster Response Alliance and the Multi-state Partnership and the Multi-State Partnership for Security in Agriculture are each working together regionally utilizing funds awarded by FEMA.

- **Development of a Food and Agriculture Defense Research Database:** The DHS-Office of Infrastructure Protection, USDA-Food Safety Inspection Service and FDA-Center for Food Safety and Applied Nutrition jointly funded the National Center for Food Protection and Defense (NCFPD) to develop the database to bring together documentation of Federally-funded food and agriculture defense research in one functional database. There are more that 175 projects listed in the database; and NCFPD intends to extend the effort to include a broader range of data sets from Europe, Japan, Australia, New Zealand, Canada, Singapore, and China.

- **Renewal of FAZD Center of Excellence as Co-Lead with Center of Excellence for Emerging and Zoonotic Animal Diseases (CEEZAD) at Kansas State University:** FAZD Center's current and future projects are focused on countermeasure development (Biological Systems-BIO – candidate vaccine for Rift Valley Fever and immunomodulators for FMD vaccine development at Plum Island); verification and implementation of information analysis and modeling tools (Informational and Analysis Systems-IAS – consequences of vaccine efficacy in the control of FMD, determination of optimum culling strategy for infectious livestock diseases and development of functional livestock movement and marketing tracking system: FASTRANS); and development and implementation of novel educational technologies (Education and Outreach-EOS – Empowering Youth in One-Health Career Oriented, Job-Trained Youth Educational National Program and Bilingual Species Specific Educational Resource Materials).

S&T National Labs:
National Bio and Agro-Defense Facility (NBAF)

- To protect the Nation's animal agriculture, food supply and public health from natural or intentional outbreaks of foreign, emerging and zoonotic (animal to human) diseases

- Countering new and emerging biological threats to protect our Nation's animal agriculture and public health continue to be a priority of this Administration

- NBAF will meet these goals by:

  - Providing enhanced research capabilities to diagnose foreign animal, emerging and zoonotic diseases in large livestock

  - Replacing and expanding research currently done at the Plum Island Animal Disease Center (PIADC)

  - Providing expanded vaccine development capabilities for large livestock

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NBAF Will Build on Advances in Biosecurity and Biosafety

- Plum Island has had safe operations for over 55 years with no documented FMD transmission to livestock on the mainland. (Note: Live FMD virus is currently being researched on the mainland in Winnipeg, Canada in a BSL-3 Ag equivalent facility).

- Certification and evaluation of NBAF will include:
  - Threat and Risk Assessments
  - Security Policies for Personnel
  - Receipt of agents upon arrival/departure and specimen accountability controls
  - Emergency Response Plans
  - Reporting procedures for injuries and security breaches
  - Registration with CDC or USDA (per guidelines set forth in the National Select Agent Registry)

- Planned biosecurity and biosafety features will be implemented at NBAF (i.e. dual perimeter fencing, "box in a box" construction, closed circuit TV surveillance, biometrics).

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National Protection and Programs Directorate Office of Infrastructure Protection (NPPD-IP)

The Food & Agriculture Sector Government Coordinating Council **(GCC)** and its counterpart Sector Coordinating Council **(SCC)** enable interagency and cross-jurisdictional coordination within the Sector. The GCC comprises representatives from across various levels of government (federal, state, local, or tribal), as appropriate to the Sector.

The GCC coordinates strategies, activities, policy, and communications across governmental entities within the Food & Agriculture Sector. The primary functions include the following:

- Provide interagency strategic communications and coordination at the sector level through partnership with DHS, the SSA, and other supporting agencies across various levels of government;

- Participate in planning efforts related to the development, implementation, update, and revision of the National Infrastructure Protection Plan (NIPP) and the Sector-Specific Plans (SSPs);

- Coordinate strategic communications and discussion and resolution of issues among government entities within the sector; and

- Coordinate with and support the efforts of the SCC to plan, implement, and execute the nation's CIKR protection mission.

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Office of Intelligence & Analysis (I&A): Health Security Intelligence Enterprise (HSIE)

- The Health Security Intelligence Enterprise (HSIE) is an initiative whose purpose is to enhance situational awareness of potential threats to homeland health security and reduce the potentially catastrophic health consequences of a natural or terrorist event.

- The initiative coordinates the efforts of the public health and the healthcare community (broadly defined as human, animal, food, agricultural and environmental public health systems; healthcare providers and managed care organizations; emergency medical service operations; medical examiners, emergency managers, preparedness directors, and individuals involved in research, detection, or response to chemical, biological, radiological, nuclear, and explosives threats) with the nationwide network of State and Major Urban Area Fusion Centers.

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I&A: Health Security Intelligence Enterprise (HSIE)

- The uniqueness of HSIE rests in enhancing the bidirectional flow of information and intelligence between Federal, state, local, tribal, and private sector stakeholders across the health community and multi-disciplinary partners.

- This initiative is a collaborative effort of several Department of Homeland Security (DHS) entities—the Office of Intelligence and Analysis, State and Local Program Office (I&A/SLPO) and the Office of Health Affairs (OHA), with support from the Federal Emergency Management Agency, National Preparedness Directorate (FEMA/NPD) in addition to multiple Federal and State stakeholders that is driven by the information and intelligence needs of the State, local, tribal, and private sector health community.

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Extra Slides

Additional Information

National Center for Food Protection and Defense

NATIONAL CENTER FOR
FOOD PROTECTION AND DEFENSE
A HOMELAND SECURITY CENTER OF EXCELLENCE

Mission

Defend the safety of the food system through research and education, from pre-farm inputs through consumption, by establishing best practices, developing new tools and strategies, and educating & training new scientists and professionals, respond to and recovery from catastrophic food contamination events

Partners

Lead: University of Minnesota

Arizona St. Univ., Boston College, Calvin College, Cornell Univ., Georgia Inst. of Tech., Harvard Univ., Illinois Inst. of Tech., Iowa State Univ., Johns Hopkins Univ., Kansas St. Univ., Louisiana St. Univ., Michigan St. Univ., New Mexico St. Univ., North Carolina St. Univ., North Carolina A&T St. Univ., North Dakota St. Univ., Old Dominion Univ., Purdue Univ., Rutgers Univ., So. Illinois Univ.-Edwardsville, St. Joseph's Univ., Texas A&M Univ., Tuskegee Univ., Univ. of Arkansas, Univ. Austral de Chile, Univ. of California–Davis, Univ. of Guelph, Univ, of Florida, Univ. of Kentucky, Univ. of Maryland, Univ. of Missouri, Univ. of Montana, Univ. of Pittsburg, Univ. of South Carolina, Univ. of So. California, Univ. of So. Mississippi, Univ. of Surrey, Univ. of Tennessee-Knoxville, Univ. of Wisconsin–Madison, Milwaukee and River Falls, Washington St. Univ., Wayne St. Univ.

Over 40 non-university partners

Success Stories

▪ Developed prototype food event modeling system

▪ Conducted rapid risk assessment on imported foods from China

▪ Developed tool that enables states or regions to evaluate their food and agriculture infrastructure to identify what is most critical (FASCAT)
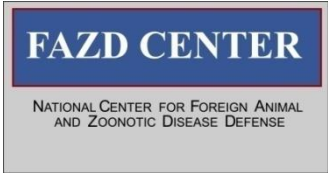
Customers

DHS Science and Technology

DHS NPPD Office of Infrastructure Protection

DHS Office of Health Affairs/CMO

USDA, FDA, CDC and EPA

State and Local Food System Agencies

Food and Agriculture Private Sector

Homeland Security

National Center for Zoonotic and Animal Disease Defense

Mission

To protect the nation's agriculture and public health sectors against high-consequence foreign, emerging, and/or zoonotic animal diseases threats by conducting research, developing technology, training a specialized workforce, and communicating the results of this research to a wider audience of animal, public, and human health care providers and organizations, veterinary professionals and agricultural organizations, and customers/stakeholders.

Partners

Co-Leads: Texas A&M University and Kansas State University

Univ of California at Davis, Univ of Southern California, Univ of Texas Medical Branch, Georgetown Univ, Univ of Minnesota, UT-Southwestern Medical Center, Purdue Univ, Texas Engineering Experiment Station, Texas AgriLife Extension, Univ of Arkansas-Pine Bluff, Kentucky State Univ, North Carolina A&T Univ, Prairie View A&M Univ, Texas A&M Univ-Kingsville, Univ of Puerto Rico-Ponce, Tennessee State Univ, Tuskegee Univ, PIADC and National Laboratories, Columbia Univ, Iowa State Univ, Univ of Georgia, Mount Sinai, Univ of Iowa, Univ of Missouri, South Dakota State Univ, Orion Integrated Biosciences, Univ of Florida, Centers for Disease Control, St. Jude's

Impact and Relevance

- Developing models and intervention strategies for emerging, animal, and zoonotic disease
- Developing new vaccine candidtates, antiviral agents, and immunomodulators supporting the DIVA concept against threat diseases
- Developing decision support systems to prevent, control, and/or curtail threat diseases
- Researching diagnostics and detection systems for foreign animal and zoonotic diseases

Customers

DHS NPPD Office of Infrastructure Protection

DHS Office of Health Affairs

USDA (APHIS/ARS)

CDC

FEMA

DHS NBACC

State Emergency Response Agencies

Food and Agriculture Private Sector

Center for Advancing Microbial Risk Assessment

Mission
To develop critically reviewed and interpreted sets of models, tools and information that will be used in a credible risk assessment framework to reduce or eliminate health impacts from deliberate use of biological agents of concern (BAC) as bioterrorists agents in the indoor and outdoor environment.

Partners
Co-Leads: Drexel University and Michigan State University

University of Arizona, Northern Arizona University,

Carnegie-Mellon University, University of California –

Berkeley

Impact and Relevance
- Provide scientific basis for assessing risks of natural and malicious occurrences of infectious agents
- Provide scientific basis for assessing "how clean is clean"

Customers
DHS Science and Technology Directorate
US EPA - National Homeland Security Research Center
National Bio-defense Analysis and
Countermeasures Center