



Fact Sheet

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The National Center for Foreign Animal and Zoonotic Disease Defense (FAZD Center) performs research and develops products to defend the nation from high-consequence foreign animal, emerging, and zoonotic diseases. Founded in April 2004 as a Department of Homeland Security Science and Technology Center of Excellence, the FAZD Center leverages the resources of multiple major universities and Minority Serving Institutions.

Mission

The FAZD Center focuses on research, education and outreach to prevent, detect, mitigate and recover from foreign animal, emerging, and/or zoonotic diseases (transmissible between animals and humans), which may be introduced intentionally or through natural processes.

At least 60 percent of all human pathogens are zoonotic, according to the Centers for Disease Control and Prevention, and 75 percent of recently emerging infectious diseases that affect humans are of animal origin.



The FAZD Center is a multi-institutional organization representing 107 partners in 35 U.S. states, the District of Columbia, Canada, the United Kingdom, Pakistan and Kazakhstan, plus laboratories in the National Animal Health Laboratory Network.

The most dangerous of these animal diseases pose catastrophic risks to human health, livestock health and the national agricultural economy, which provides about 13 percent of all U.S. jobs as well as \$1 trillion in annual U.S. economic activity.

Organization

The FAZD Center is headquartered at Texas A&M University, the nation's sixth-largest university by enrollment. The FAZD Center was founded in 2004 as a Department of Homeland Security (DHS) Center of Excellence.

In 2010, the FAZD Center was renewed as a Co-Lead with the Center of Excellence for Emerging and Zoonotic Animal Diseases (CEEZAD) at Kansas State University. The cooperative agreement extends through 2016.

The center is closely aligned with the Department of Homeland Security (DHS) Science and Technology Directorate, the U.S. Department of Agriculture (USDA), the Animal and Plant Health Inspection Service (USDA -APHIS), the Agricultural Research Service (USDA-ARS), agricultural industries, the private sector, bio-pharmaceutical companies, additional federal agencies, national laboratories and other Centers of Excellence.

Customers

The FAZD Center engages customers throughout all phases of product development, from project selection, technology/product development and transition to the end-user. The Center maintains effective liaisons with these organizations and conducts or participates in joint planning sessions with industry partners. The strategic linkages that are enabled through the DHS S&T Chem-Bio Division are shown in the chart at right.

Industry	U.S. Dept. of Homeland Security	U.S. Dept. of Agriculture	Other Federal and State Agencies
<ul style="list-style-type: none"> • Agricultural • Bio-Pharma • Livestock • Transportation 	<ul style="list-style-type: none"> • Science & Technology • Office of Health Affairs • Plum Island Animal Disease Center • Other DHS entities • Office of Infrastructure Protection • Transportation Security Administration 	<ul style="list-style-type: none"> • Animal and Health Inspection Service (APHIS) • National Veterinary Services Labs • Foreign Animal Disease Diagnostic Laboratory • Ames, Iowa • National Animal Health Laboratory Network • Centers for Epidemiology and Animal Health • Agricultural Research Service (ARS) • Emergency Programs • National Institute of Food and Agriculture • Foreign Agricultural Service 	<ul style="list-style-type: none"> • Health and Human Services • Centers for Disease Control and Prevention • State Animal Health Officials • Emergency Responders

Research

The FAZD Center's team of scientists conducts cutting-edge, inter-institutional and inter-disciplinary research across three areas of concentration:

- **Biological Systems** – Vaccines, immune-modulators, diagnostic assays and universal platforms that help meet the goals of early detection, diagnosis, prevention, response, and recovery.
- **Information Analysis Systems** – The Information Dashboard Framework and the products derived from the IDF support emergency management and business continuity.
- **Education and Outreach** – Graduate programs, early responder training, K-12 education, and stakeholder workshops to provide the next generation workforce for agriculture, public health, and homeland security.

Leading Products

- **New screening tools for animal agriculture** – Diagnostic test development and validation to ensure early detection and support business continuity in the face of a high-consequence disease introduction.
- **Information Dashboard Framework** – Online technology allows decision makers to integrate a wide range of emergency data into a “common operating picture,” organizing it into an easy-to-use format. Products derived from the IDF include:
 - **The Laboratory Capacity Estimation Model (LCEM)**, under development for the USDA National Animal Health Laboratory Network, will help increase the nation's capability to prepare and respond to a high-consequence animal disease.
 - **The Bio-surveillance Field Entry System (BFES)** provides an integrated application for collecting and analyzing enhanced surveillance data. It allows veterinarians to use an iPad to enter clinical animal health data from livestock premises, feedlots, and markets.
 - **The Bio-surveillance Common Operating Picture (BCOP)** allows analysts at the National Bio-surveillance Integration Center to track, organize, and share biological event information from around the world.
 - **The Emergency Response Support System (ERSS)**, under development for USDA's Animal and Plant Health Inspection Service, organizes data from authoritative sources to enhance the sharing of information during an animal disease outbreak.
- **Novel vaccine platforms** – These platforms use cutting-edge expression systems and novel bioinformatics capabilities to define the next generation of animal vaccines
- **One Health Career-Oriented Youth Educational National Program** – This high school-level training program is designed to address a national shortage in paraprofessionals to provide support to human and animal medicine.