Center for Zoonotic and Animal Disease Defense (ZADD)

Homeland Security
Science and Technology

A DHS **Emeritus Center of Excellence***

ZADD develops innovative solutions and fosters collaborations to protect the Nation's agriculture and public health sectors against high-consequence foreign animal, emerging, and zoonotic disease threats.

LAUNCH ▶ 2004

PARTNERS ▶ More than 29 university, government, and private industry partners

EXPERTISE ▶ Veterinary science education, international veterinary services programs, agriculture industry solutions, food security, disaster preparedness and response, animal health security

DHS ALIGNMENT ▶ U.S. Customs and Border Protection, U.S. Coast Guard, Transportation Security Administration, Federal Emergency Management Agency, U.S. Citizenship and Immigration Services, U.S. Immigration and Customs Enforcement, National Protection and Programs Directorate, DHS Office of Intelligence and Analysis, DHS Office of Policy, U.S. Secret Service

Feedback from Our Partners

*"This new FMD [Foot and Mouth Disease] diagnostic test **will decrease the amount of time required in diagnosing the disease in the event of an outbreak**... Having rapid diagnostics as a tool would be very important for continuity of our livestock industry, so it's good to see this new test licensed and ready for use."*

Dustin Oedekoven, State Veterinarian and Executive Secretary
South Dakota Animal Industry Board

*"**This unique training program connected me with lifelong mentors and invaluable future collaborators,** while illuminating multiple career paths that I would not have been exposed to in my current formal education," said one on-line participant about the "**Bench-to-Shop**" training program that equips the next generation of veterinary science professionals with the skills required to transition research to the marketplace.*

*DHS Emeritus Centers of Excellence no longer receive base grant funding. DHS and its operational components can access Emeritus Centers through DHS Basic Ordering Agreements (BOAs).

Research and Education Capabilities

- Next-generation vaccine candidate development
- Decision support systems and emergency management tools for animal disease threats
- Animal agriculture systems analyses
- Education and training for the current and future homeland security workforce

INSTITUTE FOR INFECTIOUS ANIMAL DISEASES
A Department of Homeland Security Science & Technology Center of Excellence

Institute for Infectious Animal Diseases (IIAD)

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A Department of Homeland Security Center of Excellence

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Impacts

Producing mobile applications for veterinary inspection

AgConnect® mCVI, a mobile certificate of veterinary inspection available through ZADD co-lead Texas A&M, provides a suite of data integration and analysis products designed to enhance situational awareness during infectious animal disease outbreaks. AgConnect® mCVI allows veterinarians to submit certificates of veterinary inspection to state animal health official offices from their mobile devices.

Rapid field detection of dangerous and exotic animal and human pathogens

Rapid, reliable detection and response are critical to mitigate the economic and public health impacts of infectious agents, including transboundary animal diseases (TADs) that pose a significant potential threat to U.S. livestock. Researchers at ZADD co-lead Kansas State University, in collaboration with industry partner GeneReach USA, are developing and evaluating a suite of pathogen detection tests to expand the capabilities of the GeneReach POCKIT™ Xpress Mobile Laboratory, a commercial-off-the-shelf product presently used to test for endemic diseases in companion and livestock animals (e.g., dogs, cats, poultry, swine, and horses).

Rift Valley Fever Vaccine (RVFV) development

Vaccines against Rift Valley fever are currently not available in the United States. RVFV infects both humans and ruminant animals (e.g., cattle, goats, and sheep). ZADD co-lead Kansas State University researchers are developing a subunit vaccine with Differentiating Infected from Vaccinated Animals (DIVA) capability.

Developing a diagnostic kit for animal health

In partnership with the U.S. Department of Agriculture Center for Veterinary Biologics, ZADD co-lead Texas A&M developed and validated a Foot and Mouth Disease (FMD) diagnostic kit that provides animal health first responders with a tool to mitigate the potentially catastrophic economic and animal welfare impacts of an FMD outbreak. This breakthrough tool is the first-ever licensed FMD diagnostic kit in the United States, which is used to detect FMD in cattle, swine, and sheep.