ZADD generates products to protect U.S. agriculture from catastrophic animal diseases

About ZADD

The National Center of Excellence for Zoonotic and Animal Disease Defense (ZADD) project was established by the Department of Homeland Security to address challenges posed by emerging and zoonotic foreign pathogens to U.S. agricultural systems.

ZADD conducts research, develops technology and trains a specialized workforce to successfully defend U.S. pre-harvest agricultural systems against threats associated with zoonotic, foreign, and emerging animal pathogens.

Two centers — the National Center for Foreign Animal and Zoonotic Disease Defense (FAZD Center, Texas A&M University), and the Center of Excellence for Emerging and Zoonotic Animal Diseases (CEEZAD, Kansas State University) — are the co-leads. Through these centers ZADD engages in research and develops programs on high threat agricultural pathogens across three major themes. Its major focus is on foot-and-mouth disease, Rift Valley fever, and zoonotic animal pathogens.

ZADD coordinates its efforts with industry stakeholders, government agencies and various private animal health and biomedical companies to assure that research results will meet customer needs and are translated into products.

Why high-consequence animal diseases pose significant threats to U.S. homeland security

60% of animal pathogens are zoonotic — that is, transmissible between animals and humans.

75% of recently emerging infectious diseases affecting humans began as animal diseases. The most dangerous of these pose catastrophic risks to human health and livestock health.

13% of all U.S. jobs and $1 trillion in annual U.S. economic activity are at risk when the national agricultural economy is threatened by high consequence animal diseases.

How ZADD finds solutions

Biological Systems

Vaccines, anti-viral agents, detection/diagnostic tests and diagnostic platforms

Information Analysis Systems

Epidemiology and disease modeling and analysis tools to support risk mitigation and decision making

Education and Outreach

Educational programs, responder training, workshops and seminars on emerging and zoonotic pathogens, and tools to support risk mitigation and decision making

88 partners in 29 U.S. states plus the District of Columbia, Puerto Rico and 12 nations

Partners include research universities, laboratories, government agencies, minority serving institutions, and private companies.

Plus, the laboratories in the National Animal Health Network in 43 states.

Contact information for ZADD co-leads

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Emergency Response Support System (ERSS) is in development for USDA’s Animal and Plant Health Inspection Service.

Comparative Pathogenomics Laboratory at the Colorado State University College of Veterinary Medicine and Biomedical Sciences.

FASTeggs decision support tool works to maintain continuity of business. The industry needs a tool to help hold eggs or egg products for long periods.

Outbreaks of avian influenza will lead to movement restrictions on poultry and poultry products. The poultry industry will need a tool to help with this.

The FAZD Center at Texas A&M University.


The ERSS is in development for USDA’s Animal and Plant Health Inspection Service.

In protecting US agricultural systems, we need a plan for screening milk for FMDV.

Plan for screening milk for FMDV.

Objectives of this study are to define, optimize, and standardize RNA extraction for development of a national surveillance system, and PCR-mediated detection of Foot and Mouth Disease Virus (FMDV) from bulk tank milk samples and obtain data suitable for possible future incidents.

For possible future incidents.

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