

DHS Plum Island Animal Disease Center Science Program: Food, Agriculture, and Veterinary Defense Mission



Science and
Technology

DEFENDING THE U.S. FOOD AND AGRICULTURE SYSTEM

The Department of Homeland Security (DHS) Science and Technology Directorate's (S&T) Food, Agriculture, and Veterinary Defense (FAV-D) project coordinates research and development (R&D) initiatives based on DHS component requirements. Chiefly, to prevent, protect, mitigate, respond to, and recover from the intentional or natural introduction of high-consequence threat agents affecting food and agriculture. S&T FAV-D aims to provide forward-looking R&D to address gaps across the entire food defense continuum. The project enhances the nation's defense against threats to livestock, wildlife, and plants, and against intentional adulteration in the food chain.

S&T FAV-D supports DHS agencies and components, such as the Countering Weapons of Mass Destruction Office, Customs and Border Protection, Cybersecurity and Infrastructure Security Agency, Federal Emergency Management Agency, and the Office of Intelligence and Analysis. The FAV-D project leverages interagency translational research conducted by DHS, the Department of Agriculture (USDA), and the S&T University Programs Centers for Excellence (COE), as well as industry and not-for-profit partners.

Transition is under way for state-of-the-art countermeasures, including vaccines and diagnostics for the highest-priority transboundary animal diseases: African swine fever (ASF), foot-and-mouth disease (FMD), and Rift Valley fever.

PARTNERING FOR IMPACT

The food and agriculture sector contributes more than \$1.1 trillion to the U.S. economy per year, and its critical infrastructure needs the protection by the U.S. government. Transboundary animal and plant diseases present continuous threats to our agricultural sector and carry potentially cascading impacts for humans and the environment.

FAV-D partners directly with the Plum Island Animal Disease Center (PIADC) and DHS S&T Office of University Programs COE to develop and test vaccines and diagnostics to be transitioned for regulatory licensure and acquisition by the National Animal Vaccine and Veterinary Countermeasures

Bank (NAVVCB) and the National Animal Health Laboratory Network (NAHLN). Effective depopulation, decontamination, and disposal methods will be transitioned to farms and industries to control countermeasures.



RECENT FAV-D ACCOMPLISHMENTS

- Demonstrated effectiveness and applicability of commonly used disinfectants for FMD and ASF.
- Demonstrated efficacy of vaccine candidates for ASF and FMD in pigs.

UPCOMING FAV-D MILESTONES

- FMD subunit vaccine efficacy study in cattle or pigs in support of a regulatory package toward product licensure.
- Transition transboundary animal disease countermeasures to NAVVCB.
- Regulatory development packages approvals submitted for a rapid pen-side diagnostic test, an emergency-use vaccine for ASF, and a prototype next generation subunit vaccine for livestock.

FAV-D PARTNERS AND PERFORMERS

- DHS S&T PIADC, NY, and USDA PIADC/Headquarters, NY and DC
- Kansas State University COE for Emerging Zoonotic Animal Diseases, Manhattan, KS
- University of Florida, Gainesville, FL
- Gate Scientific Inc., Milpitas, CA
- Silver Lake Research Corporation, Irwindale, CA
- NAVVCB, DC, and NAHLN, DC

