National Animal Health Laboratory Network

Classical Swine Fever (CSF)

Surveillance Efforts

The National Animal Health Laboratory Network (NAHLN) is partnering with multiple State and Federal agencies to implement a comprehensive surveillance program for the early detection of CSF in U.S. swine populations. Two divisions of the U.S. Department of Agriculture's (USDA) Animal and Plant Health Inspection Service (APHIS)—Veterinary Services (VS) and Wildlife Services (WS)—are spearheading the development of a CSF surveillance plan. The National Surveillance Unit of VS' Centers for Epidemiology and Animal Health (CEAH) and the Swine Health Staff of VS' National Centers for Animal Health Programs and WS' Wildlife Disease Surveillance and Emergency Response Program—along with VS' regional epidemiologists–have partnered with industry stakeholders to develop the plan. It focuses on the States at highest risk of CSF introduction into feral and domestic swine populations.

Feral Swine CSF Surveillance

The CSF surveillance plan is being implemented with the efforts of wildlife biologists from WS and State wildlife-management agencies collecting samples from free-roaming feral swine in many of the high-risk States. Specimens are submitted to the Foreign Animal Disease Diagnostic Laboratory (FADDL), part of VS' National Veterinary Services Laboratories (NVSL), where antibody-detection testing is performed.

Domestic CSF Surveillance

The CSF surveillance plan for transitional (domestic swine that could come in contact with feral swine populations) and commercial swine herds targets sick pigs in high-risk States. Implementation of this plan is also a multigroup effort to coordinate specimen collection from (1) high-risk farms by State and Federal field staff; (2) veterinary diagnostic laboratory submissions by private practitioners; and (3) condemned carcasses at slaughter in federally inspected plants. The CSF surveillance plan calls for NAHLN laboratories to perform screening tests and FADDL to perform antibody-detection testing and confirmatory testing on samples positive or suspect for CSF. Once diagnostic analysis is complete, CEAH provides centralized data management for feral and domestic swine submissions.

Diagnostic Testing

A critical principle of the NAHLN is that participating laboratories across the country perform a standardized test for a particular disease. This protocol ensures that test results from each laboratory can be directly compared. To achieve standardized

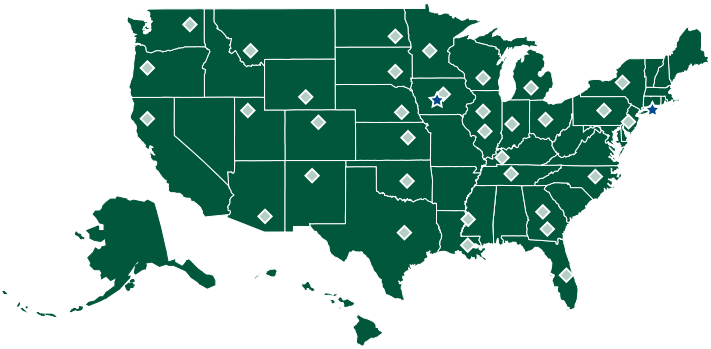
testing, NVSL provides test protocols, training for personnel running those tests (either directly from NVSL or via train-the-trainer programs), and annual proficiency testing to all participating NAHLN laboratory personnel. The CSF nucleic-acid detection assay being performed by NAHLN laboratories is a real-time, reverse-transcriptase–polymerase chain reaction (rRT–PCR) test developed and validated by USDA's Agricultural Research Service at its Plum Island Animal Disease Center and by FADDL. The CSF rRT–PCR test detects CSF viral RNA and is performed by NAHLN laboratories as a screening test. All suspect or positive samples are sent to FADDL for confirmatory testing. The CSF surveillance plan also includes antibody- and agent-detection assays performed by FADDL. Currently, there are 36 NAHLN laboratories approved to perform CSF rRT–PCR testing, including NVSL's Diagnostic Virology Laboratory and FADDL.

Communication and Response Plans

Managing the threat posed by CSF involves an appropriate response plan as well as diagnostic support. VS' Emergency Management team and WS' Wildlife Disease Surveillance and Emergency Response Program have worked closely with personnel at VS' eastern and western regional offices, State animal health and wildlife officials, and other agencies to prepare comprehensive communication and response plans in case CSF virus is detected in U.S. feral or domestic swine populations.

Contact Information

National Animal Health Laboratory Network
Phone: 515-337-7731, E-mail: NAHLN@aphis.usda.gov



Laboratories approved to conduct CSF testing
National Veterinary Services Laboratories

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