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Plum Island

National Veterinary Services Laboratories

The National Veterinary Services Laboratories (NVSL) is part of the U.S. Department of Agriculture (USDA). Our mission is to safeguard U.S. animal health and contribute to public health by providing timely and accurate diagnostic laboratory support. We offer services directly or through a national laboratory system. This system includes the National Animal Health Laboratory Network (NAHLN).

The NAHLN is a partnership of Federal, State, and university-associated laboratories. NAHLN laboratories provide animal health diagnostic testing, methods research and development, and expertise for education and extension to detect biological threats to U.S. animal agriculture.

Altogether, our work protects animal health, public health, and the Nation's food supply. The following information gives an overview of our services for cooperators and other interested members of the public.

Quality Diagnostic Services

At the very core of the NVSL mission is customer-based service as a veterinary diagnostic laboratory. NVSL scientists and support personnel perform diagnostic tests on almost a quarter million samples each year. NVSL offers nearly 400 specific diagnostic tests. Our tests cover everything from basic screening for the import of horses (equine infectious anemia testing) to testing for tuberculosis in elephants by culturing fluid from the trunk. We also give diagnostic support to foreign animal disease investigations. We provide this service both at Ames, IA, and at



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the Foreign Animal Disease Diagnostic Laboratory (FADDL) on Plum Island, NY. Further, we offer over 600 reagents, many of which are not available from any other source, and over 30 proficiency tests.

ISO/IEC¹ 17025 is the international standard for testing and calibration laboratories. To demonstrate confidence in quality, the NVSL has attained ISO/IEC 17025 accreditation for over 90 percent of our tests. ISO 17034 and ISO/IEC 17043 are the international standards for reference material producers and proficiency test providers, respectively. The NVSL has a range of reference materials and proficiency tests accredited.

A Center of Expertise

NVSL serves as a reference laboratory—a center of expertise and guidance on diagnostic techniques—both nationally and internationally. We are the reference laboratory for USDA Veterinary Services “program diseases.” (These are diseases the United States needs to bring under

NVSL Testing Statistics

Fiscal Year	Accessions* Received	Tests Conducted	Samples Tested
2018	> 44,000	> 469,000	> 204,000
2019	> 40,000	> 435,000	> 171,000
2020	> 39,000	> 553,000	> 175,000

* Requests for testing from a single entity

¹ International Organization for Standardization (ISO) / International Electrotechnical Commission (IEC)



Photo by DHS, Kathleen Apicelli

control or eradicate from our country.) We also provide reference assistance to other U.S. and international veterinary diagnostic laboratories as requested.

NVSL is also a World Organisation for Animal Health (WOAH) reference laboratory for 15 diseases. These include:

- African swine fever
- avian influenza
- anthrax
- bluetongue
- contagious equine metritis
- eastern, western, and Venezuelan encephalomyelitis
- equine infectious anemia
- foot-and-mouth disease
- leptospirosis
- Newcastle disease
- pseudorabies
- rinderpest
- swine influenza
- vesicular stomatitis
- West Nile encephalitis

In addition, the Food and Agriculture Organization of the United Nations has designated NVSL as a Reference Centre for several diseases. These include foot-and-mouth disease and other vesicular diseases of the Americas and the Caribbean; avian influenza and Newcastle disease; rinderpest; and bovine tuberculosis and paratuberculosis.

Collaboration and Training

NVSL works with and advises other Federal and State government agencies that are also developing new tests and technologies. In addition, we partner with other reference laboratories around the world and work with other countries to obtain diagnostic specimens from naturally infected animals. These efforts enhance expertise at NVSL and build extensive reference collections that are available to develop and validate tests.

Other vital functions of NVSL include training for State and Federal field veterinarians to detect foreign animal diseases and training for laboratory diagnosticians. For example, in FY 2021, we provided technical training in equine infectious anemia to 30 participants. In addition, we hosted several international trainees and visitors at our facilities in Ames, IA, and Plum Island, NY.

For a current list of available training, download a copy of NVSL's course catalog at www.aphis.usda.gov/aphis/ourfocus/animalhealth/lab-info-services/sa_nvsl_training/ct_training. We also offer customized training (as resources allow) to meet specific needs.

National Centers for Animal Health

NVSL is co-located with two other USDA laboratory units: the National Centers for Animal Health (NCAH) and the Center for Veterinary Biologics. Each has a unique and complementary mission for animal health. NCAH is a diagnostics, biologics regulation, and research center. It contains both biosafety level (BSL)-2 and BSL-3 laboratory space, as well as animal facilities and administrative space. NCAH employs a diverse staff of professionals that help support the laboratories in meeting national animal health needs.