KANSAS STATE UNIVERSITY | Veterinary Diagnostic Laboratory

Written Statement for KVDL on *Safeguarding U.S Agriculture: The Role of the National Animal Health Laboratory Network*
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House Committee on Agriculture/Subcommittee on Livestock, Dairy and Poultry
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NAHLN-Kansas Point of View on Federal and State Partnership in Protecting Animal Agriculture

Key Points:

- The **National Animal Health Laboratory Network, NALHN,** is a vital resource and call tree (communication system) to protect United States Animal Agriculture by providing an early warning system for economically important outbreaks and foreign animal diseases (FADs).
    - FADs on United States soil can severely impact animal agriculture, which can lead to a domino effect of negative impacts on the U.S. economy, exports, food safety, the food supply (including restaurants) and potentially lead to new diseases transferred from animals to humans (zoonosis).
        - **Example**: Bird Flu (HPAI) increasing egg prices creating difficulty for restaurants and bakeries (record high in April 2025) and has infected dairy employees, raising zoonotic concerns (disease transferred from animals to humans).
- ***The NAHLN has built a strong and harmonious relationship between federal, state, and university veterinary diagnostic laboratories with over 20 years of experience in protecting animal agriculture in the United States by controlling outbreaks and FADs.***
- NAHLN network includes 64 state laboratories, such as the Kansas Veterinary Diagnostic Laboratory (KVDL) @ Kansas State, which I represent. KVDL is a level 1 laboratory in the NAHLN network.
- The NAHLN Federal and State Partnership is one of the best operational partnerships between states and the federal entities that exists, therefore funding thus needs to be maintained, or preferably increased.
    - Federal funding (appropriations to NAHLN) from the federal government is critically important for state laboratories testing for Foreign Animal Diseases, but is only a small fraction of a state laboratory budget. For example, the Kansas Lab budget is approximately $16 million annual and we receive $250,000 annually from NAHLN for infrastructure support, to support partial salaries, equipment service contracts and purchase new equipment.
    - In FY24, NAHLN was allocated $24.9 million, through allocations from APHIS, NIFA, and the Farm Bill); ***$45 million total annual funding needs authorized*** (NAHLN is Essential to the Health of Food Animal Agriculture, Food Security, Bioterrorism Surveillance and the U.S. Economy).[1]
- ***The NAHLN Network protects against Animal Agroterrorism***.
    - **Example**: In June 2025, two Chinese Nationals were charged with smuggling a fungus called "Fusarium graminearum" into the U.S., which scientific literature classifies as a potential agroterrorism weapon. The fungus causes a disease in

wheat, barley, maize and rice that can wipe out crops and lead to vomiting and liver damage if it gets into food.
(https://www.bbc.com/news/articles/c4gkdppymk4o)

The NAHLN network is actively testing to control the Highly Pathogenic Avian Influenza (HPAI; bird flu) outbreak and conducting surveillance testing and foreign animal disease (FAD) investigations to monitor potential threats on U.S. soil. Under NAHLN direction, two diseases, state laboratories are currently monitoring are New World Screwworm and African Swine Fever. However, Foot-and-Mouth Disease (FMD) is also another important FAD. In fact if Foot-and-Mouth Disease and African Swine Fever, were to concurrently invade U.S. soil, they could cost the U.S. economy an estimated $231 Billion over 10 years, or $23.1 billion annually.[2]

NAHLN Network Physical Laboratory Locations:

State Laboratories: 64 state laboratories in most states across the United States (Map Below)
Federal-National Veterinary Service Laboratories: NVSL-Ames, IA; PIADC-Plum Island; NBAF-Manhattan, KS; Dorado, Puerto Rico

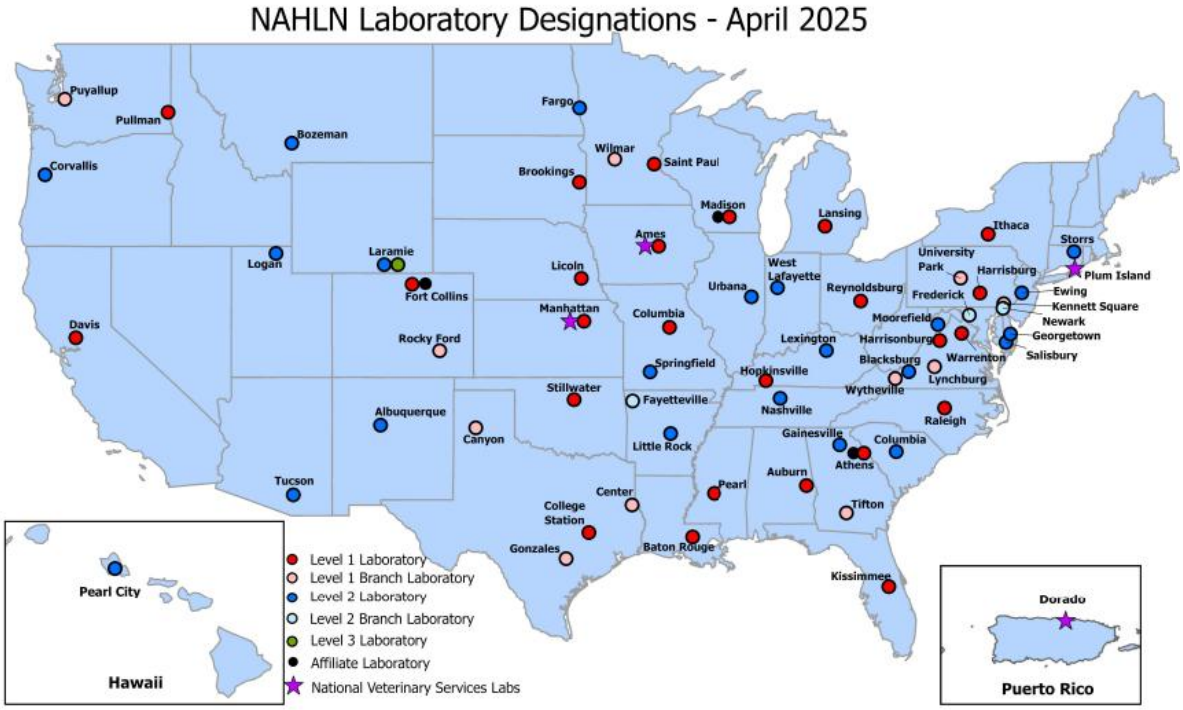

Figure 1: The 2025 NAHLN Network, including State Laboratories and National Veterinary Service Laboratories.

Relationship Between NAHLN, SAHO and KVDL

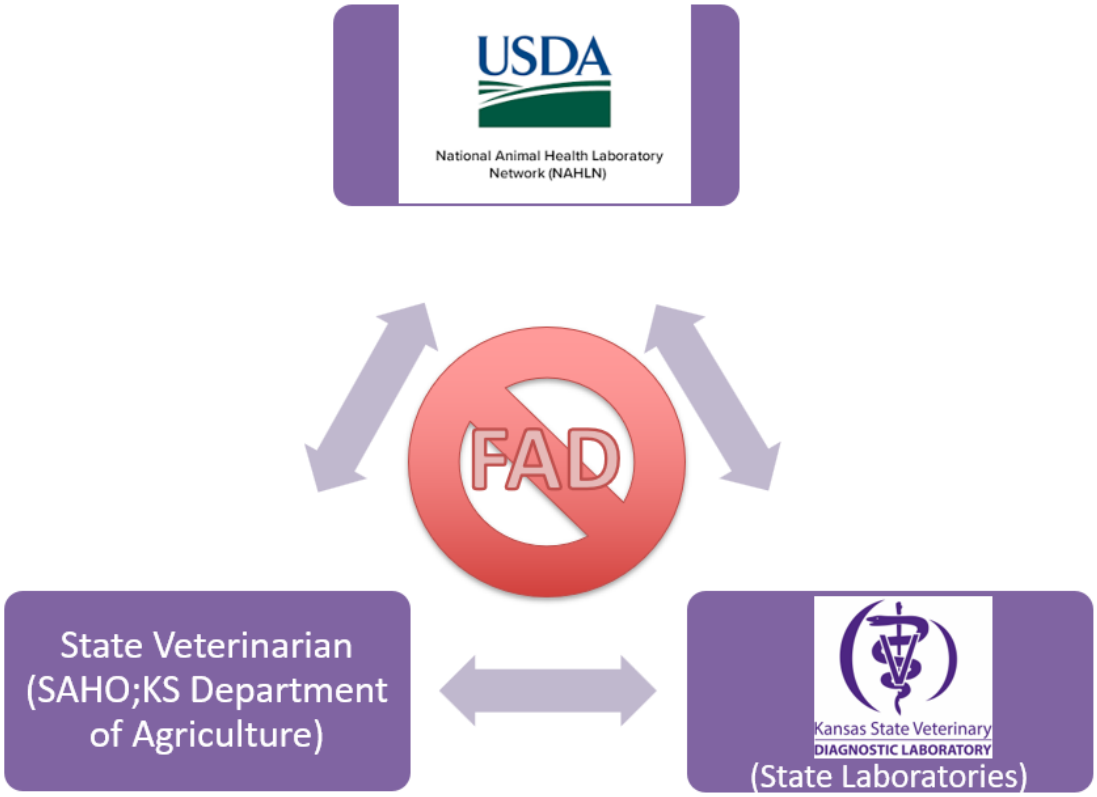

Figure 2: Working Relationship in Kansas among NAHLN, KVDL and the State Animal Health Official (SAHO; State Veterinarian) under Kansas Department of Agriculture. Similar in most states.

NAHLN Overview

The NAHLN is a federal organization comprised of a network of federal, state and university veterinary diagnostic laboratories with over 20 years of operation. During that time, the network has grown to include 64 laboratories across the United States (Figure 1) that work as a team to protect animal agriculture, and thus the food supply and US economy. The Kansas Veterinary Diagnostic Laboratory (KVDL), which I represent in support of NAHLN, is Kansas's level 1 laboratory. Like other states and their laboratories, KVDL maintains a relationship with the state Department of Agriculture, particularly the State Animal Health Officials (SAHO; State Veterinarians), as well as with NAHLN (Figure 2). The NAHLN provides many training opportunities to enhance the laboratories, ranging from technical skills in the laboratory to IT advancements. In addition, ***weekly calls and annual meetings with NAHLN and the 64 state laboratories*** foster necessary communication and strong relationships across the network. As part of the network there are two federal parent laboratories, the National Veterinary Service Laboratory (NVSL) in Ames, Iowa and the Foreign Animal Diagnostic Disease Laboratory (FADDL) located at Plum Island, New York and the National Biodefense Agriculture Facility (NBAF) in Manhattan, KS. These ***parent federal labs***, NVSL and FADDL, perform

confirmatory testing for the state/university laboratories in FAD/outbreaks. NAHLN, in conjunction with these parent labs provide ***standardized testing protocols, assess state laboratory's accuracy and reliability through proficiency testing, and compile important disease tracking data from the network***. ***The network also surveils for Antimicrobial Resistance (AMR) through state laboratory caseload, which is considered a serious global health threat. There is overlap and redundancy between the federal laboratories, the NAHLN staff and the state/university laboratories, which ensures robust testing in times of outbreaks.***

KVDL Overview

KVDL is located in Manhattan, KS at Kansas State University and has approximately 13 different sections, 100 technicians, 23 faculty, performs over 600 different tests, and has 213 species in our testing database. The two most common species served are cattle and dogs. The lab supports a wide range of clients, including livestock producers, pet owners, practicing veterinarians, government and industry. The diversity in species and caseload along with acceptance of cases from veterinarians and owners make it one of the early locations that may detect an FAD or new outbreak. KVDL is an accredited lab with a robust quality system similar to human labs through CLIA, which allowed us to be able to support human testing during the Covid pandemic. KVDL has an approximately $16 million budget with greater than $10 million supporting salary and benefits. Revenue generated is a close margin with operational costs (expenses). Insults to agriculture affecting the economy can affect our ability to pay staff. KVDL is a critical pillar to support the $12.9 billion Kansas livestock industry, which is a significant part of the U.S. economy.

In addition, KVDL being located at a land grant university, faculty contribute to educating and training of future veterinary and agriculture students and trainees in the College of Veterinary Medicine and the College of Agriculture at Kansas State.

KVDL and NAHLN Support

KVDL joined the NAHLN network in 2004, became a level 2 member in 2016, and advanced to a level 1 member in 2019. As the only state laboratory in KS, KVDL operates at Kansas State University, a land grant university. This type of arrangement is an excellent example of federal government, state government and university/academia working to protect U.S. agriculture and the economy. KVDL would not be able to perform disease outbreak and FAD testing, plus some routine service testing, without the support received by NAHLN. ***NAHLN support includes monetary (federal funding through annual infrastructure and Farm Bill funding), personnel training, provision of test kits, directions and controls, mock testing to ensure laboratory accuracy, test standardization, educational resources, practice outbreak exercises, networking, and continuous improvement opportunities.*** Since 2019, KVDL has received approximately $250,000 annually in federal funding, which has supported equipment purchases (testing machines, laboratory monitoring systems, computers, servers), software and database needs (quality assurance software and laboratory information database), equipment service contracts, travel for training, outbreak exercises, and salary support.

As a Level 1 member of NAHLN, KVDL plays a critical role in the nation's diagnostic testing efforts for high-consequence animal disease. Including pathogens like highly pathogenic avian influenza (HPAI), African swine fever (ASF), foot-and-mouth disease (FMD), and several others within NAHLN's scope. ***Since 2005, KVDL has completed approximately 118,452 tests to support NAHLN's mission of protecting US animal agriculture. Over the last 10 years,***

KVDL's annual testing has ranged from 2,624 to 11,878 in tests per year, averaging 219 to 990 tests/month. In 2025, KVDL has performed 215 FAD investigations on disease cases that show similar signs/symptoms to foreign animal diseases. ***These figures represent the testing contributions of ONE lab of the 64 laboratories, which demonstrates the significant impact that the state laboratory network has under the coordination of NAHLN***.

KVDL works closely with the Kansas Department of Agriculture, Division of Animal Health (KDAH) and USDA partners, specifically NAHLN, to perform both routine surveillance testing and Foreign Animal Disease Investigation (FADI) testing. FADI testing, in particular, is a coordinated multi-agency effort led by USDA-APHIS Veterinary Services, and involves close partnership among APHIS-NAHLN, KDAH, KVDL, and the National Veterinary Services Laboratories (NVSL & FADDL) to ensure a timely and effective response to suspected foreign animal disease threats or disease outbreaks (Figure 2 above).

How KVDL works with NAHLN and the State Veterinarians (Figure 3 Below):

When a potential foreign animal disease (FAD) is suspected, communication between KVDL, KDAH and USDA-APHIS-NAHLN follows a clearly defined process to ensure timely investigation and response, and *can flow in both directions* (Figure 2 above).

When a potential FAD originates in the field, KDAH or USDA-APHIS will initiate contact to KVDL to alert the laboratory of incoming samples. These notifications typically follow field investigations conducted by a Foreign Animal Disease Diagnostician (FADD), allowing KVDL to prepare for appropriate handling, testing, and biosafety procedures upon receipt of the samples. *However, FAD investigation cases can also originate within KVDL*, either from samples submitted through a referring veterinarian, owner, or from animals presented to the necropsy service (animal autopsy). If KVDL pathologists or diagnosticians observe clinical signs/symptoms or postmortem findings (animal autopsy) that raise concern for a foreign animal disease, the laboratory initiates communication with state and federal partners-the SAHO and NAHLN. In these situations, KVDL provides detailed case information so that our regulatory partners can determine whether the case meets criteria for an official FAD Investigation. Once samples are received in the laboratory, KVDL conducts initial rule-out testing according to NAHLN-approved assays and protocols. Results are communicated promptly and securely to both USDA-APHIS, KDAH and USDA-NAHLN coordinators. Throughout the process, interagency communication is tightly coordinated to ensure accurate tracking, confidentiality, and timely decision-making. This collaborative framework is essential for the early detection and control of foreign animal diseases, and it plays a vital role in protecting animal health, public health, and the agricultural economy.

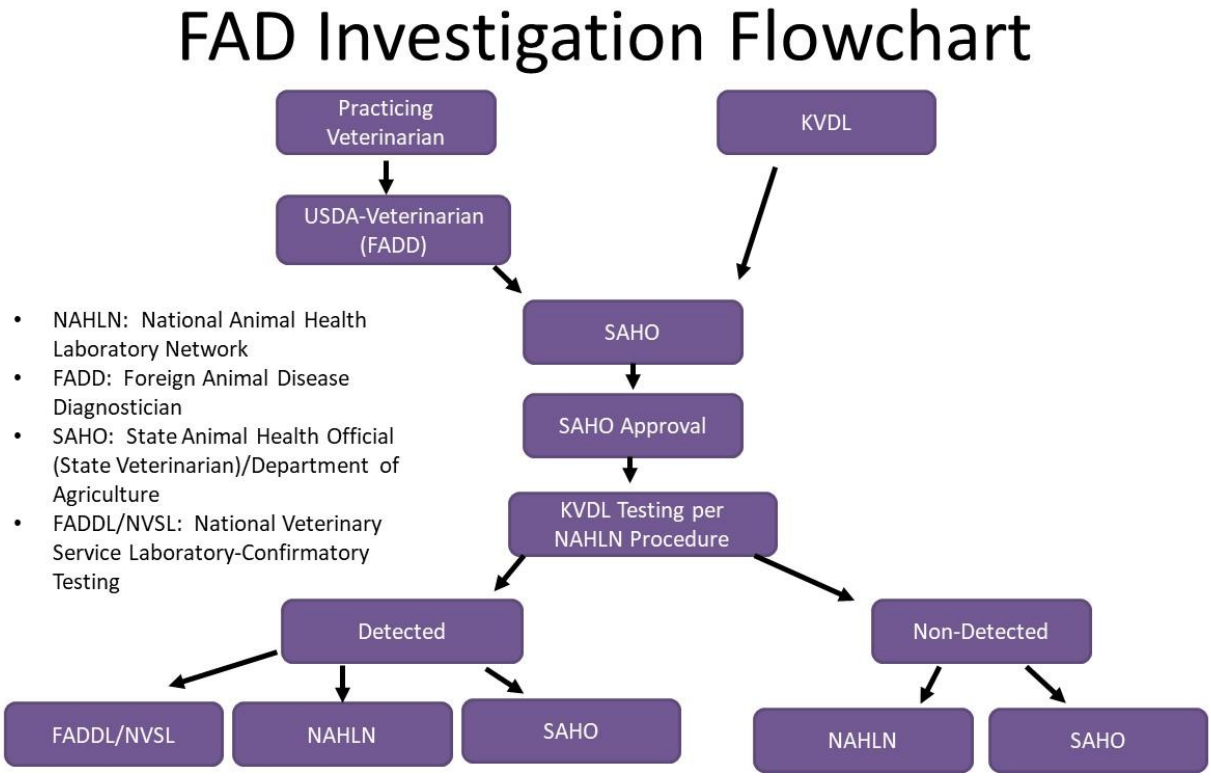

Figure 3: Flow chart of investigation of a foreign animal disease case involving practicing veterinarian, USDA veterinarian, State Animal Health Official (State Veterinarian), KVDL, NAHLN and national laboratories for confirmatory testing.

KVDL Current Testing for NAHLN

KVDL currently is performing Highly Pathogenic Avian Influenza (HPAI; bird flu) testing, African Swine Fever Virus surveillance testing, and FAD investigations for NAHLN and the United States. Both Colorado and California have become overwhelmed with HPAI testing, so KVDL stepped up to support HPAI (bird flu) wild bird surveillance for Colorado and Foot and Mouth Disease Investigations for California. ***This collaborative effort of assisting states that have become overwhelmed, highlights the unique relationship among state laboratories and NAHLN and the importance of NAHLN coordination.***

Highly Pathogenic Avian Influenza (HPAI; Bird Flu) continues to pose a significant threat to both animal and human health, with the recent outbreak starting in 2022 causing substantial losses in poultry populations and raising concerns about zoonotic transmission (diseases from animals to humans). While human cases remain rare, the virus's ability to jump species underscores the critical need for vigilant monitoring and containment efforts. Recent outbreaks in commercial layer operations resulted in high egg prices in April 2025, which negatively impacted restaurants and bakeries. ***Any insult to animal agriculture can affect the supply chain to the restaurant and family table levels; state veterinary diagnostic labs with NAHLN coordination work to mitigate this risk.***

Since May 2022, KVDL has served as an active member of the USDA-Wildlife Services National Wildlife Disease Program, the nation's largest avian influenza surveillance effort targeting wild bird populations. In addition, KVDL has participated in the Foot-and-Mouth

Disease and Seneca Valley Virus (Senecavirus A) (FMD/SVA) surveillance testing program since September 2022. ***In early 2024, the emergence of HPAI in dairy cattle placed a large testing burden on many NAHLN laboratories across the country. In response, KVDL expanded its support to assist other overwhelmed NAHLN labs. While continuing to perform routine wild bird surveillance testing for assigned states, including Kansas, Nebraska, Oklahoma, Texas, and Wisconsin, KVDL volunteered to take on additional wild bird samples from Colorado's assigned states to ease the workload of the Colorado NAHLN lab. Similarly, KVDL assisted the California NAHLN lab by accepting and testing its FMD/SVA surveillance samples. These examples illustrate the critical role of NAHLN's coordinated state laboratory network to meet high testing demands in disease outbreaks.*** To date, KVDL has tested samples from 135 Foreign Animal Disease Investigations (FADIs) for California under this program. This was also evident during the Covid-19 pandemic, when 22 veterinary diagnostic laboratories stood up human **Covid** testing to support human health for their communities and states.

At the same time, KVDL has remained actively involved in HPAI testing efforts for dairy cattle, including for pre-movement, disease status interest and clinical testing and testing for the USDA National Herd Status Monitoring program. KVDL has also supported testing efforts related to HPAI in other mammal populations, including affected felines. ***These collaborative efforts reflect KVDL's commitment to national animal health and its readiness to provide surge capacity and diagnostic expertise in times of crisis; a capability shared by many partner state laboratories.***

Communication and Networking among State Laboratories, including KVDL and NAHLN

As a Level 1 member of the USDA-NAHLN, KVDL plays an active and integral role in advancing the NAHLN mission. KVDL routinely participates in weekly NAHLN laboratory response calls, testing capacity drills, FAD exercises, and weekly surveys designed to assess and strengthen laboratory readiness. KVDL, and other state laboratories, also regularly complete proficiency (accuracy) testing administered by NVSL and FADDL to ensure ongoing diagnostic accuracy and reliability. KVDL faculty and staff contribute to national coordination efforts by serving on several NAHLN working groups and subcommittees, including the Methods Technical Working Group, the NAHLN IT Working Group, and the NAHLN Portal Working Group. ***In addition, KVDL personnel have served as quality-system auditors for other NAHLN laboratories, helping uphold high standards across the network.*** The lab is also actively engaged in emergency preparedness exercises, including functional drills for African Swine Fever (ASF) and an annual joint FAD response exercise with KDAH, NAHLN, and FADDL simulating a coordinated response to a mock foot-and-mouth disease (FMD) outbreak. Through these ongoing contributions, KVDL demonstrates its leadership, expertise, and steadfast commitment to protecting animal health and strengthening national diagnostic preparedness, similar to many other state laboratories.

NBAF Relationship with NAHLN and State Laboratories (such as KVDL)

The National Bio and Agro-Defense Facility (NBAF) is progressing towards full operational status with missions focused on FAD/ outbreak testing and advancing FAD research. The Foreign Animal Disease Diagnostic Laboratory (FADDL), a core component of NBAF, serves as the national reference laboratory for confirmatory testing of foreign animal disease (FAD) diseases that could deliver a significant impact on animal agriculture and the U.S. economy, including African Swine Fever (ASF), Classical Swine Fever (CSF), and Foot and Mouth

Disease (FMD). Currently FADDL has 3 physical locations, which include Manhattan, KS (NBAF), Plum Island, NY (Plum Island Animal Disease Center; PIADC) and a smaller presence in Dorado Puerto Rico (Puerto Rico Department of Agriculture). While PIADC remains operational for the time-being, FADDL is progressively transferring operations to NBAF. Several FADDL programs have been fully transitioned to NBAF, including NAHLN proficiency tests (PT), which assess state laboratories testing accuracy and active surveillance testing for foreign animal diseases. From the NBAF facility, FADDL has produced and distributed 800 PT panels for ASF, CSF, FMD, and Seneca Valley Virus to NAHLN labs nationwide. Additionally, NBAF has tested over 17,000 samples under the USDA APHIS ASF/CSF Integrated Active Surveillance Program. Approximately half of FADDL's staff have relocated to NBAF, with ongoing efforts to complete the full transition of operations from PIADC.

Summary-Importance of NAHLN

NAHLN, with over 20 years' of experience, standardized and controlled testing, and coordination of 64 state laboratories provides high testing capacity/numbers and redundancy in testing to control outbreaks and surveil for FADs on U.S. soil. In my opinion, NAHLN is the best example of a federal organization harmoniously coordinating disease response among state laboratories and departments of Agriculture. When funds are appropriated to NAHLN, federal dollars are supporting state laboratories, protecting the US economy and food supply, preventing zoonosis, maintaining exports and trade channels and addressing many other critical national interests. KVDL, for instance, receives $250,000 annually from NAHLN, which is a small fraction of KVDL's overall budget of greater than $16 million. However, input costs of veterinary diagnostic laboratories are high and revenue can struggle to exceed expenses in some years. Despite these challenges, the services of veterinary diagnostic laboratories remain critical. Increasing NAHLN authorization/allocations to $45 million would bolster 64 state laboratories and four National Veterinary Service Laboratories, ensuring continued protection of animal agriculture and the economy.

NBAF Science/Research Update:

- Scientific activities at the National Bio and Agro-Defense Facility (NBAF) in Manhattan, Kansas are starting in phases.
- This phased process begins with low-risk, common science practices that don't involve infectious pathogens and moves to more advanced or mission-focused science in later phases.
- Current scientific activities at NBAF are at a biosafety level-1 and -2 — which includes clean, non-infectious materials as well as moderate-risk microbes. This is similar to science work in most universities, colleges and diagnostic laboratories across the country.
- Activities will progress to biosafety level-3 then -4 as safety and science goals are achieved.
- USDA staff continue to outline and refine the specifics of the science standup and transition from NBAF's predecessor, the Plum Island Animal Disease Center (PIADC) in New York.
- As NBAF proceeds through science standup, the facility and its procedures are required by law to undergo inspections and reviews by federal regulatory agencies.

Reference:

1. NAHLN is Essential to the Health of Food Animal Agriculture, Food Security, Bioterrorism Surveillance, and the U.S. Economy: $45 million total annual funding is needed. AAVLD/USAHA position statement.
2. Carriquiry, M, A. Elobeid, D. Hayes. National Impacts of Domestic Outbreak of Foot and Mouth Disease and African Swine Fever in the United States. Center of Agricultural and Rural Development, Iowa State University, 2023.

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