



Season 5, Episode 6: Newly Built National Bio and Agro-Defense Facility (NBAF) Aims to Protect U.S. Farms from Diseases

Dr. Chad Mire, USDA, and **Dr. Robin Holland**, USDA, share unique features the National Bio and Agro-Defense Facility (NBAF) has, how it will have an impact on the swine industry, and what producers and

What is NBAF?

The National Bio and Agro-Defense Facility (NBAF), owned and operated by the USDA in Manhattan, Kansas, is dedicated to protecting the United States from transboundary zoonotic diseases. These diseases pose risks to the U.S. food supply, agricultural economy, and public health. NBAF specializes in livestock research, diagnostics, vaccine and countermeasure development, and personnel training to ensure readiness for potential disease invasions in the U.S.

Why the need for NBAF?

The Plum Island Animal Disease Center (PIADC), established in 1954 on Plum Island off the coast of New York, has been dedicated to protecting U.S. agriculture for nearly 70 years. This biocontainment facility has remained operational thanks to the commitment of its scientists and staff. Due to the need for a larger, modernized facility, PIADC is expected to be fully decommissioned by late 2028, as the USDA established the National Bio and Agro-Defense Facility (NBAF) in Manhattan, Kansas. Over time, PIADC's functions will transfer to NBAF, which will house expertise across various animal diseases, including veterinarians, scientists, technicians, administrative support staff, and operational personnel.

What Makes the NBAF Facility Unique?

NBAF stands out as the only facility in the United States with a Biosafety Level 4 (BSL-4) laboratory capable of housing large livestock, a capability shared by only five facilities worldwide. This specialized capacity enables NBAF to conduct critical research on high-consequence animal diseases, thereby enhancing its role in safeguarding U.S. agriculture and public health. Additionally, NBAF features a close collaboration between the Animal and Plant Health Inspection Service (APHIS), the regulatory division of the USDA, and the Agricultural Research Service (ARS), the research division of the USDA. This partnership not only advances scientific knowledge but also addresses stakeholder needs, ensuring that research insights are effectively transferred to those actively supporting animal health in the field.

NBAF's Impact on the Swine Industry

The transition from PIADC to NBAF significantly increases the laboratory space available for research on various pathogens. This expansion enables NBAF to conduct more research, meet critical timelines, and accelerate the development of vaccines and countermeasures. While continuing its research on African Swine Fever (ASF) and Classical Swine Fever (CSF), NBAF is also broadening its focus to include zoonotic diseases, conducting studies on Japanese encephalitis (JE), and Nipah virus (NiV), transmitted by mosquitoes and bats, respectively. By understanding the challenges and primary concerns faced by stakeholders and producers, NBAF can develop more effective recommendations, policies, sampling strategies, and surveillance approaches. This responsiveness to industry needs enhances the facility's ability to support animal health and safeguard the swine industry against emerging threats.

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