



Commercialization in Vietnam positions ARS vaccine to help control African swine fever pandemic

USDA Agricultural Research Service, Plum Island Animal Disease Center

A vaccine developed by the U.S. Department of Agriculture's Agricultural Research Service (USDA ARS) and commercialized in Vietnam is now uniquely positioned to help control the deadly African swine fever pandemic in Southeast Asia and prevent it from spreading to the U.S.

African swine fever (ASF) is a devastating, highly contagious viral disease of domestic and wild pigs with mortality rates approaching 100%. At first localized to sub-Saharan Africa, since 2007 ASF has spread to Europe and Southeast Asia, creating a pandemic that killed half the world's pig population in 2019.

A new wave of ASF outbreaks in 2021 is again threatening food security and raising pork prices to historical highs worldwide. The potential introduction of ASF in the U.S.—the world's third largest swine producer after Europe and China—is a serious concern for the nation's pork industry.

Researchers across the globe have tried unsuccessfully in the last 50 years to develop a safe and efficacious ASF vaccine. Starting in 2008, scientists at the ARS Plum Island Animal Disease Center began a long, arduous genetic engineering process that ultimately led to the creation of an effective ASF vaccine, which was patented in 2019.

Realizing that preventing an ASF outbreak in the U.S. would require controlling the disease in endemic regions (where it already existed), the ARS researchers felt it was important to transfer the technology to a commercial partner in an ASF-endemic country. A visit to Vietnam in February 2020—despite the COVID-19 pandemic—initiated discussions between ARS and the National Veterinary Joint Stock Company (NAVETCO). One of the biggest veterinary pharmaceutical companies in Vietnam, NAVETCO also had valuable experience conducting the clinical trials needed for approval from that country's regulatory authorities.

ARS scientists worked with NAVETCO to create a vaccine development plan and to help the company



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navigate the USDA technology transfer process. The ARS Office of Technology Transfer issued NAVETCO a Patent & Biological Material License Agreement on August 7, 2020, and signed a collaborative Material Transfer Research Agreement less than three weeks later.

In September 2020, materials were shipped to NAVETCO—no small feat during a pandemic. The company produced the first batches of the vaccine, conducted the necessary clinical studies, and submitted the results to Vietnamese regulatory authorities in February 2021, just five months after receiving the shipment. It is the first time that a commercial ASF vaccine will be used to control and prevent the spread of ASF in an endemic country.

Since ASF has now spread to 15 countries in Asia, it may take some time before ASF is fully controlled, but the availability of a commercial vaccine is a key step toward preventing it from spreading to the U.S. It also offers for the first time the potential to control the disease at its source, which is a critical component of the U.S. National Strategy for Countering Biological Threats.🌐