

MatMaCorp's DNA testing platform could help protect the U.S. pork supply from African swine fever

African swine fever, a lethal viral disease affecting pigs, is responsible for serious production and economic losses and is a global threat to food security



**Homeland
Security**

Science and Technology

Image Source: DHS Science and Technology

LINCOLN, Neb., March 24, 2020 – MatMaCorp, a developer of comprehensive molecular diagnostic systems, announced today the successful evaluation of a genetic test to detect African swine fever virus (ASFV) in uncooked pork products. Raw pork products are the most common way the virus is spread. The evaluation was done as part of a U.S. Department of Homeland Security (DHS) Science and Technology (S&T) Directorate program to identify new technologies that secure the U.S. food supply and monitor food imports and exports.

African swine fever is highly contagious in domestic and wild pigs, and currently there is no approved vaccine. The disease has been reported across Asia, Europe, and Africa, and caused a significant decrease in pork production, especially in China, the world's largest pork-producing country. The United States is the largest pork exporter in the world, raising more than 115 million hogs, valued at \$24 billion annually. African swine fever has yet to be detected in the United States, but The Swine Disease Global Surveillance Project estimates that it could cause up to \$10 billion in economic damages within a year, if the disease reached the U.S.

"An outbreak of African swine fever is a very real threat that could devastate the domestic pork export market, and as developers of diagnostic technologies for science and agriculture, we found it of the utmost importance to make available a genetic test that could potentially help protect our pork supply," said Phil Kozera, CEO at MatMaCorp. "The MatMaCorp platform provides a cost-effective, simple test for rapid detection of the African swine fever virus, and it could be easily implemented on-site to monitor food imports and exports."

MatMaCorp's device and test can detect the virus that causes African swine fever in raw pork products. DHS S&T scientists evaluated virus-infected samples from meat muscle as well as from bone marrow and spleen. With MatMaCorp's test, the virus was detected in all the sample types that were tested. The ability to detect the virus in such samples can help processing plants to monitor for viral contamination before exporting products. Similarly, the test could be used to check imported pork products for the virus before they reach the market.

Dr. Abe Oommen, MatMaCorp founder and President, said, "This effort showcases the ability of MatMaCorp's diagnostic platform to play an important role in food security, and we laud the diligent efforts of the DHS S&T team at Plum Island Animal Disease Center in exploring the most effective technologies to secure our nation's food supply from foreign infectious agents. We are ready to make this test available immediately to protect our world's food supply against African swine fever and other emerging transboundary animal diseases."

Dr. Oommen concluded, “MatMaCorp has developed a customizable system to develop, within days, diagnostic tests from a genomic sequence that can rapidly detect any emerging infectious agent, whether it is a virus or a bacterium.”

MatMaCorp’s customizable platform is designed to quickly analyze genetic information, including single nucleotide polymorphisms (SNPs) from any biological sample, at any location. The platform includes a simple DNA/RNA isolation kit and a custom assay that is run on a small, portable device. MatMaCorp’s platform and test for ASFV is cost-effective and easy to use, because it does not require extensive laboratory equipment and skills and can deliver results on-site within hours.

About MatMaCorp

MatMaCorp (Materials and Machines Corporation) is a developer of comprehensive solutions for science, medicine, and agriculture. By combining engineering, life science, and information technology, MatMaCorp has developed a portable, easy-to-use, and affordable suite of products to power genetics for human diagnostics, animal conservation, and agriculture applications, including food safety, and breeding. By eliminating the need for large laboratory equipment like centrifuges, pipettes, and refrigerators, MatMaCorp’s products are geared towards making molecular biology and diagnostic techniques accessible to anyone, anywhere, anytime, and without contamination and background noise. Solas 8™ is a portable device that allows the purification, as well as analysis, of DNA/RNA from biological samples. DNA/RNA purification on the Solas 8 is accomplished with the MagicTip™ and SNP/sequence detection is done using C-SAND™ Assays. For more information, please visit MatMaCorp.com and follow the company on [Twitter](#) and [LinkedIn](#).

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