

Taiwan: Bananas used in development of PRRS vaccine

The National Taiwan University reported that it has developed transgenic bananas to vaccinate swine against Porcine Reproductive and Respiratory Syndrome Virus (PRRSV), also known as blue ear pig disease.



Professor Huang Pung-ling of the NTU Department of Horticulture and Landscape Architecture and professor Jeng Chian-ren, director of the NTU Graduate Institute of Molecular and Comparative Pathobiology headed the research team. With this new oral vaccine, Huang said that “Pigs can eat the vaccine as raw food. It is extremely convenient and there is no risk of secondary infection or attenuation of vaccine proteins in the cooking process.”

In the industry, current PRRS vaccines are seen as limited and not effective. “After feeding the pigs with 50g of banana leaves from the transgenic banana plants, three times at a two-week interval, the serum and tissue viral loads dropped,” Huang said.

Genetic engineering

According to media reports, genetic engineering technology was used to transfer genetic material of the virus to the banana chromosome. The banana functions as a bioreactor, resulting in a vegetable oral vaccine. “Patents have already been secured in Taiwan, the US and mainland China,” Huang said.

PRRS on the continents

Europe, United States and Asia have all been faced with PRRS – in Asia Taiwan, Vietnam, China have all been affected over the decades since the 1980s. With researchers globally working to find a cure for the disease. Recently the World Organisation for Animal Health (OIE) confirmed that India has reported PRRS for the first time.

PRRS causes reproductive failure in breeding stock and respiratory tract illness in young

pigs. Initially referred to as "mystery swine disease" and "mystery reproductive syndrome," it was first reported in 1987 in North America and Central Europe. The disease costs the United States swine industry around \$600 million annually. (*Wikipedia*)

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