## **BACKGROUND:**

## SIRRAVAX<sup>sm</sup> RNA PARTICLE (RP) TECHNOLOGY



The disease pathogen itself never enters the company's facilities.

Harrisvaccines is revolutionizing disease management with its rapid-response, herd-specific vaccines – enabled by the company's SirraVax<sup>sm</sup> RNA Particle (RP) technology platform.

With more than four decades of experience, Dr. Hank Harris leads Harrisvaccines as founder and president. Dr. Harris is one of the world's leading researchers in infectious swine diseases and pioneer of multi-site pig production. Dr. Mark Mogler serves as head of research at Harrisvaccines. Receiving his PhD from lowa State University, Dr. Mogler directs product development, leads discovery activities, and enhances new and existing products.

## Powerful Delivery Vehicle

Harrisvaccines uses SirraVax<sup>sm</sup> RP technology to make vaccines for swine, bovine, equine, avian, companion animal, and farmed aquaculture diseases.

The disease pathogen itself never enters the company's facilities, which is unique in the vaccine production industry. The pathogen is only handled at a veterinary diagnostic laboratory, which sends Harrisvaccines the electronic gene sequence.

The data from the diagnostic lab report is a blueprint for the identification of the specific pathogen strain found on a particular farm.

## "Our SirraVax<sup>sm</sup> technology is unlike any other."

"When it comes to protecting animals from a deadly disease like PEDv or Swine Influenza, responding rapidly is key," said Dr. Hank Harris. "Our ability to target specific disease mutations in just a matter of weeks is really making a difference for producers."

By producing a herd-specific vaccine in just eight weeks – in contrast with conventional technology timeframes of months or even years – Harrisvaccines enables producers to deal with animal health issues much more quickly.

"Our SirraVax<sup>sm</sup> RP technology is unlike any other," said Dr. Mark Mogler. "We are able to create cost effective, herd-specific vaccines in just a fraction of the typical production time because we use the same production process for each disease – only specific genes inside the vaccine vary."



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**RNA Platform** 

The RNA platform

RNA Platform

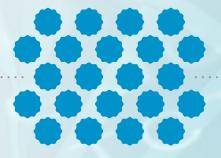
Gene

The sequence of a gene from a virus is placed into the RNA platform



SIRRAVAX<sup>sm</sup> RNA PARTICLE (RP) TECHNOLOGY

RNA, with its embedded gene sequence, is electroporated into Vero cells



RNA particles are harvested and purified from Vero cells



RNA Particle (RP) vaccine is formulated



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