

ISU researcher develops vaccine for H1N1 flu virus in swine

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The H1N1 virus has now been found in a Canadian swine herd, and an Iowa State University researcher has developed an H1N1 flu vaccine for pigs.

"Now that H1N1 [virus](#) is in pigs, we're seeking funding to conduct a proof-of-concept study to demonstrate how rapidly we can produce an effective and safe [vaccine](#) for pigs," said Dr. Hank Harris, professor in animal science and veterinary diagnostic and production animal medicine.

Harris' start-up company at the ISU Research Park, Harrisvaccines, Inc., uses a technology that is much faster for producing vaccines than traditional methods.

The technique, called RNA Backbone, was developed for human use by a North Carolina company called Alphavax. Harrisvaccines has adapted it for pigs.

The technique uses electric current to combine the RNA Backbone material with the relevant genetic information from the active flu virus through a process called electro-poration.

Harris notes that his new vaccines using the Backbone method are currently in the pipeline for approval and may have approval from the United States Department of Agriculture by 2011.

Recently, Harris' new, faster method of producing vaccines was put to use during an outbreak of the disease Porcine Reproductive Respiratory Syndrome virus. Harris' Backbone method allowed vaccines to be ready within two months of the outbreak. That research was supported by the United States Department of Agriculture's Small Business Innovation Research Program.

Traditional production methods require five to six months for human vaccines and 11 to 12 months for swine vaccines.

"Right now, to make human or animal vaccines, you have to get the live virus and grow it in eggs or cell culture and then inactivate it," said Harris. "We don't have to do that."

"That's what's really neat about this technology, you don't really need the live virus," he said. "We just need the genes from the original virus which can be made synthetically."

Harris needs only the virus' genetic information, which is easily available. The new H1N1 virus, for instance, has already been genetically mapped and is already available on the Web and in the public domain.

Source: Iowa State University ([news](#) : [web](#))

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