



## HERD HEALTH MANAGEMENT & ECONOMY

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### THE DR. MORRISON SWINE HEALTH MONITORING PROJECT AN INDUSTRY INITIATIVE THAT BRINGS NEW INSIGHTS INTO PRRS EPIDEMIOLOGY

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#### Introduction

The Dr. Morrison Swine Health Monitoring Project (MSHMP) is a voluntary program managed by the University of Minnesota in which U.S. producers and veterinarians share sow farm PRRS status weekly. Currently, the project participants account for 50 % of the U.S. sow population. One of the MSHMP's main goals is to contribute to the understanding of PRRS epidemiological features and, ultimately, to build a nationwide system should a foreign animal disease enter the country.

#### Material and methods

The dataset has been analyzed through different approaches, including time series, spatial, phylogenetic and ecological analysis. A real-time visual and analytic tool that also incorporates modelling and prediction has been tested.

#### Results

Use of those methods has helped the U.S. swine industry to quantify the cyclical patterns of PRRS. In addition, it has also helped to describe the impact that emerging pathogens such as PEDv had on such a pattern. Furthermore, the project has aided to understanding the nature and extent at which environmental factors (e.g. precipitation, slope or land cover) influence PRRS risk, along with identifying PRRS virus emerging strains. Recently, the project was able to uncover the relationship between PRRS infection season and on the length of viral clearance from the sow population.

#### Discussion and conclusions

This industry-led approach shows the importance and the impact that collaboration through sharing data has in facing one of the most costly diseases in swine production. The project also demonstrates how different data visualization and analytical approaches may help to add value to the routine collection of surveillance data, and can support infectious animal disease control, which ultimately provides information for improving the decision-making processes.