



UNIVERSITY OF MINNESOTA

Swine Disease Eradication Center

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SDEC Partners Research Update

Project Update: PRRS incidence/prevalence pilot study

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Funded in part by the National Pork Board and the USDA PRRS Coordinated Agricultural Project.

Background

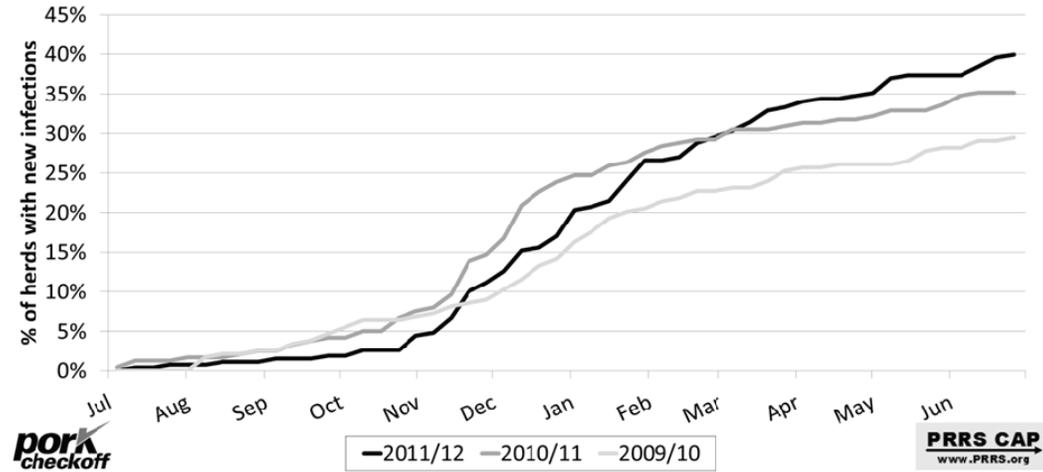
- Porcine Reproductive and Respiratory Syndrome (PRRS) continues to be a devastating disease to the swine industry with an annual cost recently estimated at \$664 million.
- Producers and veterinary practitioners have become increasingly frustrated with the variable results to control the disease and keep it out of their herds.
- The project includes nearly 300 sow farms and approximately 900,000 sows across 12 states.
- Veterinarians working with the farms reported weekly PRRS status using the AASV classification system (Holtkamp et al., 2010) for each farm beginning July 2009.

Objective

To describe the epidemiology of PRRS infections in a sample of sow herds in the United States which will ultimately increase the understanding of the disease.

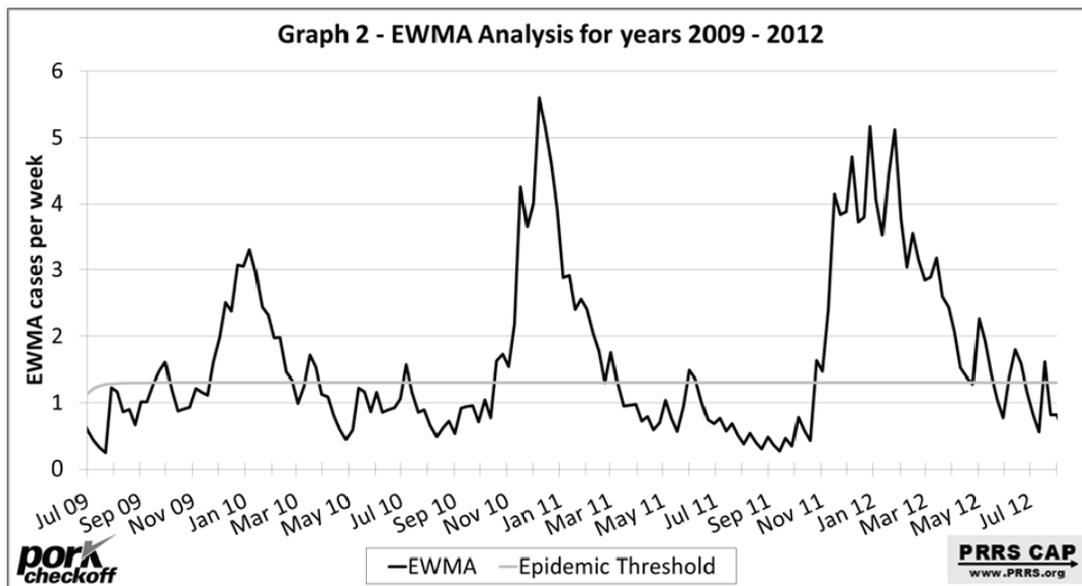
Results

**Graph 1 - Aggregate incidence / week & cumulative
Beginning July 1 for years 2009-2012**



Using July 1 as the start of the observation period for each year, graph 1 shows approximately 30-40% of the participating sow farms have become infected each year. During the last three years, new infections increased gradually in September, followed by a dramatic increase at the end of October, then plateauing in late February. At the end of June 2012, approximately 40% of the herds had reported a new infection.

Graph 2 - EWMA Analysis for years 2009 - 2012



Graph 2 is an Exponentially Weighted Moving Average (EWMA) curve from July 2009 through the end of June 2012. It shows the beginning of the fall epidemic approximately mid-October and subsiding approximately mid-March. These data also suggest a mini epidemic in the spring beginning in late May, lasting only a few weeks.

Implications

- This is the first scientific effort to understand the epidemiology of PRRS virus in a large sample of US sow herds.
- It is important to understand that due to the voluntary nature of the participants, this cohort may not be representative of the entire US sow herd.
- Preliminary results are strikingly consistent across three years of data and between systems.