



Presentation: Developing sampling guidelines for PEDV surveillance

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Abstract: Oral fluids (OF) are useful for surveillance because they are easily collected and can be tested for nucleic acids and/or antibodies to determine the infection status of the individuals contributing to the samples.¹ Assays for testing swine OF specimens have been available at veterinary diagnostic laboratories since 2010 and pen-based OF sampling has become common practice for monitoring a variety of endemic pathogens of swine, e.g., PEDV, PRRSV, PCV2, IAV and others.

PEDV was identified in the US in April 2013 by diagnosticians at the ISU-VDL.² Shortly thereafter, a PEDV RT-PCR became available for routine testing and ~39,000 OF samples and 47,000 fecal samples were tested between May 2013 - November 2014. A PEDV serum IgG indirect ELISA became available for routine testing in September 2014.³ This ELISA is also available on request for the detection of IgA and/or IgG in OF, colostrum, and milk.

The purpose of the study reported herein was to describe the spatiotemporal pattern of PEDV circulation in the field and to develop sampling guidelines. OF samples were collected from 36 pens (~25 pigs per pen) in 3 wean-to-finish barns on 3 sites for 8 weeks beginning one week post placement. ~2,916 individual OF samples (108 pens per site x 9 sampling points x 3 sites) were tested for virus (RT-PCR) and antibody (IgG, IgA).

Analyses performed to date confirm the utility of OF in surveillance and suggest a high degree of variability in the circulation of PEDV within and between sites, i.e., the distribution of positive pens and disease progression was unique to each individual barn. Assessment of spatiotemporal patterns supports the conclusion that all barns must be sampled in order to accurately establish disease status of a site.

References

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