Diagnostic performance of a commercial PRRS serum antibody ELISA adapted to oral fluid specimens: field samples

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Oral fluid samples are of interest because of their ease of collection and documented use in surveillance of PRRSV and other pathogens (Kittawornrat et al., 2010; Prickett et al., 2011). Previous work showed that a commercial PRRS ELISA (HerdChek® PRRS X3 ELISA) could be adapted to detect anti-PRRSV IgG in oral fluid specimens (IgG ELISA). The objective of the current study was to evaluate the ability of the assay to detect anti-PRRSV IgG antibody in pen-based oral fluid field samples. Positive samples were derived from a longitudinal field study in 10 wean-to-finish barns (Ramirez et al., 2011). At each site, oral fluid samples were collected from the same 6 pens at 2-week intervals (total of 10 sampling points per barn). Positive oral fluid samples were defined as all samples collected from a pen after the first PRRSV PCR positive oral fluid sample from that pen (n = 250). Negative oral fluid (n = 284) field samples were diagnostic samples submitted to the ISU VLD for PRRSV qRT-PCR testing from expected-negative herds. Of 284 expected-negative field samples, all were negative on the IgG ELISA (S/P <0.40). 223 of 250 expected positive samples were positive. The 27 negative results on expected positive samples were from pens that initially tested positive and became negative over time. The results indicated that anti-PRRSV antibody can be effectively detected in oral fluids using the IgG ELISA.

References

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