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TITLE

MONITORING THE EFFICACY OF A NEW PRRS VACCINATION PROGRAM IN A FARM EXPERIENCING AN OUTBREAK USING A NEW DIVA PCR PRRS TEST

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CONTENT

Background and Objectives
The Porcine Reproductive and Respiratory Syndrome wild type virus (WT-PRRSv) typically spreads in nursery pigs when passive maternal immunity wanes, resulting in viremia peaks at around 7 weeks of age. The objective was to evaluate the efficacy of a new PRRS vaccination program in controlling WT-PRRSv infection and disease.
Materials and Methods
A PRRS-positive (serology and PCR) 1,300 sow farm with severe clinical signs was selected. All sows were vaccinated with Suvaxyn® PRRS MLV (Zoetis), and all piglets were vaccinated at 1-3 days of age. For 6 consecutive weeks 12 farrowing sows were enrolled (n=72) and 2 newborn piglets from each sow (n=144) were ear-tagged and sampled at birth, weaning, 7 and 9 weeks of age to determine IgG levels (PRRS-Idexx) and PRRSv viremia (Real Time-PCR). Specific primers were used to develop a DIVA (differentiates-infected-from-vaccinated-animals) PCR PRRS test, which discriminates vaccine and field viruses.
Results
7 weeks after the initial sow mass vaccination reproductive parameters improved significantly and no newborn piglet showed viremia.. The percentage of PCR-positive pigs rose from weaning to the 9th week of age. The DIVA PCR test confirmed PRRSv vaccine viremia that lasted until the 7th week of age, without presence of WT-PRRSv in sera. 75% of samples taken at 9 weeks tested PCR negative to both vaccine and WT-PRRS viruses, none to vaccine and 25% to WT-PRRSv.
Conclusion
The new PRRS control program combining mass vaccination of sows and on-going vaccination of 1-3 day-old piglets with Suvaxyn PRRS MLV resulted in a very effective protection in a farm with high PRRSv prevalence and severe clinical signs, including control of WT-PRRS viremia in nursery. The new DIVA-PCR differentiates PRRS vaccine virus from wild type PRRSv, and is a very promising tool to monitor the efficacy of PRRS control programs in commercial farms.