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LARGE SYSTEM APPROACH TO PRRS CONTROL, A SUCCESS STORY

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Introduction

A 26,000 sow system had been affected by outbreaks of PRRS virus infections over several years. Gilt isolation, virus inoculations and herd closures resulted in unacceptable levels of success for managing disease and production performance. The objective of this project was to achieve stability, as measured by "weaning negative pigs", and to displace wild type viruses from the system through strategic use of PRRS modified live vaccine (MLV), herd closure, and flow management. The duration of this project was from January 2009-May of 2011 in two phases.

Materials and Methods

Animals: The system had 26,000 sows housed in 12 sow farms, 70,000 nursery pigs , 64,000 finishing pigs; 16,000 pigs in two wean to finish farms, gilt development and isolation. In addition, these animals were positive to Mycoplasma, PRRS and SIV

Interventions: 1] Sow herd closure (170 days); 2] Whole herd vaccination with Ingelvac® PRRS MLV (Boehringer Ingelheim Vetmedica, Inc., St. Joseph, MO) 4 weeks after closures, and again 30 days later, followed by quarterly sow herd vaccinations; 3] Vaccination of suckling pigs at ~ 15 days of age followed by a second dose of vaccine 3 weeks later; 4] Flow management: rooms all in/all out, and when possible entire barns emptied, washed and disinfected; 5] Cessation of intentional exposure to wild-type PRRS viruses.

Sampling protocols and tests: PCR testing and sequencing was conducted starting ~ 5 months after the herds' closures on pools of 5 sera. The sampling protocols were:

Phase 1 (18 months): 1] Sow farms: blood samples from 10 poor quality suckling pigs every other month for 5 months, then from 10-15 pigs monthly. 2] Nursery flows: Bi-monthly blood samples for the first 5 months and then monthly for the rest of phase 1, from 20 pigs per room at 9-10 weeks of age targeting hospital pens. 3]. Finishing flows: Bi-monthly blood samples for the first 5 months and then monthly from 20 pigs at 16-18 weeks of age. Phase 2 (10 months): 1] Sow farms: blood samples from 15 poor quality suckling pigs every month 2] Nursery flows, 4 ropes per room at 9-10 weeks of age 3] Finishing flow, 4 ropes per barn at 16-18 weeks of age. All sample sizes were determined assuming a 90-95% confidence of detection at an estimated prevalence of 15%[1,2]

Results

Table 1. The length of time necessary to achieve PRRSv stable status by production phase

Phase of production	Initial Status	Time to negative	Notes
Breeding herd	2 positive farms	6 months after initial double mass vaccination	Remained stable rest of project
Nursery pigs (9-10 wks old)	2/5 positive nursery sites	5 months after start of piglet vaccination	Displacement of historical wild type viruses. All sites remained negative to historical wild – type PRRS isolates for the remainder of the project

Conclusions and Discussion

The interventions for this project were successful in achieving desired PRRS stability and were able to displace wild type viruses from sow farms, nursery sites and two large finisher sites.

References

1. Chase, C.; et al. 2000. *AASV Proceedings. pp. 465-471*
2. Jean Paul Cano. *Personal communication*