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The establishment of PRRSv stable sow herds through the use of a "Load, Close and Homogenize" protocol: A case report

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Introduction and Objectives

Porcine Reproductive and Respiratory Syndrome virus (PRRSv), first described in 1991[1], is recognized as one of the most economically significant diseases in the swine industry[2]. "Sow herd stability" has been described as an absence of clinical signs attributed to PRRSv and no evidence of virus circulation within the population[3]. The objective of this report is to report the steps taken that led to PRRSv sow herd stability in two farms.

Materials and Methods

Two sow herds of conventional genetics in Indiana were deemed PRRSv unstable as evidenced by consistent PRRSv NA type PCR positive weaned pigs. The sow herd underwent a "Load, Close and Homogenize" protocol. Replacement gilts were introduced to the population (Load), the sow herd was closed to entry of all new animals (Close), and was mass vaccinated with modified live Ingelvac® PRRS ATP twice, thirty days apart (Homogenize). At the same time attention was applied to comply with all in/all out (AIAO) management of farrowing rooms. Four weeks after vaccination of the sow herds, 30 pigs were bled at weaning every two weeks and tested for PRRS virus by PCR after pooling 5 pig samples per pool. We required 3 consecutive groups of PCR negative weaned pigs to categorize the sow herds as "PRRS stable". Therefore the earliest time at which this determination could be made was 8 weeks following the 2nd sow herd vaccination.

Results

In farm 1, all weaned pig sera pools were negative at the first 3 testing periods and the sow herd was deemed PRRS stable 8 weeks after the second sow herd vaccination.

In farm 2, all weaned pig pools tested negative at the first sampling interval. However noncompliance with the AIAO farrowing room protocol was subsequently discovered (the farrowing manager felt short term losses could be reduced by cross-fostering poor doing piglets back to the next younger farrowing group) and PCR positive pools were detected at the next two sampling intervals. Once noncompliance with farrowing room pig flow was discovered and corrected, a second load/close/homogenize cycle occurred. Within 8 weeks of the 2nd sow herd vaccination, pools of weaned pig sera were again uniformly PRRS PCR negative (data not shown). Pooled sera from pigs tested at both farms have remained PRRS PCR negative since August 1, 2008.

Table 1. Farm 1 pooled weaned pig sera PRRS PCR testing results

Weeks post sow herd 2nd vaccination	No. PCR pools tested	No. PCR (+) pools
4	6	0
6	6	0
8	6	0

Table 2. Farm 2 pooled weaned pig sera PRRS PCR testing results attributed to noncompliance with farrowing room AIAO pig flow.

Weeks post sow herd 2nd vaccination	No. PCR pools tested	No. PCR (+) pools
4	6	0
6	6	1
8	6	3

Discussion and Conclusions

The load/close/homogenize protocol with the use of modified live PRRS vaccine as the population immunity homogenizing tool was effective in establishing PPRSv stable sow herds within eight weeks following the 2nd sow herd vaccination. Compliance with AIAO farrowing room management was critical to the success of PRRS stabilization efforts in the sow herds.

References

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