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Optimized biosecurity and management in 40 farms/sites resulted within 6 months in complete PRRSV control in a highly pig dense area of Denmark

Background and Objectives

Growing pigs represents the absolute majority of PRRSV infected pigs in an area. Growing pigs have a longer duration of viremia and shed PRRSV for a longer period than the adult breeding stock [(1)]. Control of PRRSV circulation in growing pig populations is a combination of correct biosecurity, pigflow, management and immunization [(2)].

Materials and Methods

The study was conducted in 40 farms owned by 15 different producers. It involved 10.035 sows from 8 farms, 53.230 nursery pigs placed in 14 different sites and 40.870 finishers placed in 25 different sites. From the beginning of the study, all sow sites except one were stable positive by Ingelvac PRRS MLV vaccination or negative following AASV definition [(3)]. 3 nursery and 13 finisher sites were exposed to PRRSV.

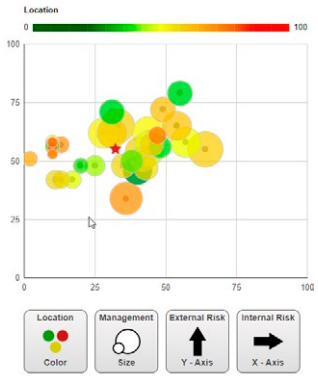
Figure 1. Showing the complete area and the location of sites January 2019.

- Red: Sites exposed to PRRSV
- Green: Sites without PRRSV exposure
- Yellow: Vaccinated gilt quarantine and acclimatisation

COMBAT (Boehringer Ingelheim)
Boehringer Ingelheim International GmbH

A COMBAT (Comprehensive Online management Biosecurity Assessment Tool) survey was conducted in all herds to determine biosecurity level and to determine the need for improvement of management and pigflow. All sites received a follow up visit from a veterinarian to guide improvements.

Figure 2. Benchmark of the site risk evaluation in relation to location (color), management (size, "small is better"), internal (x-axis) and external (Y-axis) biosecurity and pigflow. Each circle represent COMBAT in one site.



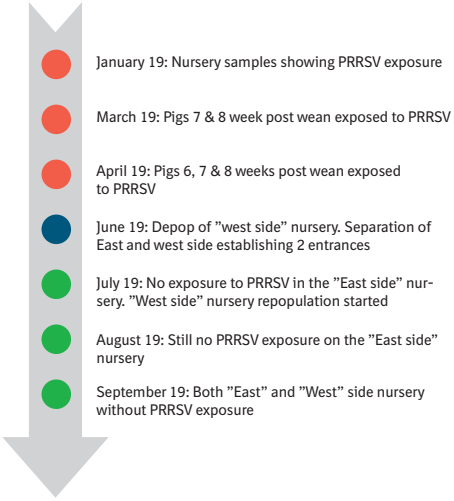
Results

COMBAT revealed that PRRS positive sow sites (AASV classification 1 & 2 vx) had to improve handling of pigs (mixing age groups and weaned pigs in farrowing room) and as well that introduction of semen from a positive boar stud was risky. For finisher and nursery sites, the study showed, that the flow of transportation vehicles, logistics for removal of dead pigs and movement of people between sites needed attention. Within 6 months after the issues revealed using COMBAT were identified and improved on the different sites, all nursery and finisher sites were PRRSV negative.

Figure 3. Showing the complete area and the location of sites August 2019.

- Red: Sites exposed to PRRSV
- Green: Sites without PRRSV exposure
- Yellow: Vaccinated gilt quarantine and acclimatisation

Figure 4. Example of sample result for a farrow – wean site



Discussion and Conclusion

Combination of improved biosecurity and pigflow management in a large number of herds in a very pig dense area was able to eliminate PRRSV circulation in sow, nursery and finisher sites at the same time as immunization of breeding stock was systematically maintained. This is by far the largest successful PRRS control project in Denmark.

References
(1.) Klinge et al. 2009. Virology J. 6:177 (2.) Rathkjen et al. 2017. Acta Vet. Scan. 59:4 (3.) Holtkamp DJ. et al. 2011. Swine Heal Prod. 19:44

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