ERADICATION OF PRRS VIRUS IN A BREEDING FARM USING UNISTRAIN® PRRS VACCINATION

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INTRODUCTION

Porcine reproductive and respiratory syndrome (PRRS) is one of the most important problems in the pig production industry causing significant economic loss. The PRRS virus (PRRSV) causes persistent infection in lymphoid tissue which enables evading host immune response and facilitates developing secondary infection. In this case study, we evaluated an eradication strategy using UNISTRAIN® PRRS in PRRS-infected pig farm.

MATERIALS AND METHODS

A 2-site, 1,300-sow breeding farm was PRRSV-free and had a monthly routine program to check the presence of PRRS antibodies and antigen.

In April 2016, stillbirth piglets due to PRRS virus infection were confirmed in the farm. In May 2016, the average number of weaned piglets per sow decreased until 6.9. There were suspicions that the introduction of PRRSV in the farm could be the feed truck driver as he didn’t fulfill properly the biosecurity protocols.

To control and eradicate PRRSV in this farm, gilt acclimatization, herd stabilization, partial depopulation, and test and removal protocols were adopted.

Regarding gilt acclimatization and herd stabilization, UNISTRAIN® PRRS (type1 PRRS MLV, HIPRA) was used to achieve homogeneous immune status against PRRSV. Based on the results of ORF5 sequencing, this PRRSV strain showed 88.6% homology with Lelystad, 86.16% with Porcils® PRRS and 85.67% with UNISTRAIN® PRRS. Even though the genetic similarity was lowest, UNISTRAIN® PRRS was selected to homogenize the immune status against PRRSV considering safety data and shedding period of vaccine strain.

RESULTS

1. Time to produce PRRS-negative piglets
Production of PRRS-negative piglets is key to PRRSV eradication. In this farm, McRebel principle was applied in farrowing unit, and it took 127 days after the mass vaccination to produce PRRS-negative piglets. Also, all-in all-out management was strictly implemented together with McRebel rules to reduce the time to produce PRRS negative piglets.

2. Average antibody titer of 3 weeks of age piglets
To confirm the eradication of PRRSV by checking if piglets are seronegative at 3 weeks of age, blood samples were collected every 3 weeks. Antibodies against PRRSV including maternal derived antibodies were not detected 15 months after the first mass vaccination.

3. Change of average number of weaned piglets
During the PRRS outbreak, average number of weaned piglets per sow was decreased until 6.9 in May 2016. After mass vaccination with UNISTRAIN® PRRS, weaning rate improved gradually and it exceeded previous productivity within 4 months.

CONCLUSION

In a breeding farm, eradication of PRRSV is necessary to produce PRRSV negative gilts. When PRRSV enters in a breeding farm, UNISTRAIN® PRRS mass vaccination can be a safe and efficacious method to homogenize sow immune status and produce PRRS-negative piglets.

REFERENCES