

# EFFECT OF MASS-VACCINATING SOWS WITH ATTENUATED PRRSV VACCINE ON THE PRRS STATUS CLASSIFICATION OF BREEDING HERDS

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## BACKGROUND & OBJECTIVES

Vaccinating sows with modified live PRRS virus vaccines (MLV) may result in transient shedding of the vaccine's virus, which has the potential to be transmitted to their offspring (1). Therefore, sow mass vaccination (SMV) programs may affect PRRS status classification (2) of breeding herds due to transitorily detection of MLV in due-to-wean piglets. The aim of this study was to assess the effect of SMV using UNISTRAIN®PRRS (Hipra, Spain) on the likelihood of changing a PRRS stable status classification of breeding herds.

## MATERIALS AND METHODS

Data related to PRRSV vaccination, and PRRS status classification was collected from 35 PRRS-positive Spanish breeding herds, which were enrolled in a one-year (February 2017-March 2018) systematic PRRS monitoring program based on 4-to-6 weeks periodic sampling of 30 serums from due-to-wean piglets (3). Breeding herds were classified as PRRS stable (PS) when achieved 4 consecutive samplings testing negative to PRRS RNA by RT-PCR (2). For SMV events applied when breeding herds were classified as PS, PCR results of subsequent samplings immediately after SMV were evaluated. In case of PCR positive results, samples were submitted for PRRSV open reading frame (ORF)-5 nucleotide sequence by Sanger method. A descriptive analysis was performed on percentage of SMV performed at PS time, percentage of SMV at PS time with positive PCR results at right after samplings and the ORF-5 nucleotide sequences obtained from these PCR positive samplings.

## RESULTS

During the monitoring period, 58 out of 126 SMV events were carried out on PRRS stable farms. PCR-positive samples right after SMV were obtained on 15 of these 58 events, from which 6 cases were related to a wild-type PRRSV identified by ORF-5 nucleotide sequences. For all other 9 cases (16%), PCR-positive results were transient, with duration of only 4-6 weeks (Table 1), and ORF-5 nucleotide sequencing was not successful in any of these samples. Additionally, all 9 cases had PCR-negative results in the next sampling.

**Table 1.** Description of the 9 SMV events at PS-time with next-sampling PCR-positive results not related to PRRS field virus infection by ORF-5 nucleotide sequence.

Farm Code	SMV Date	PCR+ Date	PCR- Date	PCR+ period (weeks)	Min. Ct
281	23-10-17	30-10-17	27-11-17	4	34.5
332	26-06-17	24-07-17	21-08-17	4	34.2
419	07-08-17	04-09-17	02-10-17	4	34.8
857	28-08-17	02-10-17	13-11-17	6	28.2
232	26-06-17	31-07-17	28-08-17	4	27.7
159	18-09-17	25-09-17	06-11-17	6	32.9
147	11-09-17	25-09-17	06-11-17	6	31.9
747	24-04-17	01-05-17	29-05-17	4	34.2
174	11-09-17	25-09-17	06-11-17	6	33.2

## DISCUSSION & CONCLUSION

Transitory PCR-positive results for samplings right after SMV in PS breeding herds possibly due to MLV circulation from sows to piglets were just observed in 16% of these events. This low rate of PCR positive results immediately following SMV with UNISTRAIN®PRRS in PRRS stable breeding herds can indicate a very weak and occasional interference between this prevention strategy and the breeding herd classification in monitoring and control programs. Moreover, this possible interference can be identified and corrected using ORF-5 nucleotide sequence and through an individual farm PRRS basic epidemiologic investigation.

## REFERENCES

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