Time for PRRS stability using a commercial MLV vaccine

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INTRODUCTION

PRRS virus is one of the most important diseases worldwide. The cost of an outbreak in the sow herd is around 255 $[1]. PRRSv transmission can occur through direct or indirect contact. Indirect contact (vectors, air, water, food, facilities, equipment or people), is the most common route of transmission between farms within a region, and/or around the world. The objective of this study is to evaluate the time to stability (TTS)[2], which means time to produce negative pigs at weaning age after a PRRSv outbreak in a multi-sites production system.

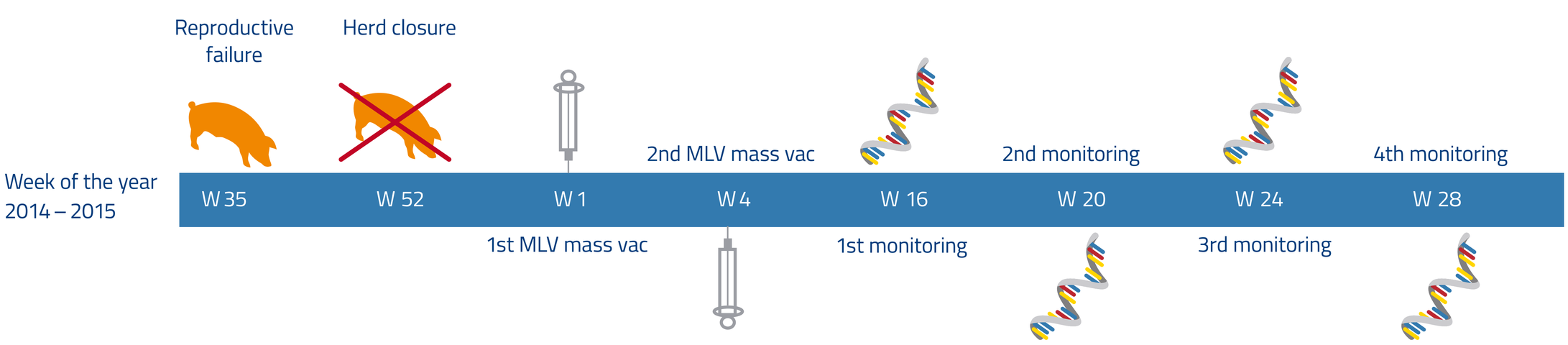
MATERIALS AND METHODS

The study was conducted in a 4,900 sow farm, located in Jalisco, México, who broke with PRRSv at week 35 of 2014. The farm maintain a PRRS stability for more than 45 weeks. The sow herd was vaccinated every 4 months with Ingelvac® PRRS MLV and the last mass vaccination was in week 37; the previous one in week 21, 2014. The mass vaccination calendar includes vaccines against SIV and Blue Eye Disease (BED). Prior to the 2014 outbreak the farm was considered positive stable (Category II-A)[3]. A special strategy for this production system was developed in order to stabilize the herd.

The diagnostic protocol was 30 aborted sows (100 % positive), and 28 piglets at weaning age (88 % positive), using serum samples by qRT-PCR PRRSv and RFLP; the boar stud was positive for PRRSv by ELISA (97 % positive). The main action plan was to depopulate the boar stud and use free PRRSv semen from other source, also a load, close and homogenize program (herd closure for 210 days), and stablish mass vaccination against PRRS with Ingelvac® PRRS MLV for Sows and replacement gilts (figure 1). The main goal of the intervention protocol was to control the field isolation. The system will maintain Ingelvac® PRRS MLV every 3 months.

We established a monitoring protocol to evaluate TTS. The system re-vaccinate all sows and replacement gilts and 90 nursery piglets were tested by qRT-PCR PRRS, at 12, 16, 20 and 24 weeks after PRRS 2nd mass vaccination using pools of 5.

Figure 1: Interventions after PRRSv outbreak



RESULTS

Using RFLP we found that the PRRSv cut pattern was 1-6-3. After a herd closure and mass vaccination the 4 consecutive monitoring tests in piglets were negative by qRT-PCR. TTS demonstrate the breed to wean (BTW) stabilization. The results are shown in the table 1.

Table 1: Results after 2nd mass vaccination

Week	Number of samples	Samples/pool	Results
12	90	5	Negative
16	90	5	Negative
20	90	5	Negative
24	90	5	Negative

CONCLUSION AND DISCUSSION

The load-close-homogenize (LCH) program for multisite systems is one of the most effective management against PRRSv. Comparing LCH (herd stabilization) vs depop-repop we can obtain more than 190 % of return of investment (ROI)[4]. In this study after 24 weeks of management and immunization protocols, the farm changed the status to a Category II-A[3]. We confirmed the lack of viremia in weaning age pigs and no clinical signs of PRRSv in the breeding herd after a 90 day period[3]. Similarly herds with prior PRRS infections, reached TTS significantly sooner than herds without PRRS prior infection (Log Rank p-value 0.0275)[2,4]. The use of Ingelvac® PRRS MLV is an effective tool to use in TTS protocols. Different studies prove that the use of the Ingelvac® PRRS MLV vaccine not only reduce the time to baseline production (TTBP) but can also improve the TTS[5].

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