

PRRS 5 step application in a PRRS positive unstable farm with multiple field strains

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INTRODUCTION

Nowadays, PRRS is still a huge disease challenge in pig industry and will cause big economic loss, such as abortions, stillborns, reproductive failure, lower performance and so on. To find a better way to control PRRS is critical. In this study, we applied PRRS-5-step to systematically control PRRS.

MATERIALS AND METHODS

This is a one site farm with 3000 sows, located in Guangdong province. Highly pathogenic virus was detected after PRRS outbreak in 2013. Then the farm attempted to control with a local highly pathogenic strain vaccine, and clinical signs were started unstable since Nov.2015 with higher abortion rate, higher mortality and severe secondary infection, and even more serious in 2016. 3 HP PRRS virus strains were detected and sequenced, with higher homology to JXA1-R, GD-P180 and GXLA12.

To better control clinical signs and HP PRRS viruses, farmer started to apply PRRS-5-step in Dec.2016 to systemically control PRRS. Following the process of the tool, in this positive unstable farm, the goal is to control PRRS. Biosecurity risk assessment was conducted to understand current constraints, and strict biosecurity procedures were implemented and audited. No positive animals were introduced, gilts were strictly isolated and acclimated before entry, all-in-all-out were implemented, McRebel rules were applied in farrowing management. All the breeders, piglets and nurseries were vaccinated with Ingelvac PRRS MLV in Dec.2016 and another booster injection in Jan.2017. Umbilical cord and oral fluid were collected randomly at three difference point to test the virus load. Some economic parameters were record and statically analyzed by month to monitor the solutions.

RESULTS

From the diagnostic results, virus load was reduced after intervention (table 1).From the statistical results from 2016 to July 2017, performances got clear improvement after intervention. Average abortion rate declined from 7.5% in 2016 to 4.1% of 2017 (figure 1). Stillborn rate decreased from 7.2% to 3.3% (figure 2). Survival rate of pre-wean piglets increased from 91.5% to 95.9% (figure 3). the Performances of nursery pigs and grow-to-finish pigs had 3.2% and 1.7% separate improvement in mortality after intervention.

Table 1. PRRS virus test at different stage

	Nov.2016	Feb. 2017	May 2017
Cord blood of weak piglets (5 in 1pool)	9/12	5/12	0/12
Oral fluid of 65 days age	5/6	3/6	2/6
Oral fluid of 100 days age	4/6	3/6	1/6
Oral fluid of 100 days age	5/6	2/6	1/6

Figure 1. SPC chart of abortion rate at late pregnancy from Jan.2016 to July 2017

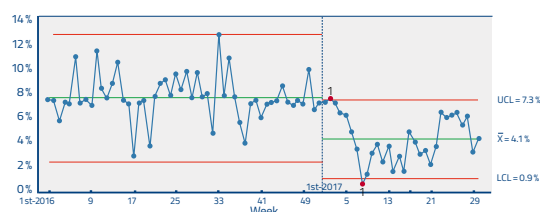


Figure 2. SPC chart of stillborn rate from Jan.2016 to July 2017

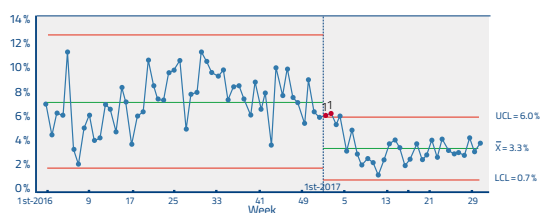
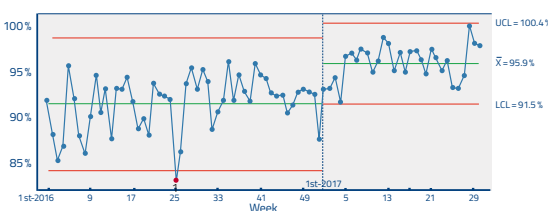


Figure 3. Survival rate of pre-wean piglets from Jan 2016 to July 2017



DISCUSSION

PRRS control is a long term project. People need patience and good plan for control PRRS. A systematic method is necessary to reduce clinical signs, reduce virus shedding and improve performances. Vaccine can efficiently control PRRS, meanwhile strict biosecurity and management tool, and diagnostics are important to better control PRRS.

