Improvement of reproductive and productive performance after PRRS control program implementation in Spain

S. Figueras[1], A. García[2], A. Callén[1], I. Hernández[1], V. Rodriguez[1]
[1]Boehringer Ingelheim España, S.A. Spain; [2]Inga Food S.A. Zaragoza Spain

2018 BARCELONA / SPAIN ESPHM 10th EUROPEAN SYMPOSIUM OF PORCINE HEALTH MANAGEMENT

INTRODUCTION

Porcine Reproductive and Respiratory syndrome (PRRS) costs in Europe are estimated between 100 € and 200 € per sow per year and 5 € to10 € per pig. Around 46 % of losses from PRRS are incurred in the finishing phase[1].

Controlling this disease in large production systems is challenging, but is considered as one of the most important drivers for keeping systems producing at target levels with high profitability[2,3].

This is a summary of an 18 months field trial designed to evaluate the impact of the 5 step process approach[4] using Reprocyc PRRS EU® and PRRSFlex EU® (Boehringer Ingelheim Vetmedica GmbH), a modified-live type I PRRS virus vaccine, on control of heterologous PRRSV in a commercial herd, assessed by live animal performance.

MATERIALS AND METHODS

The study was conducted in a commercial production system located in Aragon, Spain. The site was a PRRS positive 775 sow farrow to wean farm with a wean-to-finish downstream flow. The system had two field virus strains. Sow herd and wean-to-finish site strains were 17.1 % and 4.8 % ORF-5 heterologous to the vaccine strain respectively.

There was no previous PRRS immunization program established in this herd.

The 5 step process considers defining goals, determining current status, assessing system constraints, developing solutions and measuring results. Following the whole herd approach concept since day 0 (2015 week 51) all pig population of the site was double mass vaccinated 4 weeks apart. Sows were injected intramuscularly with 2 ml of Reprocyc PRRS EU® and pigs were administrated 1 ml IM of PRRSFLEX EU®. After the first mass vaccination, every weekly piglet batch was vaccinated on regular basis at weaning (24 days).

The setup of this study is a before and after treatment data analysis, comparing weekly batches performance data. No feed changes were implemented during this period.

The key performance indicators (KPI) collected were piglet weaned per sow per week (WSW), and standardized feed conversion ratio (FCRst) at the closing date.

For statistical process control (SPC chart) analyzing method, Minitab.17.1.0 software (2013 Minitab Inc.) was used.

RESULTS

Evolution of the means of the KPIs in both periods are summarized in table 1.

The differences (dif.) were statistically significant with p-value <0.001.

Table 1. Comparison of the KPI averages for the different periods.

	Non vaccinated	PRRS program	Dif	p-value
WSW	12.81 ± 0.98**a**	13.81 ± 0.95**b**	51	P < 0.0001
Batches	47	66		
FCRstd (kg/kg)	2.649 ± 0.08**a**	2.498 ± 0.08**b**	0.151	P < 0.0001
Batches	27	17		

Figure 1. WSW before and after PRRS program chart

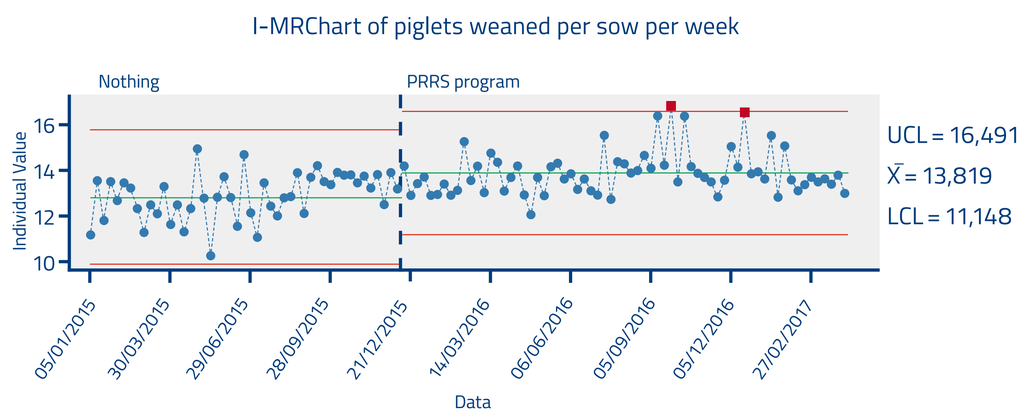
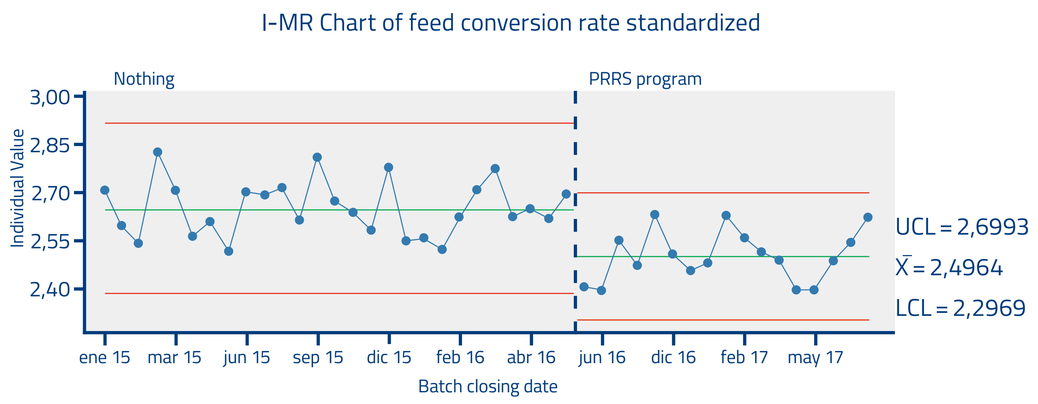


Figure 2. Evolution of the FCR std with regard to the onset of PRRS program.



CONCLUSIONS AND DISCUSSION

The combination of the 5 step process approach and the whole herd vaccination program implemented in this system, had a significant positive impact on the reproductive and productive indexes. Regarding the economics, the calculated return on investment was 11:1 for reproductive improvement, 3:1 for growing improvement and 4:1 for global performance improvement of the whole production system.

REFERENCES

1. *De Paz, X. PRRS cost for the European swine industry. https://www.pig333.com/what_the experts_say/prrs-cost-for-the-european-swine-industry_10069*
2. *Polson, D. et al. IPVS 2008*
3. *Figueras et al, ESPHM 2017*
4. *5 step process details explanations at https://www.prrs.com*