

Improvements in growing pigs performance after PRRS control program implementation in a large farrow to finish herd in Spain



S. Figueras, E. Díaz, I. Hernández, V. Rodriguez
Boehringer Ingelheim España, S.A. Spain

INTRODUCTION

Porcine Reproductive and Respiratory syndrome (PRRS) costs in Europe are estimated between 100€ and 200€ per sow per year and 5€ to 10€ per pig per year. Around 46% of losses from PRRS are incurred in the finishing phase¹.

Controlling this disease in large production systems is challenging, but considered one of the most important drivers for keeping systems producing at target levels with high profitability².

This is a summary of a large field trial designed to evaluate the impact of the 5 step process approach³ using Reprocyc PRRS EU[®] and PRRS-Flex EU[®] (Boehringer Ingelheim Vetmedica GmbH) a modified-live type I PRRS virus vaccine, on control of heterologous PRRSV in commercial finishing pigs, measured by live animal performance.

MATERIALS AND METHODS

The study was conducted in a large commercial production system located in Aragon, Spain. The site was PRRS positive 5,000 sow farrow to finish farm with 16,000 nursery pigs and 32,000 finishing pigs. The resident field virus strain of this system was 16,3% heterologous to the vaccine strain. Previous immunization program was gilt live virus inoculation combined with a sow live virus vaccination.

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 31) 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 administered 1 ml IM of PRRS-Flex EU[®]. After the first mass vaccination, every weekly piglet batch was vaccinated on regular basis at weaning (28 days).

The setup of this study is a before and after treatment data analysis, comparing 71 batches before to 29 batches after. No feed changes were implemented during this period.

The key performance indicators (KPI) collected were averaged daily weight gain (ADWG), standardized feed conversion ratio (FCR_{st}), days on feed (DOF) and losses.

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

RESULTS

Results of the means of the KPI in both periods are summarized in table 1. The differences (dif.) were statistically significant with p-value < 0.001.

Table 1: Results of KPI for batches before and after.

	LVI+Vaccine (n = 71)	Control PRRS (n = 29)	Gif	P-value
GMD (kg/d)	724.57 ± 4.87a	802.68 ± 7.52b	78	P < 0.001
D.O.F (days)	136.60 ± 1.02a	123.44 ± 1.09b	13	P < 0.001
ICstd (kg/kg)	2.472 ± 0.01a	2.372 ± 0.02b	100	P < 0.001

The reduction of the losses after the treatment was 0,16 %

Figure 1: ADWG before and after PRRS control chart

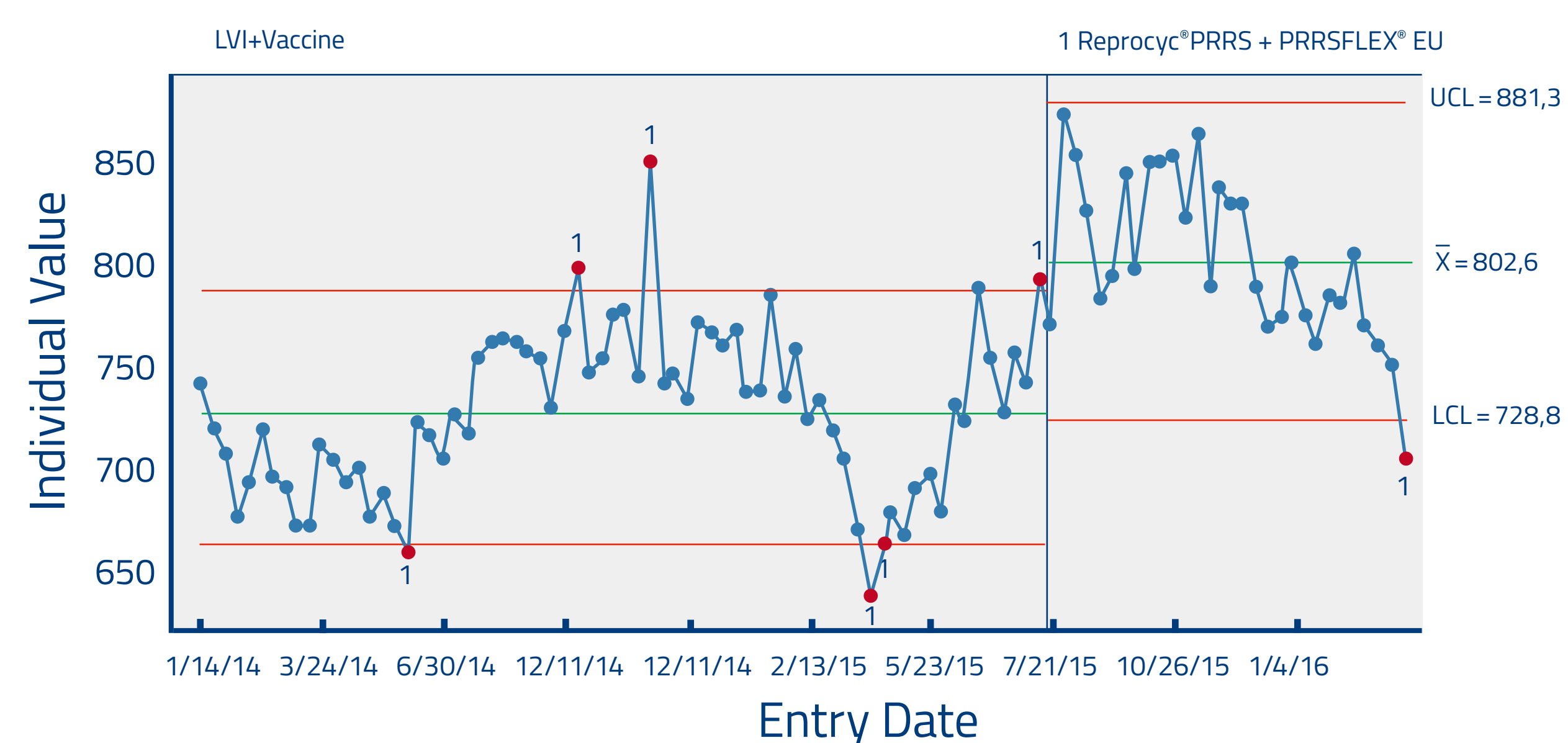


Figure 2: Standardized FCR before and after PRRS control chart.

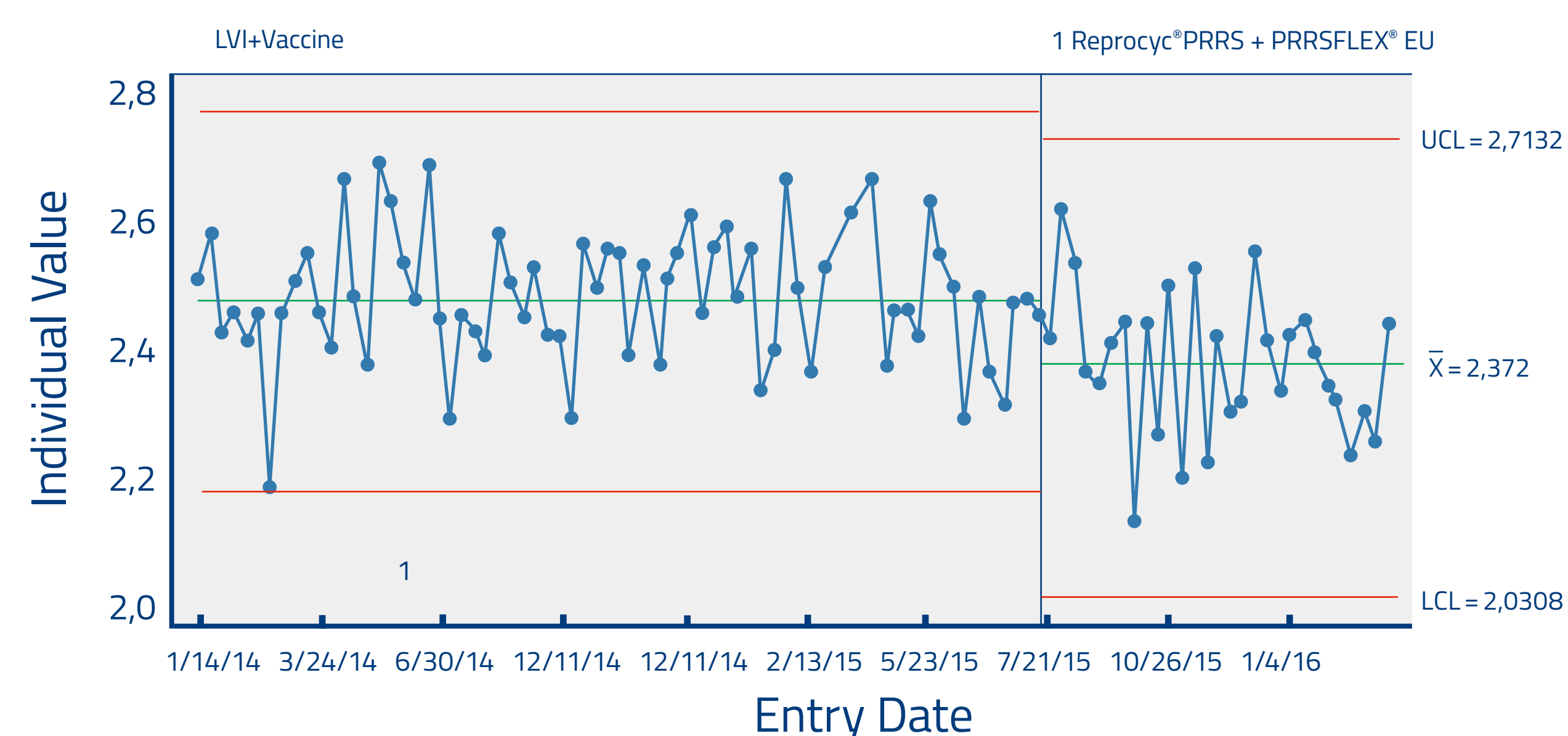
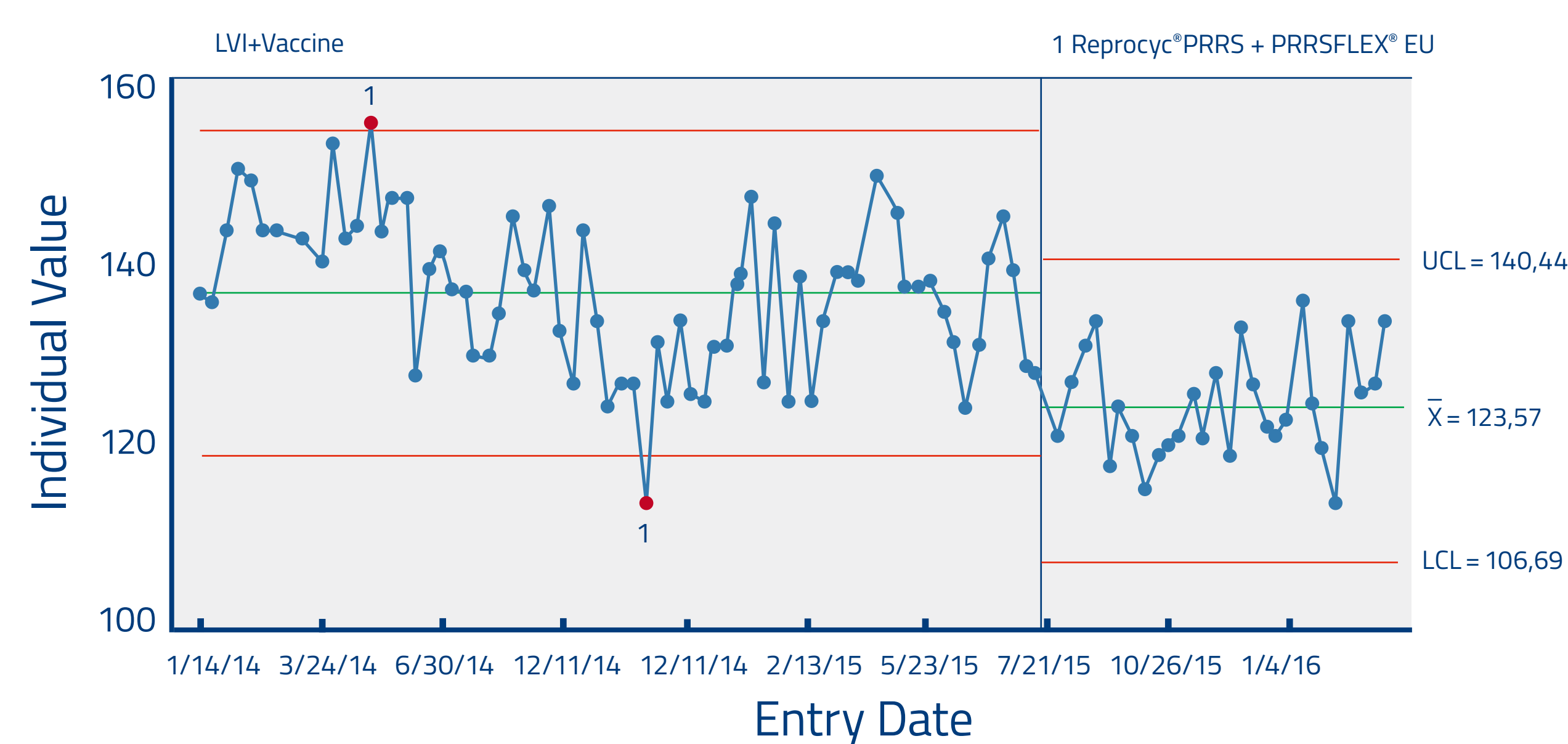


Figure 3: DOF before and after PRRS control chart.



DISCUSSION AND CONCLUSION

The combination of the 5 step process approach and the whole herd vaccination program implemented in this large farrow to finish farm, had a significant positive impact on the efficient pig growth. Regarding the economics, the calculated return on investment was 3:1 for the intervention.

REFERENCES

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