

Impact of PRRS whole herd vaccination on weaning weight and growth performance in nursery piglets under field conditions



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INTRODUCTION

Due to the nature of porcine reproductive and respiratory syndrome virus (PRRSV) the control and elimination of PRRSV is still problematic¹. Long-term successful control strategies involve whole herd vaccination programs together with strict biosecurity and management measures. The positive effect of PRRSV sow and piglet vaccination has already been shown in previous studies^{2,3}. This study investigated the impact of whole herd vaccination with a PRRSV-1 modified live virus vaccine on weight at weaning and weight gain in nursery piglets under field conditions.

MATERIALS AND METHODS

The study was conducted in Austria on a farrow-to-finish farm with 230 sows producing in a three week batch farrowing system. The PRRSV status of the farm was PRRSV positive, field virus circulation was repeatedly detected in the nursery and in the fattening unit. Before the start of the study no PRRSV vaccination was implemented on the farm. The study was initiated with a double mass vaccination of the breeding as well as the growing pig herd with ReproCyc[®] PRRS EU and Ingelvac PRRSFLEX[®] EU, respectively. Subsequently, the breeding herd was vaccinated every 4 months with ReproCyc[®] PRRS EU. Piglets were vaccinated with Ingelvac PRRSFLEX[®] EU around weaning concurrently with vaccinations against PCV2 and *Mycoplasma hyopneumoniae*. Body weight at 4 weeks (weaning age), 13 and 22 weeks of age was recorded from a minimum of 100 pigs per batch of 3 consecutive batches before and 6 consecutive batches after implementation of PRRSV whole herd vaccination. Recording of data after PRRSV vaccination was started 12 weeks after the second mass vaccination. An acute outbreak of *Actinobacillus pleuropneumoniae* (APP) during the study and subsequent vaccination against APP at the end of nursery impeded the interpretation of the results in the fattening unit. Mean weaning weight and mean average daily weight gain (ADWG) of nursery piglets before and after the implementation of the PRRSV whole herd vaccination programme were compared by a t-test. P-values equal or below 0.05 were considered significant.

RESULTS

Mean weaning weight could be significantly increased in piglets of vaccinated sows (figure 1). Additionally, a significant increase in the ADWG of nursery piglets could be achieved after implementation of PRRSV vaccination (figure 2).

Figure 1: Mean weaning weight and standard deviation before and after implementation of PRRSV whole herd vaccination ($p \leq 0.001$).

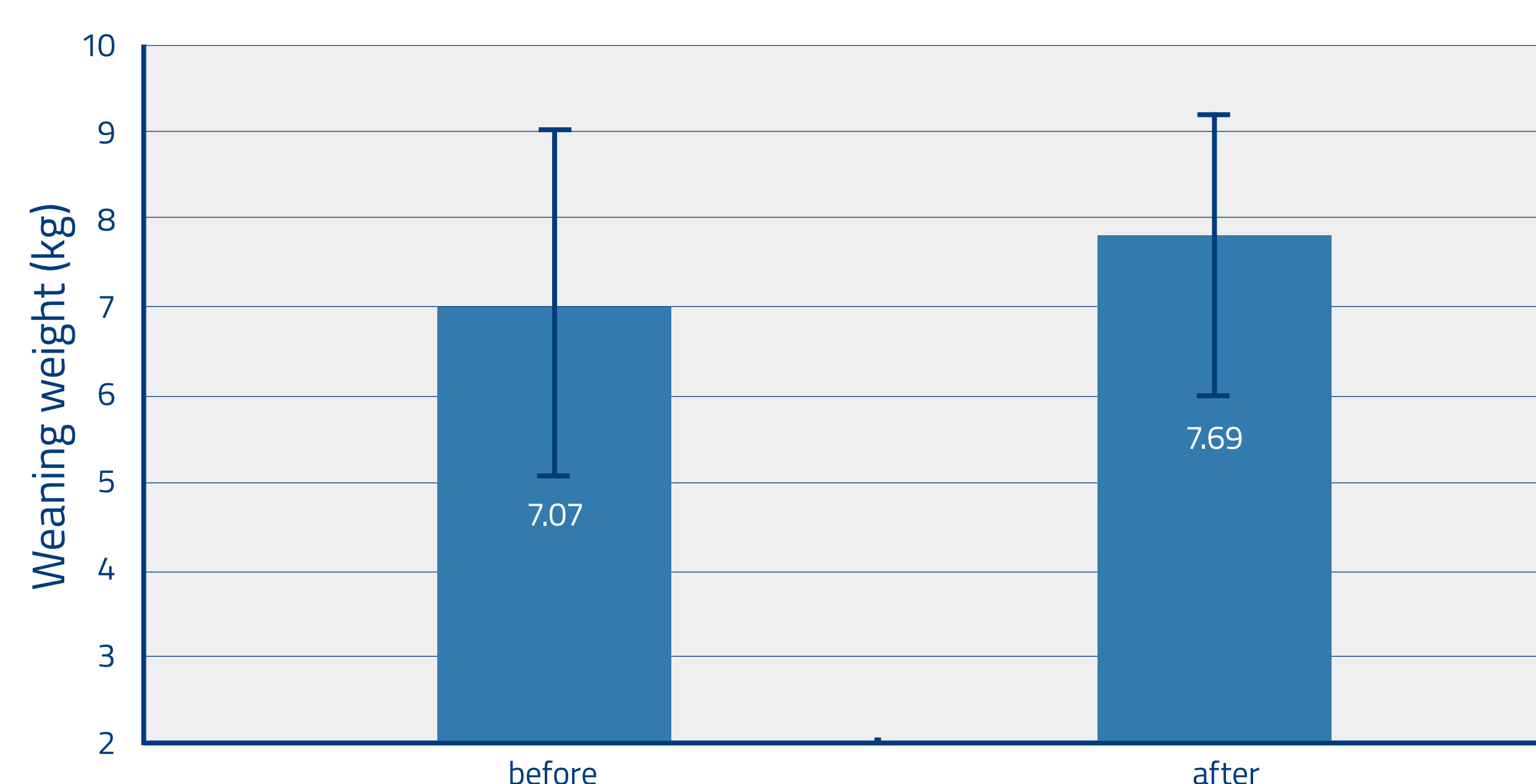
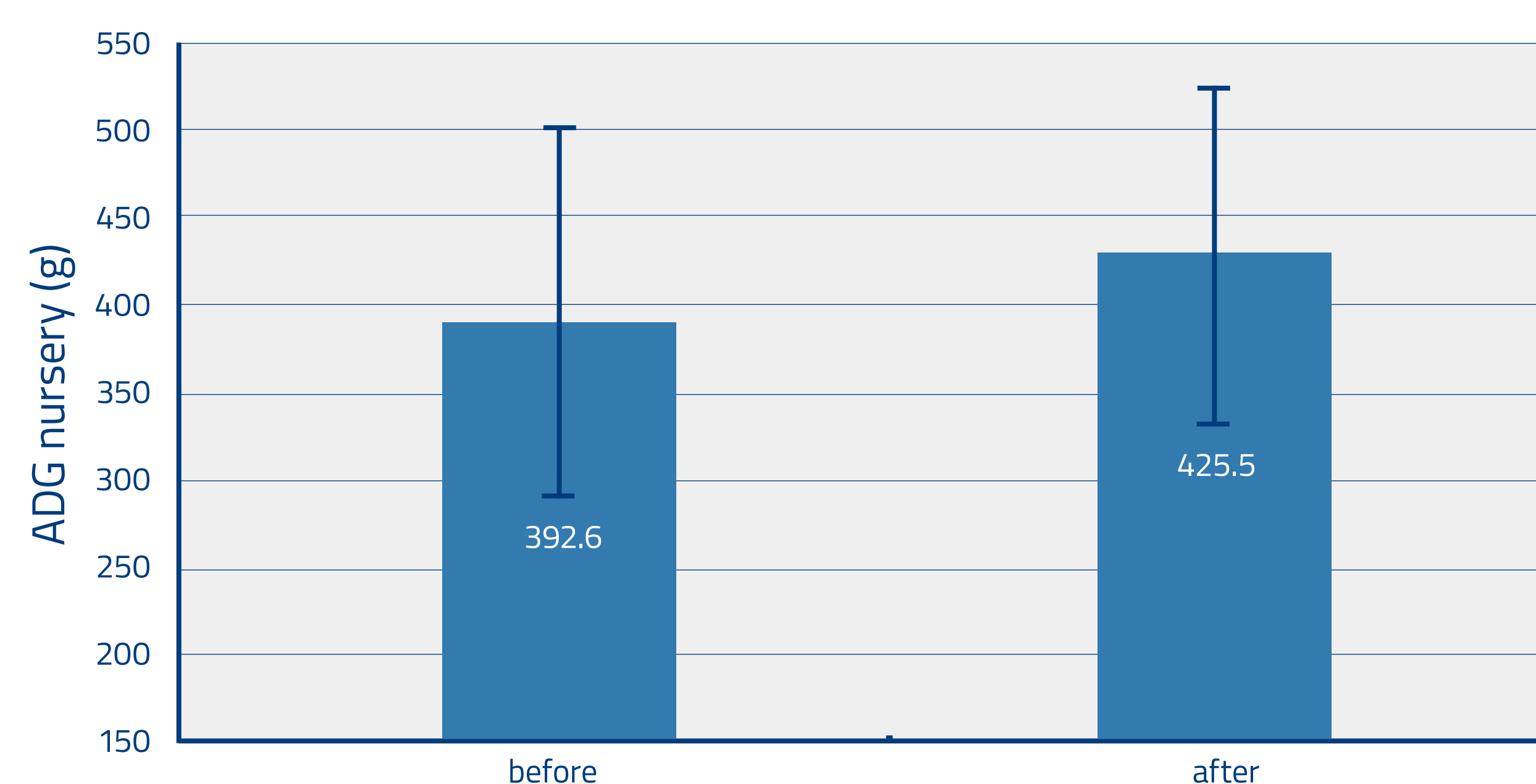


Figure 2: Mean average daily weight gain (ADWG) and standard deviation in nursery piglets before and after implementation of PRRSV whole herd vaccination ($p \leq 0.001$).



DISCUSSION AND CONCLUSION

The results indicated positive effects of PRRSV whole herd vaccination on the weaning weight as well as the growth performance in nursery piglets.

REFERENCES

1. Rowland and Morrison (2012); *Transbound Emerg Dis* 59: 55 – 59
2. Stadler et al. (2016); *Vaccine* 34: 3862 – 3866
3. Cano et al. (2016); *Porcine Health Management* 2:22

