RHINISENG®: SAFETY OF THE BASIC VACCINATION SCHEME (VACCINATION AND REVACCINATION) AND THE BOOSTER VACCINATION

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INTRODUCTION

RHINISENG® is a new vaccine against progressive (PAR) and non-progressive atrophic rhinitis (NPAR) indicated for pregnant sows and gilts to passively protect their offspring. The RHINISENG® recommended vaccination scheme includes a basic vaccination scheme (vaccination 8-6 weeks before farrowing and revaccination 4-3 weeks before farrowing) and a booster dose (4-3 weeks before the subsequent farrowing).

This study evaluated the vaccine pre-clinical safety under experimental conditions.

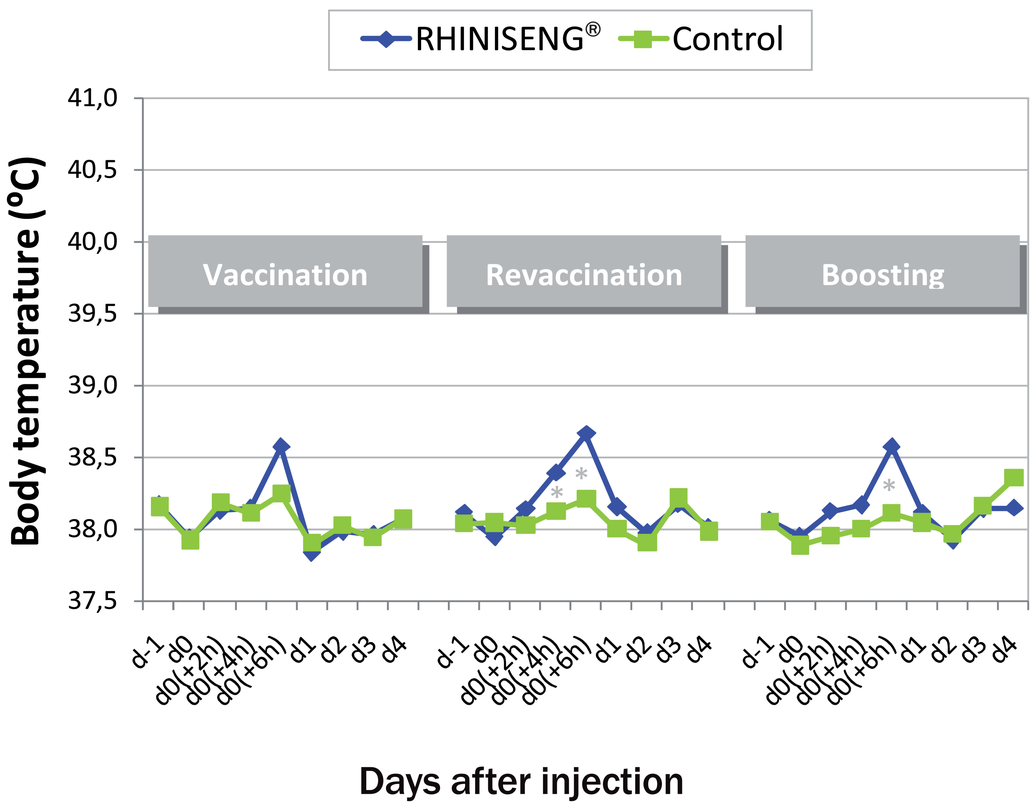
MATERIALS AND METHODS

Thirty-two pregnant sows and gilts free of antibodies against *Pasteurella multocida* toxin (PMT) and *Bordetella bronchiseptica* were divided into two groups. Sixteen animals were vaccinated with RHINISENG® (HIPRA) 8 weeks before farrowing and revaccinated 4 weeks later. A booster dose was administered 4 weeks before the subsequent farrowing. The sixteen control animals received 2 ml/dose of PBS as a placebo.

Body temperature, local and systemic reactions to vaccination and the reproductive performance of gilts and sows over the recommended vaccination scheme (*i.e.* vaccination + revaccination + boosting) were evaluated.

RESULTS

Figure 1. Mean rectal temperature (ºC) after vaccinating, revaccinating and boosting sows.



* Statistically significant increase (mixed model analysis of variance with an 'unstructured' covariance structure, $p<0.05$).

Table 1. Reproductive performance data after the basic vaccination scheme ('FIRST' farrowing) and after the booster dose ('SECOND' farrowing). Mean ± SEM.

FIRST FARROWING		No. of piglets		
Group	**Abortions**	**Liveborn**	**Stillborn**	**Mummified**
RHINISENG® *(n=16)*	0	9.75±0.85	2.06±0.81	0.25±0.11
Control *(n=16)*	0	10.94±0.65	2.31±0.45	0.06±0.06
SECOND FARROWING		**No. of piglets**		
Group	**Abortions**	**Liveborn**	**Stillborn**	**Mummified**
RHINISENG® *(n=12)*	0	10.27±0.30	1.27±0.33	0.0±0.0
Control *(n=9)*	0	10.56±0.58	1.89±0.63	0.0±0.0

No significant differences between RHINISENG and control groups were found (t-test and Mann-Whitney U test; $p<0.05$).

No systemic reactions were observed. None of the vaccination doses administered caused remarkable local reactions at the inoculation site. The maximum local reaction observed in three sows after boosting was a slight swelling (≤ 2 cm in diameter, mainly characterized by heat).

CONCLUSIONS AND DISCUSSION

The mean body temperature did not exceed 38.7ºC in vaccinated sows (38.66 ± 0.38ºC after revaccination), always reaching the maximum value 6 hours after vaccine administration (Figure 1). The normal temperature for sows in gestation is 38.7 ± 0.3 ºC (Straw *et al.*, 1999). No abnormal local or systemic reactions were observed.

Both, the basic vaccination scheme and the booster scheme had no effects on the reproductive performance of sows. No abortions were observed over the study period or teratogenic effects on the progeny. No differences were observed in the liveborn piglet, stillborn piglet and mummified foetus average between control and vaccinated sows (Table 1).

RHINISENG® demonstrated an optimal safety under experimental conditions in pregnant sows and gilts.

REFERENCES

Straw B. E. *et al.* 1999. Physical examination. In: *Diseases of Swine.* 8th ed. Iowa State University Press, Ames (IA). Pp. 3-18.

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