RHINISENG®: FIELD SAFETY

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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 field safety of the basic vaccination scheme and the booster dose.

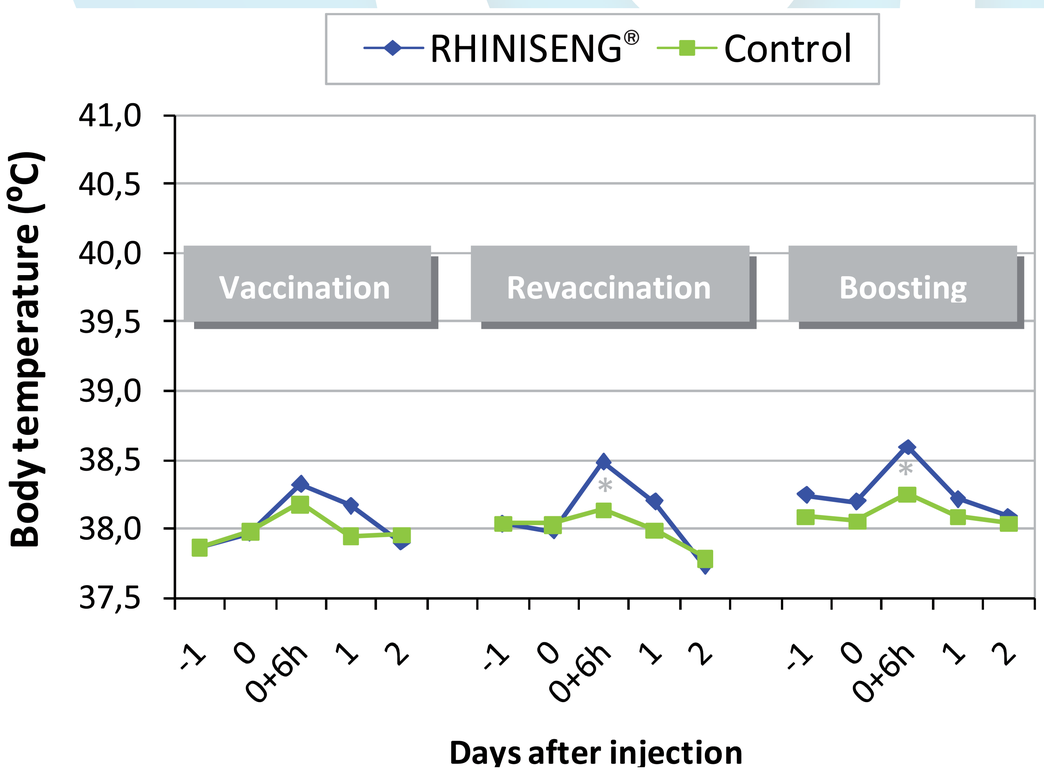
MATERIALS AND METHODS

A randomized, double-blinded, placebo controlled field trial was conducted in three different Spanish farms presenting atrophic rhinitis clinical signs, that were seropositive to *Pasteurella multocida toxin* (PMT) and *Bordetella bronchiseptica* (Bb) and where toxigenic *P. multocida* and/or Bb were isolated. Ninety-nine pregnant sows and gilts were vaccinated with RHINISENG® 6 weeks before farrowing and revaccinated 3 weeks later. A booster dose was administered 3 weeks before the subsequent farrowing. Eighty-eight control sows 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.



* Different superscripts indicate statistical differences between groups ($p < 0,05$, multivariate ANOVA).

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

FIRST FARROWING		No. of piglets		
Group	**Abortions**	**Liveborn**	**Stillborn**	**Mummified**
RHINISENG® *(n=99)*	0	11.96±2.30	1.23±1.67	0.20±0.51
Control *(n=88)*	0	11.94±2.76	1.22±1.47	0.17±0.51
SECOND FARROWING		**No. of piglets**		
Group	**Abortions**	**Liveborn**	**Stillborn**	**Mummified**
RHINISENG® *(n=65)*	0	11.25±2.51	0.51±0.87	0.15±0.57
Control *(n=53)*	0	10.36±2.10	0.57±1.08	0.15±0.57

No significant differences between RHINISENG and control groups were found (multivariate ANOVA; $p<0.05$).

No systemic reactions were observed. None of the vaccination doses administered caused abnormal local reactions at the inoculation site. Slight swelling at the inoculation site was observed in a higher proportion of sows after the first vaccine dose than in the subsequent injections. The proportion of animals with a slight local reaction was higher in the vaccinated group than in the controls after the basic vaccination scheme, but not after the boosting dose *(Fisher's exact test, $p<0.05$)*.

CONCLUSIONS AND DISCUSSION

The mean body temperature did not exceed 38.6ºC in vaccinated sows (38.6 ± SD 0.52ºC after boosting), always reaching the maximum value 6 hours after vaccine administration (Figure 1). The maximum average temperature increase was between 0.38 and 0.48ºC. The normal temperature for sows in gestation is 38.7 ± 0.3 ºC (Straw *et al.*, 1999). No systemic or abnormal local 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 field conditions in pregnant sows and gilts.

REFERENCES

1. 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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