RHINISENG®: FIELD EFFICACY

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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 efficacy of the basic vaccination scheme and the booster dose.

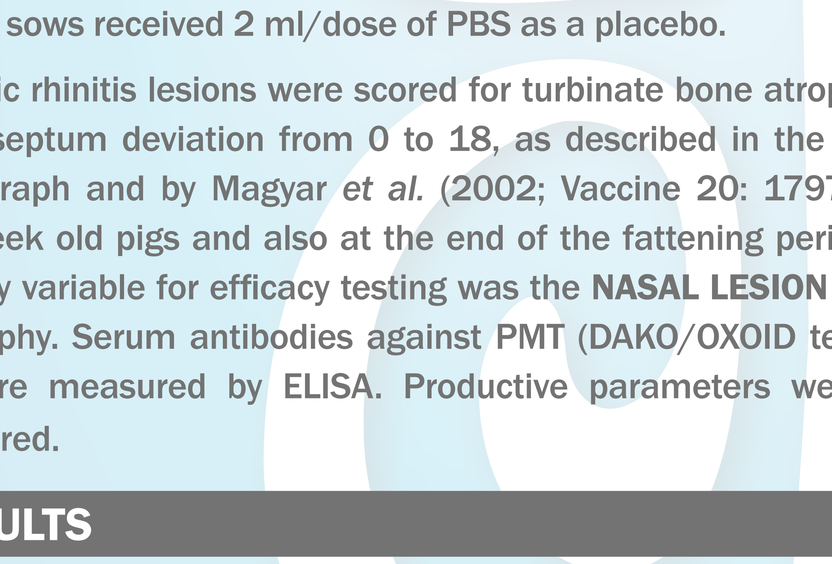
MATERIALS AND METHODS

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.

Atrophic rhinitis lesions were scored for turbinate bone atrophy and nasal septum deviation from 0 to 18, as described in the Eu. Ph. monograph and by Magyar *et al.* (2002; Vaccine 20: 1797-1802) in 6-week old pigs and also at the end of the fattening period. The primary variable for efficacy testing was the **NASAL LESION SCORE** of atrophy. Serum antibodies against PMT (DAKO/OXOID test) and Bb were measured by ELISA. Productive parameters were also monitored.

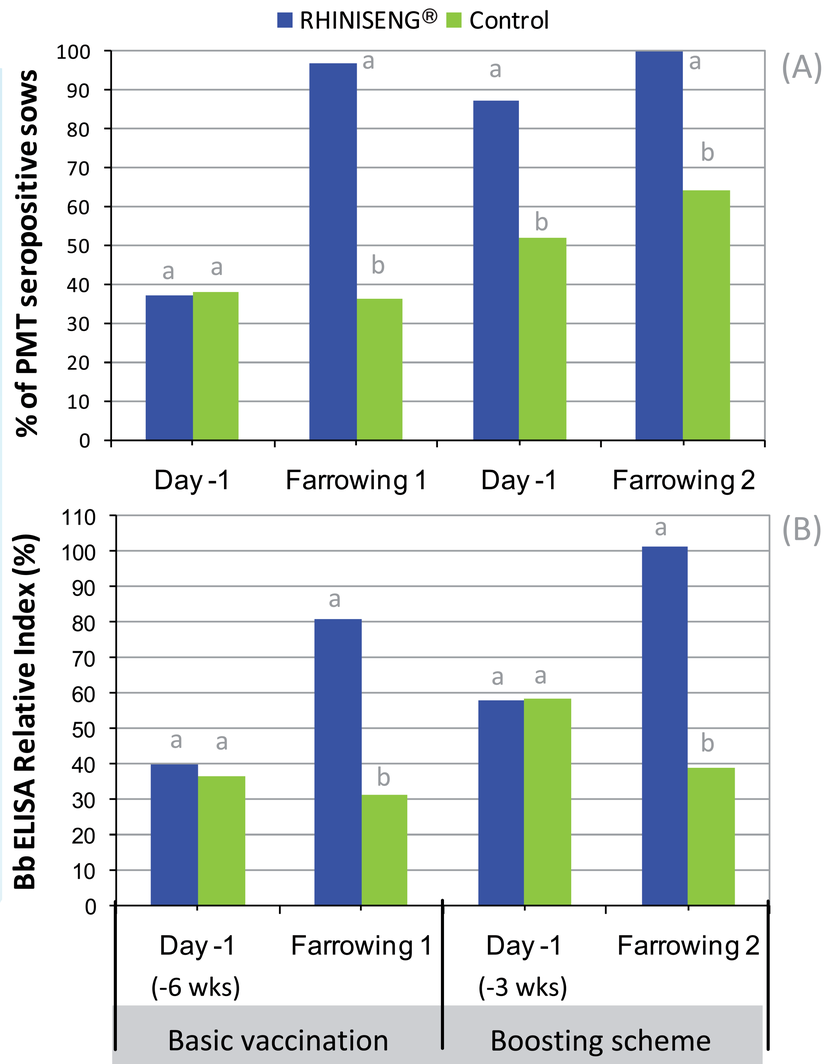
RESULTS

Figure 1. Mean nasal lesion score (±SEM) in piglets born from the first farrowing. The sow was the experimental unit.



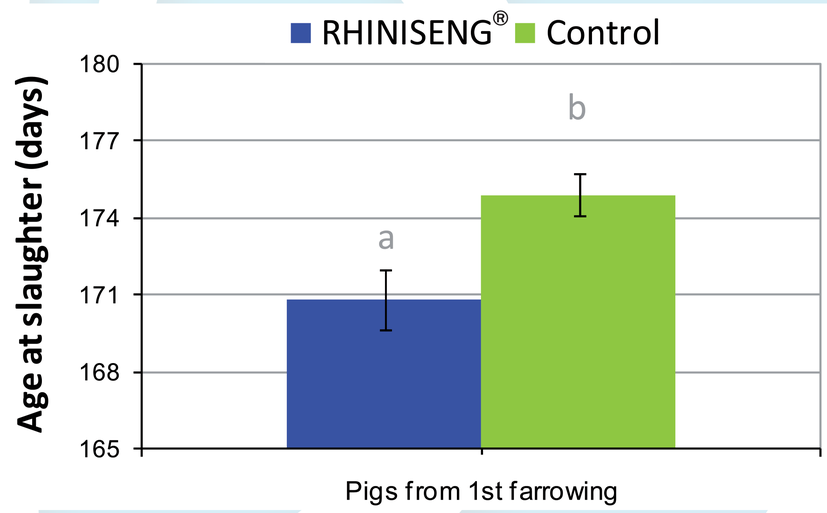
[a,b] Different superscripts indicate statistical differences between groups ($p < 0.05$, multivariate ANOVA).

Figure 2. Serological results for PMT (A) and *B. bronchiseptica* (B).



[a,b] Different superscripts indicate statistical differences between groups ($p < 0.05$, (A) Fisher exact test and (B) multivariate ANOVA).

Figure 3. Age of arrival at slaughterhouse.



[a,b] Different superscripts indicate statistical differences between groups ($p < 0.05$, multivariate ANOVA).

CONCLUSIONS AND DISCUSSION

RHINISENG® significantly reduced the atrophic rhinitis lesions until the end of the fattening period (Figure 1) in actively infected pigs and also reduced the slaughter age (Figure 3). A significant seroconversion to PMT and Bb was induced in actively immunised sows, both after applying the RHINISENG® basic vaccination scheme and after boosting during the subsequent gestation (Figure 2). These antibodies were effectively transferred via colostrum to protect their offspring.

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