

EFFICACY OF A NOVEL VACCINE IN AN ATROPHIC RHINITIS-INFECTED FARM

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INTRODUCTION

Atrophic rhinitis (AR) is an important infectious disease that can cause huge economic losses to the pig industry^[1]. Main damages caused by AR are turbinate atrophy or septum deformation, leading to retarded growth. RHINISENG® (HIPRA) is a new vaccine against AR indicated for pregnant sows and gilts to passively protect their offspring. The aim of this study was to assess the efficacy of RHINISENG® in a commercial pig farm in China.

MATERIALS AND METHODS

A total of 1,070 pregnant sows were randomly divided into two groups: 535 were immunized with RHINISENG® at 8 and 4 weeks before parturition (Immunized group), and 535 were not immunized as control (Control group). Piglets from each group were raised in separate barns until slaughtered at a fixed body weight (116 kg). Twenty pigs were randomly selected from each group, and their noses were dissected to score lesions in turbinate and nasal septum following the European Pharmacopoeia guidelines^[2] (Table 1). Drug costs were recorded for each group. Return on Investment (ROI) was calculated.

Table 1. Turbinate atrophy and septum deviation scoring.

LESION	Lesion grade	Illustration
TURBINATE ATROPHY	0 No atrophy	
	1 < Half absent	
	2 > Half absent	
	3 Straight turbinate	
	4 Complete absence	
SEPTUM DEVIATION	0 No deviation	
	1 Slight deviation	
	2 Severe deviation	

TOTAL SCORE = 4 TURBINATE SCORES + SEPTUM SCORE

RESULTS

Results showed a mean nasal lesion score of 3.15 for the Immunized group, and of 10.30 for the Control group. Thus, RHINISENG® reduced nasal lesion score by 7.15 ($P < 0.0001$) (Figure 1).

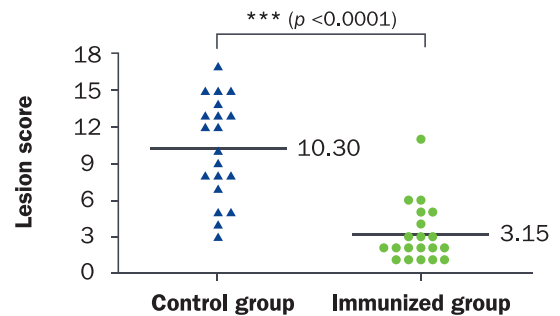


Figure 1. Comparison of nasal lesion score.

In addition, a comparison between the Immunized group and the Control group showed that the drug cost per pig to market was decreased by 1.93 yuan (Figure 2). In this study, ROI for RHINISENG® was 1:11.1 (based on the cost of the vaccine, food consumption and hog price during the experiment).

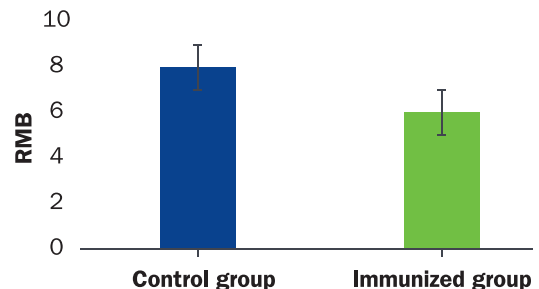


Figure 2. Comparison of drug cost (¥).

CONCLUSION

AR not only delays the time to market, but also leads to secondary infection of other pathogens. Immunizing sows to provide an adequate maternal antibody to piglets is a good way to prevent early infection^[3]. Results in this study showed that pregnant sows vaccinated with RHINISENG® can effectively reduce nasal lesions and drug costs, improve the feed conversion rate (FCR) and bring good ROI.

REFERENCES

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