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FIELD EFFICACY OF STELLAMUNE ONE® ADMINISTERED TO PIGS AT 1 WEEK OF AGE

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Introduction and Objectives

Mycoplasma hyopneumoniae the primary causal agent of enzootic pneumonia is a chronic disease affecting the respiratory tract of swine (1). Despite efforts made to control respiratory diseases they are still considered to be a major cause of disease-associated loss affecting swine worldwide. This study evaluates the efficacy of a new single dose *M. hyopneumoniae* vaccine administered to young pigs under field conditions, where the clinical disease is present.

Materials and Methods

Stellamune One® (known as RespiSure One® in USA), a single dose *M. hyopneumoniae* vaccine was used to evaluate protection against natural challenge in the field.

- Two farm sites were selected that had known problems with *M. hyopneumoniae* and where no vaccination regimes were in use.
- Farms were farrow-to-finish units located in Brittany, France.
- Healthy pigs were selected between 7 and 10 days of age.
- Day 0 (day of treatment) pigs were weighed and a blood sample collected from 10% of the animals.
- On each farm pigs were allocated randomly to treatment at a ratio of 1:1 (control [saline]: vaccine [Stellamune One®]) and administration was by IM injection of a 2 ml dose.
- Pigs were observed for a period of 1 hr post-vaccination.
- Pigs were finished as per normal management practice.
- Before slaughter body weights were recorded and a second blood sample collected from the same animals sampled on Day 0.
- At slaughter the lungs were examined to assess the extent of pathology associated with respiratory disease. Efficacy of the vaccine was based primarily on lung lesions associated with respiratory disease and the degree of consolidation was represented as a score using the method described by Madec and Kobisch (2). Body weights were recorded and evaluated. Results were analysed using a linear mixed model (SAS® systems).

Results and Discussion

Necropsy findings and serological results provided evidence of *M. hyopneumoniae* in each farm. The presence of lung lesions was assessed in a total of 227 animals (control =116 and vaccine = 111). A reduction in the severity of lung lesions was demonstrated in vaccinated animals compared to the control animals with geometric mean lung lesion scores of 5.9% vs. 9.1%, respectively (P=0.0457). The prevalence of lung lesions was lower for animals administered vaccine (Farm A, 58.5% vs. 64%; Farm B, 70% vs. 81.8%). LS mean average daily weight gain was 618.5g/d for vaccinated animals vs. 607.3g/d for the controls (P=0.1520).

Conclusion

Vaccination with Stellamune One® significantly reduced the mean lung lesion score and enhanced average daily gain. Overall, the prevalence and severity of lung lesions associated with *M. hyopneumoniae* infection was reduced.

Reference

1. Ross RF. 1992. Diseases of Swine 7th Ed. 537-551.
2. Madec, F. and Kobisch, M. 1982. Journées de la recherche porcine en France 14: 405-412, 1982.