



## Serotype 12 In ParaPac® Reduces Severity Of Serotype 5 Glasser's Disease

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### SUMMARY

- *Pigs were vaccinated with ParaPac®, which contains H. parasuis serotype 12, and were then challenged with H. parasuis serotype 5.*
- *Vaccinated pigs had significantly lower fibrinous serositis lesion scores compared with unvaccinated controls that were challenged with serotype 5.*
- *ParaPac® provides some protection against Glasser's disease due to H. parasuis serotype 5.*

### INTRODUCTION

*Haemophilus parasuis* is the primary cause of Glasser's disease (porcine polyserositis). Gross fibrinous serositis lesions are typical of the disease.

During outbreaks of Glasser's, several different serotypes have been isolated and some seem to be more prevalent than others depending on the geographic location. According to a new survey,<sup>1</sup> serotype 4 appears to be more predominant (25%) in the United States, followed by serotype 12 (23%) and serotype 5 (15%).

The Glasser's disease bacterin marketed by Schering-Plough Animal Health is prepared containing *H. parasuis* serotype 12. The bacterin has consistently demonstrated protection against challenge with this serotype. However, it was not known if serotype 12 in the vaccine protects against other *H. parasuis* serotypes. In this study, investigators evaluated the efficacy of the vaccine against a challenge with serotype 5.

### MATERIALS AND METHODS

There were 30 pigs in the study ranging in age from 2 to 3 weeks. Twenty were vaccinated subcutaneously with 1 mL of *H. parasuis* bacterin (ParaPac®), then received a booster dose 21 days later. The remaining 10 pigs were unvaccinated and served as controls.

All pigs in the study were challenged intraperitoneally with 5 mL of serotype 5 challenge culture containing  $2.1 \times 10^8$  CFU/mL 2 weeks after the booster vaccination. The pigs were observed daily,



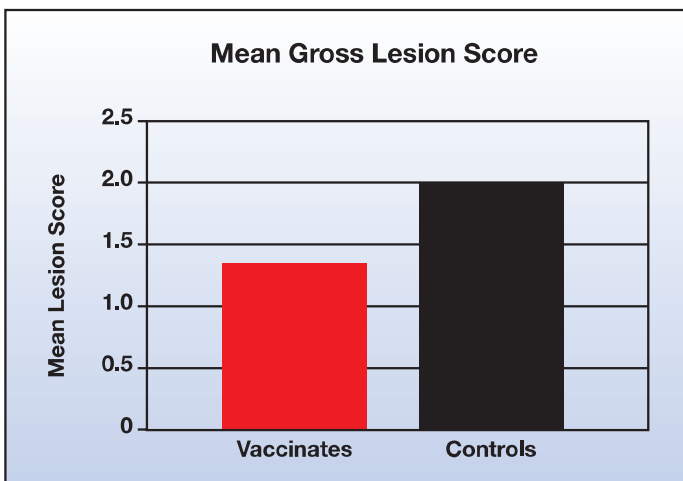
and 13 to 15 days after challenge were euthanized and evaluated for the gross fibrinous serositis lesions. The lesions were scored as follows:

- 0 = Normal
- 1 = General inflammation and thickening of the membranes, serous effusion
- 2 = Thickening of membranes with fibrinous exudates
- 3 = Severe fibrinous exudates with adhesive pleurisy

## RESULTS

The incidence of disease was not significantly different between groups. Of the vaccinated pigs, 65% (13/20) showed gross clinical lesions after the challenge compared to 80% (8/10) of controls.

Lesion scores, however, were significantly lower among the vaccinates compared to controls ( $P=0.0431$ ). The gross fibrinous serositis lesion score in vaccinated pigs was only 1.35 (Figure) compared to 2.0 in the controls (Wilcoxon Rank Sum Test).



Significantly lower than controls,  $P=0.0431$

## CONCLUSION

The vaccine did not prevent the establishment of gross lesions, but it reduced the severity of Glasser's disease. The results of the study indicate that ParaPac®, which contains serotype 12, provides some degree of protection against serotype 5.

## REFERENCE

- 1 Tadjine M, Mittal KR, et al. Development of a new serological test for serotyping *Haemophilus parasuis* isolates and determination of their prevalence in North America. *J Clin Microbiol.* 2004;42:839-840.

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