

## SWINE HEALTH

**Title:** *Mycoplasma hyorhinis* and *Mycoplasma hyosynoviae* in US herds: Characterization of detection patterns in oral fluids and clinical presentation – **NPB #17-027**

Revised

**Investigator:** Dr. Maria Pieters

**Institution:** University of Minnesota

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### Scientific Abstract:

This study was designed to detect *Mycoplasma hyorhinis* and *M. hyosynoviae* in oral fluids and determine their correlation with lameness scores in pigs. Thirty-seven nursery and/or finisher herds were included in this study. Oral fluids were collected by pen. Using species specific real-time PCR *M. hyorhinis* was detected in 97% of sampled herds, whereas 70% were positive for *M. hyosynoviae*. Lameness scores were determined for all pigs in each pen where oral fluids were collected. Lameness was identified in 3.9% of pigs across all sampled pens. No correlation was observed between lameness in pigs in a pen and detection of *M. hyorhinis* in oral fluid samples ( $p > 0.05$ ), whereas a significant correlation was observed between *M. hyosynoviae* detection in oral fluids and lameness ( $p < 0.05$ ). A negative correlation was observed between the proportion of lame pigs in the pen and Ct values for *M. hyosynoviae* in oral fluids ( $p < 0.05$ ;  $r = -0.27$ ). An age-related effect was observed with *M. hyosynoviae* detection in oral fluids, indicating an increased prevalence of the bacterium in finishers compared to nursery pigs. Under the conditions of this study, *M. hyorhinis* was frequently detected in oral fluids from nursery and finisher pigs regardless of the clinical presentation of lameness, whereas the detection of *M. hyosynoviae* varied depending on the age of sample pigs. Our results suggest that oral fluids may not be an informative diagnostic sample for *M. hyorhinis* associated lameness. However, the association of lameness and *M. hyosynoviae* detection in oral fluids warrants prospective population-based diagnostic studies.

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For more information contact:

National Pork Board • PO Box 9114 • Des Moines, IA 50306 USA • 800-456-7675 • Fax: 515-223-2646 • [pork.org](http://pork.org)

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