

## SWINE HEALTH

**Title:** International collaboration to investigate the sensitivity and specificity of *Mycoplasma hyopneumoniae* PCR assays - **NPB#07-094**

**Investigator:** Eileen Thacker

**Institution:** Iowa State University

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**Scientific abstract:** *Mycoplasma hyopneumoniae* (MHYO) remains a significant source of economic loss for today's swine industry. Reliable diagnosis of this organism continues to be a challenge as demonstrated by the difficulty in confirming the negative status of herds due to delay in seroconversion following infection. In addition, it has been found that pigs with low-level infection demonstrate an even greater variation in seroconversion. Alternatively, the use of polymerase chase reaction (PCR) has been shown to be a sensitive method to detect MHYO in pigs. Many PCR assays have been described, but some of the currently published PCR assays are not able to detect all isolates of MHYO due to genetic variation in the field. In order to identify one or more PCR assays that can be used diagnostically to successfully detect genetically diverse MHYO field isolates, a multi-site evaluation from labs specializing in MHYO research throughout the world was performed. Laboratories from 6 countries tested their panels of MHYO isolates against up to 19 different PCR assays targeting 6 different genes that included both gel-based and real-time tests. The results from this study identified four gel-based and two real-time PCR assays that were able to detect all of the isolates that were evaluated. The findings from this study will lead to better detection of MHYO in diagnostic specimens by reducing the potential for false negative results and improve our accuracy in identifying herds that are negative or positive for MHYO. These findings may also lead to more standardization in PCR tests offered among the various diagnostic laboratories.

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**For more information contact:**

**National Pork Board, P.O. Box 9114, Des Moines, Iowa USA**

800-456-7675, **Fax:** 515-223-2646, **E-Mail:** [porkboard@porkboard.org](mailto:porkboard@porkboard.org), **Web:** <http://www.porkboard.org/>