

WHAT HAPPENS WHEN *M. HYOPNEUMONIAE* ENTERS A HERD? LONGITUDINAL ASSESSMENT OF *M. HYOPNEUMONIAE* NATURAL INFECTION IN GILTS

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Introduction

Understanding duration of *M. hyopneumoniae* (Mhp) shedding in swine populations determines the the duration of herd closure for elimination and gilt exosure timing for Mhp acclimation strategies. Although shedding duration in experimentally infected pigs is known, epidemiology of natural Mhp infection remains unknown. This study describes the pattern of natural Mhp infection and persistence in a gilt population.

Materials & Methods

A closed sow herd with internal GDU had recently experienced a Mhp outbreak after being naive for >5 years. 63 gilts were selected at 21 days of age (DOA), sampled via laryngeal swabbing (LS) for Mhp PCR weekly for 5 weeks and monthly afterwards. Serum samples were collected at 21, 110 and 140 DOA for Mhp serology. Tracheal sample (TS) collection was implemented at 200 DOA. A final TS sampling occurred during farrowing from study sows and 5 of their piglets.

Results

11% of gilts were infected at weaning and the last positive gilt was detected 284 days later. Peak infection was detected at 49 DOA. Mhp detection in LS was 8.8% compared to 42.2% in TS at 200 DOA. TS sensitivity remained superior at 215 DOA. 4 gilts remained PCR negative throughout the study; however; all gilts seroconverted by 140 days. 38% of gilts were serologically negative at 110 DOA, from these, 27% had previously tested PCR positive by LS at 21-49 DOA. At farrowing sows and piglets were PCR negative.

Discussion

Despite the recent Mhp outbreak, prevalence at weaning was low. Intensive LS failed to identify

infection in 39% of gilts. TS showed superior sensitivity to LS. Timing of Mhp seroconversion after infection is variable and serology is an extremely lagging indicator. Gilts cleared infection within normal Mhp elimination timelines without intentional exposure. If “seeder” exposure is early, gilts will be successfully acclimated to Mhp.