



Prevalence of *Mycoplasma hyopneumoniae* infection at weaning age in Spanish pig herds

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Introduction

Mycoplasma hyopneumoniae (*M.hyo*) is the primary pathogen of enzootic pneumonia, a chronic respiratory disease in pigs. Infections with *M.hyo* are highly prevalent in almost all swine-producing areas and the disease causes major economic losses to the pig industry worldwide due to the reduced performance and the increased use of antimicrobials. Moreover, *M.hyo* is also considered to be one of the primary agents involved in the porcine respiratory disease complex (PRDC). It has been demonstrated by polymerase chain reaction (PCR) assays on nasal swabs that infections with *M.hyo* may already occur starting as soon as 3 weeks of age in a proportion of pigs in Spanish herds (4,5,6). Recent studies have shown that tracheo-bronchial swabs may be 3.5 to 4.5 times more sensitive for the detection of *M.hyo* than nasal swabs (2,3). The aim of the present study was to estimate the detection rate of *M.hyo* infections in Spanish piglets around weaning age by the use of both nasal and tracheo-bronchial swabs.

Materials and Methods

The study was conducted from May to November 2011 in 47 Spanish pig herds. In each herd, nasal and tracheo-bronchial swabs were collected from 27 to 31 three- to four-weeks-old piglets and tested for the presence of *M.hyo*, using a nested PCR (1). The piglets within each herd were selected randomly from as many different sows as possible.

Results

In total, 27 out of the 47 tested herds (57.4%) and 61 out of the 1402 tested piglets (4.4%) yielded positive PCR results for *M.hyo*. The within-herd detection rate ranged from 0.0% to 20.0% (Figure 1). The detection rate based on the number of PCR-positive nasal swabs and the number of PCR-positive tracheo-bronchial swabs, respectively, is presented in Table 1.

Figure 1. Distribution of herds according to within-herd detection rate of *M.hyo* in three- to four-weeks-old Spanish piglets.

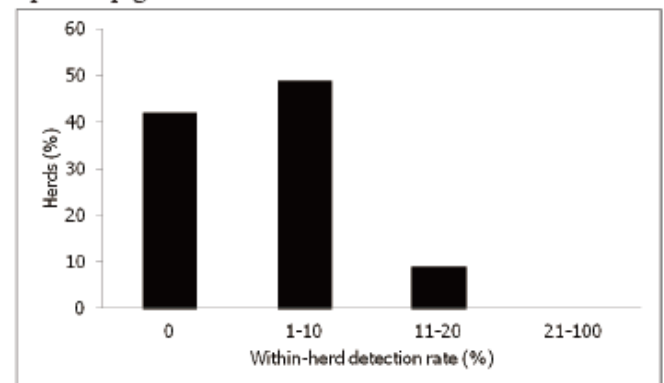


Table 1. Detection rate of *M.hyo* in nasal swabs (NS) and tracheo-bronchial swabs (TBS) from three- to four-weeks-old Spanish piglets.

Sample	No. PCR-⊕ .../No. sampled (%)	
	herds	piglets
NS	20 / 47 (42.6%)	30 / 1402 (2.1%)
TBS	19 / 47 (40.4%)	35 / 1402 (2.5%)
NS+TBS	27 / 47 (57.4%)	61 / 1402 (4.4%)

Conclusions and discussion

The results of the present study showed that there was evidence of *M.hyo* infections in three- to four-weeks-old piglets in more than the half of the studied Spanish pig herds. In most of the positive herds, the detection rate was between 1 and 10%. Tracheo-bronchial swabs were shown to be slightly more sensitive than nasal swabs at individual pig level, but this difference was not evident at herd level.

References

1. Calsamiglia M et al.: 1999, J Vet Diagn Invest 11: 246-251.
2. Fablet C et al.: 2010, Vet Microbiol 143: 238-245.
3. Marois C et al.: 2007, Vet Microbiol 120: 96-104.
4. Segalés J et al.: 2011, Int J Biometeorol doi : 10.1007/s00484-011-0487-5.
5. Sibila M et al.: 2007, Vet Microbiol 121: 352-356.
6. Villarreal I et al.: 2010, Vet Medicina 55: 318-324.