



HHM-058

**MONITORING OF NASAL TURBINATES IN NURSERY PIGLETS AS A FIELD TOOL TO EVALUATE VACCINATION STRATEGIES AGAINST NON PROGRESSIVE ATROPHIC RHINITIS (NPAR)**

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**Introduction**

*Bordetella bronchiseptica* (BB) causes Non Progressive Atrophic Rhinitis (NPAR) with reversible atrophy of the nasal turbinates in young piglets, causing sneezing, coughing, and secondary respiratory infections (Brockmeier, 2008).

To evaluate the results of 3 different vaccination strategies against BB, we performed necropsies of piglets to score the nasal turbinates atrophy, collected oral fluids for PCR (BB), and correlated the results with nursery mortality.

**Materials and methods**

4 pig farms were selected for this study based on similar nursery facilities, same genetics and feed source.

Vaccination against BB: Farm A only gilts twice; Farm B and D gilts twice and sows 1 dose at 12 weeks gestation; Farm C gilts twice, 1<sup>st</sup> litter sows at 8 and 12 weeks and all sows at 12 weeks gestation.

114 necropsies of piglets from 4 farms were performed and snouts were cut perpendicular to the 1<sup>st</sup> pre-molar tooth, to access the nasal turbinates.

Scoring of the turbinates used the methodology described in the European Pharmacopoeia (between 0 points (no lesions) and a maximum of 18).

80 piglets from each farm were tested at 6 and 8 weeks of age for BB using PCR in oral fluids.

**Results**

Nursery Mortality rate: Farm A=2.2%; B=3.2%; C=1.6%; D=6.1%.

Turbinate atrophy scoring (TAS) (0-18): Farm A=2.79; B=4.13; C=2.90; D=3.33.

Oral fluids (PCR for BB): Farm A=negative; Farms B,C,D=positive.

**Discussion and Conclusion**

Farm A tested negative for BB and has the lowest TAS of all farms, as expected.

Farm C used the more complete vaccination program and had the lowest mortality rate and the lowest TAS amongst the BB positive farms.

Vaccination of gilts (2x) and gestating sows (1<sup>st</sup> litter 2x, sows 1x) had the best results reducing the TAS and the incidence of NPAR, but does not eliminate the presence of BB in the herd.

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