INCIDENCE OF *PASTEURELLA MULTOCIDA* AND *BORDETELLA BRONCHISEPTICA* IN NURSERY AND FINISHING PIGLETS CORRELATED WITH SLAUGHTER MONITORING SNOUTS IN BRAZIL

Ibanez[2], G.; Rodríguez-Ballarà[1], I.; Martos[1]*, A.

[1]*HIPRA HQ, Amer (Spain).* [2]*HIPRA Saúde Animal Ltda (Brazil)*

**Corresponding author: alba.martos@hipra.com*

INTRODUCTION

Porcine Atrophic Rhinitis (AR) is an infectious disease found all over the world. Its most severe form is caused by infection with toxigenic strains of Pasteurella multocida (Progressive Atrophic Rhinitis, PAR), either alone or in combination with Bordetella bronchiseptica. Infections in which only B. bronchiseptica is involved cause a milder form of the disease called Non-Progressive Atrophic Rhinitis (NPAR), which is characterized by a mild-to-moderate atrophy of the turbinates[1].

This study aims to monitor the prevalence of toxigenic *Bordetella bronchiseptica* (Bb) and *Pasteurella multocida* (Pm) in nursing and finishing animals by the RHINICheck test (PCR in oral fluids), and to evaluate the incidence of progressive atrophic rhinitis (PAR) in animals slaughtered at commercial meatpacking units.

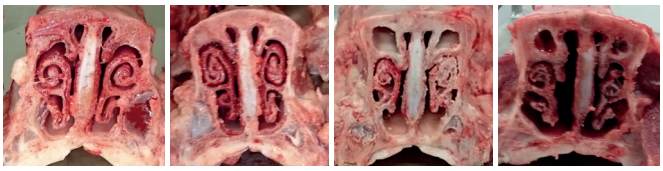
MATERIALS AND METHODS

Oral fluid samples from 45-, 70- and 110-day-old animals in the nursery and finishing phases were obtained (Figure 1); these animals came from 8 different sites located in Brazil, totalling 28,000 sows. Oral fluid samples were tested for Bb and Pm by a specific PCR test (RHINICheck, HIPRA, Spain). The EMBRAPA methodology (IRA) was used in the meatpacking unit to assess turbinates of 170-day-old animals. These samples came from the same batch of animals where RHINICheck was conducted when they were 110 days old.

Figure 1. Oral fluid samples from piglets in the nursing and finishing phases.

RESULTS

Nasal lesion scores were calculated using a method developed by EMBRAPA-CNPSA[2] which establishes four degrees of turbinate lesions (Figure 2).



0 1 2 3

Figure 2. EMBRAPA classification of nasal lesions.

RHINICheck showed that 19% of the sampled sources were positive for Pm in the nursery and finishing phases; whereas for Bb, 76% and 81% of the sampled sources were positive in the nursery and finishing phases, respectively.

By correlating RHINICheck results with slaughter monitoring, it was possible to verify that when Bb was present at 45 days old, IRA was 1.17; when Pm was present at the same age, IRA was 1.42, the highest destruction degree obtained in this analysis. On the other hand, batches with lowest IRA were consistent with animals showing the lowest Bb prevalence in the nursery phase (Table 1).

Table 1. Correlation between IRA and oral fluid results.

FARM	IRA	Bb 45 days	Bb 70 days	Bb 100 days	Bb 130 days	Pm 45 days	Pm 100 days
A	0.56			+	+		
B	0.97		+	+	+		
C	0.40			+	+		
D	1.17	+	+	+			
E	1.00	+	+	+			
F	1.42	+	+			+	+
G	1.29			+			
H	0.72	+		+	+		

CONCLUSIONS

According to these results, it can be suggested that the earlier the colonization by Bb and Pm, the higher the destruction degree of turbinates in the meatpacking unit.

REFERENCES

[1] Susan *et al.* 2012. *Diseases of swine.* Chapter 49.

[2] Martins *et. al.* EMBRAPA. 1985.

2018-0160