Evaluation of the impact of PRRSv infection on growth performances of growing pigs in a panel of French herds

M. Gosselin[1], N. Deville[2], P. Gambade[1], S. Lopez[1], Y. Piel[1], N. Robert[3], E. Lewandowski[3]

[1]UNIVET Santé Elevage, ZI de Tres le Bois, 22600 LOUDEAC, France; [2]CYBELVET, ZA de Piquet, 35370 ETRELLES, France; [3]Boehringer Ingelheim, 3 Allée de la Grande Egalonne, 35740 PACE, France

INTRODUCTION

Holtkamp (2013) estimated the cost of Type II PRRSv infection for the pig industry in the United States (US) to be 2.24 € / marketed pig (based on 77 % seroprevalence in US – ie ≈ 2.90 € / marketed pig in positive herds, economic impact on sows excluded). In Europe, PRRSv type I is the most frequent and is generally considered as less virulent as type II. Few data exist on PRRSv type I economic impact. The objective of this study is to evaluate in a panel of French herds without specific clinical signs, the prevalence of PRRS infection and its potential economic impact on growing pigs.

MATERIALS AND METHODS

This study was performed between September 2014 and June 2015 in Brittany (France). To be included in the study every farm has to have longitudinal registered data (wean-to-finish Average Daily Gain - ADG, Feed Conversion Ratio – FCR and Mortality).

In each herd, 10 pigs were blood sampled at the end of the fattening period (21 to 28 weeks of age) in order to establish PRRS status. Sera were pooled by 5 and assayed for PRRSV antibodies by Elisa (PRRS X3, Idexx). Given a prevalence of 30 % of seropositive pigs in a population, a sample size of 10 pigs allows to detect the infection with a confidence level of 95 %. A herd was defined "positive" if at least one pool was positive and "negative" if the two pools were negative.

RESULTS

A total of 41 herds were included in the panel. Twenty two farms were classified as "negative" and 19 were classified as "positive". At the herd level, PRRS prevalence is 46 %. ADG was significantly higher in "negative" herds compared to "positive" herds (775 g / d versus 737 g / d, $p < 0{,}01$), whereas differences in FCR and mortality were not statistically significant (2.48 versus 2.52 and 4.6% versus 4.9 % respectively) as shown in table 1.

Table 1: Growing performances upon PRRSv status of herds

	PRRSv negative herds	PRRSv positive herds	P value
Number of herds	22	19	
Wean-to-finish ADG	775 g / d	737 g / d	< 0,01
Wean-to-finish FCR	2,48	2,52	ns
Wean-to-finish Mortality	4,6 %	4,9 %	ns

CONCLUSION

This study exhibits a quite high prevalence of PRRSv (46 %) in a context of herds without any specific clinical signs, and shows a strong impact of PRRSv type I infection on growth, with + 38 g / d of ADG between "negative" and "positive" herds. Compared to Holdtkamp (2013), we show more impact on growth and less on mortality. Economically, with 2015 figures, differences in performances between "negative" and "positive" herds represent in this study + 3.15 € / pig.

REFERENCES

1. D.J. Holtkamp et al. Assessment of the economic impact of PRRSv on US pork producers, JSHP, 2013, vol. 21, n° 2, p. 72 – 84