Impact of EP- and A.p.-like lung lesions on growth of fattening pigs

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Background and objectives

Infections with *Mycoplasma hyopneumoniae* (M.hyo) and *Actinobacillus pleuropneumoniae* (A.p.) cause significant losses due to decreased performance. The aim of this study was to quantify the impact of bronchopneumonia (BP), suggestive for enzootic pneumonia (EP) caused by M.hyo, and dorsocaudal pleurisy (DCP), suggestive for A.p.-infections, on the growth of fattening pigs.

Material and Methods

A total of 54.316 pigs, which were identifiable with an RFID ear tag, were slaughtered between February 2022 and June 2023. In the slaughterhouse, the date of birth was read from the RFID ear tag and linked to the slaughter date and carcass weight. Based on this, the age at slaughter and carcass growth were calculated. These data were linked to the lung lesions, which were assessed in a standardized manner, using the Ceva Lung Program (CLP) scoring methodology. Each lung was assessed for the presence (yes/no) of BP and DCP and the extent of the lesions was evaluated.

Results

On the lungs of 41.943 pigs, no BP or DCP could be observed. The lungs of 5.069, 6.892 and 412 pigs showed respectively only BP, only DCP and BP+DCP lesions. Pigs without lesions had a carcass weight of 98,29 kg, an age of 181,06 days and a carcass growth of 546 g/day. Pigs with BP, DCP and BP+DCP lesions had a carcass weight of 97,76 kg, 98,49 kg and 98,51 kg, and were slaughtered at an age of 184,86 days, 186,34 days and 187,34 days respectively. This corresponds to a statistically significant lower carcass growth of 532 g/day, 532 g/day and 529 g/day respectively compared to the pigs without lesions ($p<0,05$).

Table 1. *Carcass weight, age at slaughter and carcass growth of pigs with healthy lungs and lungs with BP, DCP or both BP and DCP*

	Number of animals	Carcass weight (kg)	Age (days)	Carcass growth (g/day)
No BP, No DCP	41.943	98,29 [a]	181,06 [a]	546 [a]
With BP	5.069	97,76 [bc]	184,86 [c]	532 [b]
With DCP	6.892	98,49 [a]	186,34 [b]	532 [b]
With BP and DCP	412	98,51 [ac]	187,34 [b]	529 [b]

Numbers in the same column with a different superscript are statistically significantly different (p<0,05).

Discussion & Conclusion

This study shows that both the presence of EP- and A.p.-like lesions have a significant impact on the growth of pigs. A 14 g/day lower carcass growth was observed for both pigs with BP and DCP over the whole life of the pig. This corresponds to a loss of 2,52 kg carcass weight per pig in case pigs are slaughtered at 180 days of age or an increase of the time to slaughter by 4 to 5 days to obtain the same slaughter weight as healthy pigs. Setting the carcass yield at 80% and taking into account a carcass price of 2,1 €/kg, a feed conversion rate of 2,68 kg feed/kg live weight and a feed price of 30,8 €/100 kg (1), the economic value of a loss of 2,52 kg carcass weight can be calculated as the difference between the lower feed costs due to lower end weight of -2,60 € and the lost revenues due to the lower carcass weight of -5,29 €. This results in a loss of 2,69 € per fattening pig.

Taking preventive measures to minimize the effect of M.hyo and A.p. infections, will not only help to reduce the lung lesions, but will also improve the economic parameters of the farm.

Reference

(1) Farmers Agricultural Data Network (FADN), Wageningen University & Research, 2023 data, https://agrimatie.nl/binternet.aspx?ID=23&bedrijfstype=5