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Tail biting in pigs: influence on live performance, lesions and condemnations at slaughter

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Introduction

Tail biting is a frequent abnormal behavior of swine and cause economical and health losses (3), in addition to its negative impacts on animal welfare (1). Data on the evolution of the disease in the affected groups, measuring impacts on weight gain in the field, as well as on carcass quality, are lacking. The objective of the present study was to evaluate the influence of tail biting on live performance, associated lesions and condemnations at slaughter finishing pigs.

Material and Methods

Four finishing units (FARM) located in the state of Rio Grande do Sul, Brazil, were selected because pigs with active cases of tail biting were detected in these units. For each animal presenting tail biting two controls pigs were selected, assessing 312 animals. Tail lesions were classified according the degree of severity (scores from 0 to 4, 0 classified as normal, 1-3 increasing lesion severity, and score 4 as healed lesions). During each visit, pigs were weighed and tails visually examined and scored according severity. Pigs that had their carcasses condemned by federal inspection (SIF) as well as carcass lesions (e.g., pleurisies, abscesses, or other lesions) were recorded. All statistical analyses were carried out using the program (4).

Results and discussion

On all farms, healing of tail lesions was observed during the third evaluation. On farms 1 and 3, there was significant effect of the lesion score on daily weight gain (DWG) of the animals and on farms 2 and 4 there was no difference. On farm 3, pigs with severe lesions presented at the time of the second, third, fourth and fifth weighing, 31%, 19%, 16% and 12% lower DWG, respectively, than the control pigs, as well as 9% lower slaughter weight. Animals with scores 2 and 3 had higher chances ($P<0.05$) of having abscesses or lung lesions (pleurisies and embolic pneumonia) as compared to those with no tail lesions. Carcass condemnation rate was 21.6%, and tail lesions corresponded to 66.1% of the condemnations. Animals with tail lesion represented 63.0% of the carcasses classified “non exportable” and 75.0% of the condemned carcasses with other destinations. Considering the percentage of losses in each category defined by the processing plant (exportable, non-exportable, sausages, preserves, and rendering), this meant a total loss of 15.6 animals. At slaughter, the high number of lesions in carcasses of bitten animals and the significant association between tail lesions and the presence of pleurisy and abscesses, irrespective of the severity of tail lesion, were similar to the findings of (3). The negative impact of the higher tail lesion severity on daily weight gain observed in two of the four evaluated farms, confirms the observation of (5). Inflammatory cytokines secreted by myeloid cells in sick animals may affect weight gain, by activation of physiological systems, such as increased catabolic hormone secretion, gluconeogenesis, liver synthesis of acute phase proteins and nitrogen excretion, as well as inhibited anabolic hormone synthesis by the adenohypophysis (2). In spite of the use of similar management procedures, factors such as labor efficiency must be taken into account as to the possible consequences of tail biting on daily weight gain and carcass lesions. Among all animals diagnosed with cannibalism at farm level, only two remained with externally detectable lesions at slaughter, indicating the precocity of the tail lesions in the cases analyzed. On the other hand, pigs diagnosed with cannibalism during the finishing period, but without external tail lesions at slaughter, presented a high number of condemnations due abscesses and lung lesions. This suggests that different situations may be observed between the field and at slaughter, reinforcing the need to analyze pigs both at farm and slaughter level to allow proper assessment of losses related to tail biting.

Conclusions

Tail biting had different effects on pig daily weight gain according to farm. In the slaughterhouse, tail biting resulted in increased condemnation due to abscesses and lung lesions. Carcass condemnation due internal lesions compatible with those caused by cannibalism in pigs with no external evidences of tail lesions stresses the importance of including field diagnosis followed by carcass inspection in studies designed to assess this condition.

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