Investigation of the association of growth rate in grower-finishing pigs with the quantification of Lawsonia intracellularis and porcine circovirus type 2

As a part of a prospective cohort study in four herds, a nested case control study was carried out. Five slow growing pigs (cases) and five fast growing pigs (controls) out of 60 pigs were selected for euthanasia and laboratory examination at the end of the study in each herd. A total of 238 pigs, all approximately 12 weeks old, were included in the study during the first week in the grower–finisher barn. In each herd, approximately 60 pigs from four pens were individually ear tagged. The pigs were weighed at the beginning of the study and at the end of the 6–8 weeks observation period. Clinical data, blood and faecal samples were serially collected from the 60 selected piglets every second week in the observation period. In the killed pigs serum was examined for antibodies against Lawsonia intracellularis (LI) and procine circovirus type 2 (PCV2) and in addition PCV2 viral DNA content was quantified. In faeces the quantity of LI cells/g faeces and number of PCV2 copies/g faeces was measured by qPCR. The objective of the study was to examine if growth rate in grower-finishing pig is associated with the detection of LI and PCV2 infection or clinical data. This study has shown that diarrhoea is a significant risk factor for low growth rate and that one log10 unit increase in LI load increases the odds ratio for a pig to have a low growth rate by 2.0 times. Gross lesions in the small intestine and LI load > log10 6/g were significant risk factors for low growth. No association between PCV2 virus and low growth was found.

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