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EXAMINATION OF ILEA COLLECTED AT SLAUGHTER FOR DIAGNOSING PORCINE PROLIFERATIVE ENTERITIS (PPE) IN AN EARLY INFECTED FINISHER HERD

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Introduction

PPE is caused by *Lawsonia intracellularis* (Li). Often the disease progresses sub-clinically, which makes the role of Li infection as cause for poor pig performance hard to proof. Producers are hesitant to sacrifice pigs without severe clinical signs for diagnostic purposes. The objective of this study was to investigate if ilea collected at slaughter, could be a useful specimen to support PPE diagnostics.

Material & Methods

A herd suffering from PPE in the first weeks of finishing (12-16 weeks of age) was selected. From a batch of 240 slaughter pigs, 100 blood samples were taken for serology at exsanguination and 60 ilea were collected after evisceration. Ilea, stored individually on ice, were examined for macroscopy, weighing (10 cm of the mid-section), histology, IHC and Li-qPCR.

Results

Of the blood samples 97% were Li-antibody positive (ELISA). Histological findings indicated presence of ileitis in 50% of the ilea, of which 95% were IHC-positive. From the histological negative samples, only 1 sample (3%) was IHC-positive. Li genome equivalents (GE) were found by qPCR in 97% of the tissue samples. The IHC-positive samples had higher average amounts of Li present compared to IHC-negative samples: 10.7 log GE/ml vs 7.3 log GE/ml ($P<0.001$). There was no correlation between ileal weights and histological findings. Macroscopy had a poor sensitivity and specificity (58% and 64% respectively) when compared to IHC.

Discussion & Conclusion

Investigation of ilea collected at slaughter can be useful to diagnose PPE without sacrificing pigs, but not if only examined macroscopically. Typical histological lesions were detected and IHC testing was positive in a significant number of samples from a herd infected with Li in the first weeks of finishing. QPCR tissue levels correlated well with histology/IHC. Further studies are necessary to judge the full potential of qPCR.