

# Screening for *Lawsonia intracellularis* in Dutch finishing farms with different clinical scenarios and technical results

Nico Wertenbroek\*<sup>1</sup>

<sup>1</sup>MSD AH NL, The Netherlands; nico.wertenbroek@merck.com

## Background and Objectives

Ileitis is a common intestinal disease in pigs caused by *Lawsonia intracellularis* (LI) and of economic significance in the pig industry worldwide<sup>1</sup>. On the farms it is present in 3 different clinical forms as subclinical-, chronic- and/or acute form of Ileitis. The aim of this study was to get insight on the infection patterns of LI and technical results of finishing pigs for the different clinical forms of Ileitis in Dutch pig farms.

## Material and Methods

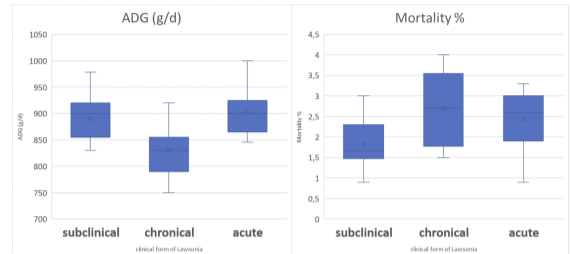
In the period of February till August 2021 vets who submitted saliva samples for qPCR *Lawsonia*<sup>2</sup> testing (in the BactoReal *Lawsonia* kit of Ingentix) at the CDS in Boxmeer, The Netherlands, were asked to fill in a small questionnaire about that farm. This survey included questions about subclinical - chronic - acute form of Ileitis according to the farm diagnostic history and assessment of the attending field vets, the technical performance data (ADG, FCR and mortality%), dry or wet feeding system and number of sows and finishing pigs on that farm site.

These collected data was crossed with the pooled saliva (3 samples pooled per age groups) results for detection LI (in Ct), with the four corresponding age group (10, 13, 16 and older than 19 weeks of age). Statistical analysis was done by Anova test with Minitab.

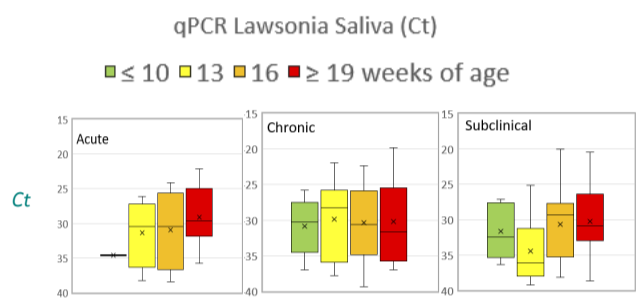
## Results

In total, 70 questionnaires and corresponding lab results were suitable for analysis. From the pooled saliva samples (n=195) analyzed, it was observed that 88,6 % of the farms had at least one positive pooled saliva sample and 82% had a Ct value below 34 (moderate load). Of the 70 farms, 21 (30%), 21 (30%) and 28 (40%) farms were classified by the attending vet as Acute, Chronic and Subclinical form, respectively. The corresponding ADG were 903<sup>a</sup>, 831<sup>b</sup> and 890<sup>a</sup> g/day, respectively; and mortality % 2,4<sup>a</sup>, 2,7<sup>a</sup> and 1,8<sup>b</sup> (different superscript p<0,05). For FCR not enough data was present (n=16). No differences in prevalence of clinical forms of Ileitis were found between dry or wet feeding system.

Graph 1 Box-Whisker plot for ADG and mortality for the corresponding clinical form of Ileitis



Graph 2: qPCR *Lawsonia Saliva Ct* for the positive samples by age group for respectively Acute - Chronic - Subclinical Ileitis



## Discussion and conclusion

LI is highly present on Dutch finishing farms. Significant differences in ADG were seen on farms presenting chronic vs acute and subclinical form of Ileitis. High bacterial load (Ct<30) was detected on all 3 different forms of ileitis, in all age groups from 13 weeks and older, even in the absence of clinical signs or before the onset of clinical signs in case of acute ileitis. Creating awareness about the impact of *Lawsonia intracellularis* to a pig herd and as next step the control of Ileitis can result in higher technical performance of finishing pigs and better economical result<sup>3,4</sup>.

1. Jacobson. *Vet J* 2010, 184:264-268
2. Wertenbroek *ESPHM 2022- BBD-PP-39*
3. Leth Musse, *Prev. Vet Med* 212 (2023) 105837
4. Wertenbroek *ESPHM 2023-BBD-PP-23*