Real-time PCR testing for Porcine Circovirus Type 2 and Lawsonia intracellularis to assess diarrhoea status

**Introduction**

Real-time PCR tests have been developed to detect and quantify Porcine Circovirus type 2 (PCV2) and Lawsonia intracellularis in pigs' faeces. Pooling of individual faecal samples is often used to reduce the costs of diagnostic testing. The objective of this study was to determine the association between quantities of PCV2 and L. intracellularis in pooled faecal samples and diarrhoea in pigs. Materials and Methods

Forty individual faecal samples were collected from grower (>10 weeks) pigs on five farms in Denmark. Each pig was described as having diarrhoea +/-.

Eighteen individual "diarrhoea" and 18 "non-diarrhoea" samples were randomly selected from each farm. Six “diarrhoea" and six “non-diarrhoea" pooled samples were made by combining three individual “diarrhoea/non-diarrhoea" samples. Individual and pooled samples were tested using real-time PCR specific for PCV2 and L. intracellularis. The associations between diarrhoea (+/-) and pooled faecal PCV2 and L. intracellularis quantity were analysed using logistic regression (Stata/IC 11.1).

Results

Low quantities of L. intracellularis were detected in six non-diarrhoeic pigs. There was no association between PCV2 or L. intracellularis quantity in pooled faecal samples and diarrhoea (p>0.05). However, when moderate/massive categories for L. intracellularis were combined, there was a tendency toward significance (OR=4.9; 95% CI 0.9 26.0). Conclusions

PCV2 was not associated with diarrhoea in pigs on the five farms studied. Our results suggest that the quantity of L. intracellularis in pooled faecal samples may reflect diarrhoea status, however further research in this area is required. Subclinically-affected pigs shed low quantities of L. intracellularis.