

## **BBD-PP-30**

### **TITLE**

QUESTIONABLE DIAGNOSTIC VALUE OF CLOSTRIDIUM DIFFICILE TOXIN DETECTION IN NEW-BORN PIGLETS

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### **CONTENT**

**Introduction:** Clostridium difficile (CD) is claimed to be a common cause of diarrhoea in young piglets. Since the bacterium also is present in healthy pigs, the diagnosis is recommended to be based on detection of CD-toxins. The aim of this study was to investigate the presence of toxin-producing CD and free CD-toxin in faecal samples from healthy piglets.

**Material and methods:** Rectal swabs and faecal samples were collected from 25 neonatal piglets (<1-week-old) from five different herds, with no recent history of neonatal diarrhea. The presence of CD-antigen and toxins in stool was investigated with the C. diff quik chek complete test (CDqc). Rectal swabs were cultured anaerobically on selective agar (CCFAT) for 48-96h. Also, spore enrichment culture was performed. Species confirmation was performed by MALDI TOF and presence of CD-toxin (tcdA, tcdB) by CDqc and toxin genes by qPCR.

**Results:** 19 pigs were positive for the presence of CD-antigen in stool by CDqc; three piglets were clearly positive for CD-toxins and another three showed weak positive signals. On direct culture, nine pigs displayed moderate to profuse growth, seven sparse growth, whereas nine were negative for CD. Following enrichment and spore selection, CD could be detected in 21 pigs. All in all, 31 isolates of CD were obtained. At least one isolate from all piglets possessed the toxin genes and produced toxin as assessed by qPCR and CDqc respectively.

**Discussion & Conclusion:** The presence of toxin-producing CD from healthy piglet from all five farms investigated, and the finding of free toxins in faeces of healthy neonatal piglets questions the diagnostic value of CD-toxin detection in neonatal piglets. Considering the extent of the problem with neonatal diarrhoeas in the pig industry globally, the need for improved diagnostics and guidelines for diagnosing CD-infection in piglets is urgent.