

RES-OP-02

**OCCURRENCE OF DYSENTERY-LIKE DIARRHEA ASSOCIATED WITH *BRACHYSPIRA SUANATINA* INFECTION IN A GERMAN FATTENING FARM**

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**Introduction**

The anaerobic intestinal spirochaete *Brachyspira (B.) suanatina* was first described in 2007 in Scandinavia and swine dysentery-like disease was attributed to the isolates investigated. However, since then no further isolates have been reported from pigs. Accordingly, when the species was validly published in 2016 the overall occurrence and clinical relevance in pigs were unknown.

**Materials and Methods**

In a 1400 head fattening farm in Southern Germany mucohaemorrhagic diarrhea was observed in 70-80% pigs mid of fattening. Feed consumption was compromised in affected pigs for up to one week. Within two weeks diarrhea spread to other barns affecting 60 % of the finisher pigs. A diagnostic workup including *Brachyspira* and *Salmonella* culture, *Lawsonia intracellularis*-, *B. hyodysenteriae*- and *B. pilosicoli*-specific multiplex PCR and necropsy of five severely affected pigs was performed.

**Results**

Tests for *Salmonella* spp., *Lawsonia intracellularis* and *B. hyodysenteriae* were all negative. Gross and microscopic lesions were in agreement with dysentery and spirochaetes could be demonstrated by silver staining in tissue samples of the caecum at the ileal papilla. *B. suanatina* was cultured

from faeces or colon of all animals and identified using *nox*-RFLP, partial *nox*-gene-sequencing and MALDI-TOF. Partial *nox*-gene sequencing revealed 99-100% identity with *B. suanatina* type strain AN4859/03. An isolated was tested susceptible to tiamulin and clinical signs resolved due to antibiotic treatment. Interestingly, the *B. suanatina* isolate produced a positive result in a *nox*-gene based PCR allegedly specific for *B. hyodysenteriae*.

### **Discussion and Conclusion**

This is the first report on *B. suanatina* infection in pigs outside Scandinavia. The current case illustrates its potential to cause farm scale outbreaks of diarrhea with clinical signs and pathological lesions indistinguishable from swine dysentery. Furthermore the results of the present study highlight the importance of adequate diagnostic tools that are a prerequisite for monitoring and controlling of *Brachyspira* associated diseases.