



Bacterial investigations on the aetiology of pig neonatal diarrhoea cases in Germany in 2023

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Background and Objectives

Neonatal diarrhoea (ND) can cause high economic losses (suckling piglet mortality, reduced ADG). The aim of the presented work is to give an update on the most common pathogens in fecal samples of suckling piglets with ND in German farms in 2023.

Material and Methods

From 94 farms 427 samples (pooled samples – up to five clinically affected piglets/litter) were sent in. All samples were subjected to bacteriological isolation on specific medias. Furthermore, 107 samples from 90 farms were tested by real-time multiplex PCR (mPCR) for the detection of rotavirus A/C and 39 samples of 21 farms were examined for presence of *Cystoisospora suis* (*C. suis*) by PCR. *E. coli* and *C. perfringens* isolates were further typed by mPCR for presence of virulence genes.

Results

52.8 % (n = 299) isolates were *E. coli* (59.2 % highly, 39.8 % moderately positive; 28.8 % (n = 69) haemolytic). ETEC was most frequently isolated (12.5 % (n = 32)), followed by EPEC (5.1 % (n = 11)) and NTEC (8.2 % (n = 21)) (Fig. 1). 32.3 % (n = 183) isolates were *C. perfringens* (35.0 % highly, 59.6 % moderately positive) and 14.8 % (n = 84) *C. difficile* (Fig. 2). 346 testings (144 isolates; 202 feces, instestine or swabs) for presence of *C. perfringens* specific toxins by mPCR were performed. Typing revealed 95.4 % (n = 300) CPA with β 2-toxin, 4.4 % (n = 14) CPA and 0.3 % (n = 1) CPC (Fig. 3). 70.0 % of the samples were positive for rotavirus A and 24.4 % for group C. Of 21 examined farms 33.3 % (n = 7) were tested *C. suis* positive.

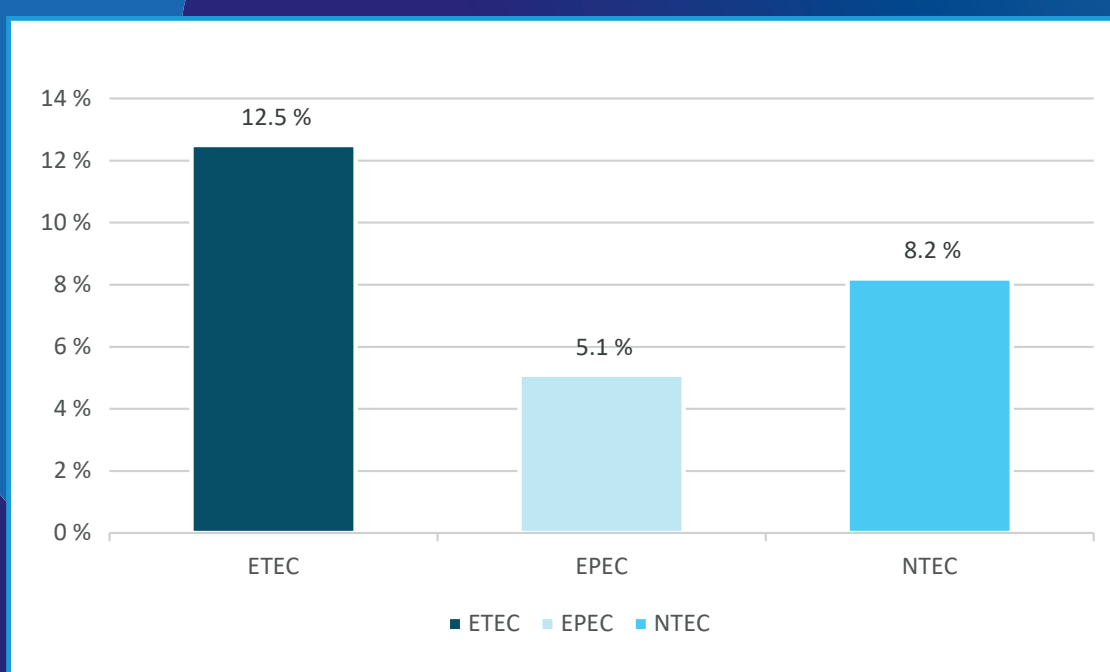


Figure 1:
Distribution of *E. coli* pathotypes (n = 257).

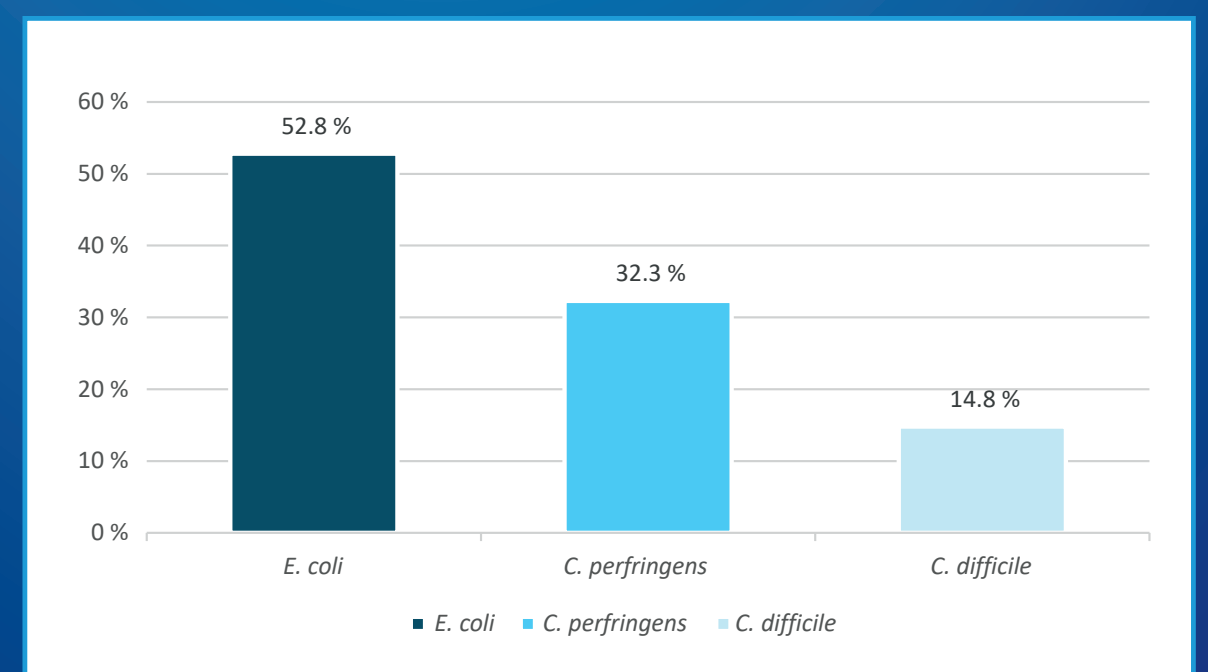


Figure 2:
Detected bacterial pathogens in 427 samples of 94 farms.

Discussion and Conclusion

This study demonstrates *E. coli* is mainly involved in ND, followed by rotavirus A and *C. perfringens*, in particular CPA with β 2-toxin. Also, the data indicates, that the involvement of *C. suis* still plays an important role in suckling piglet diarrhoea.

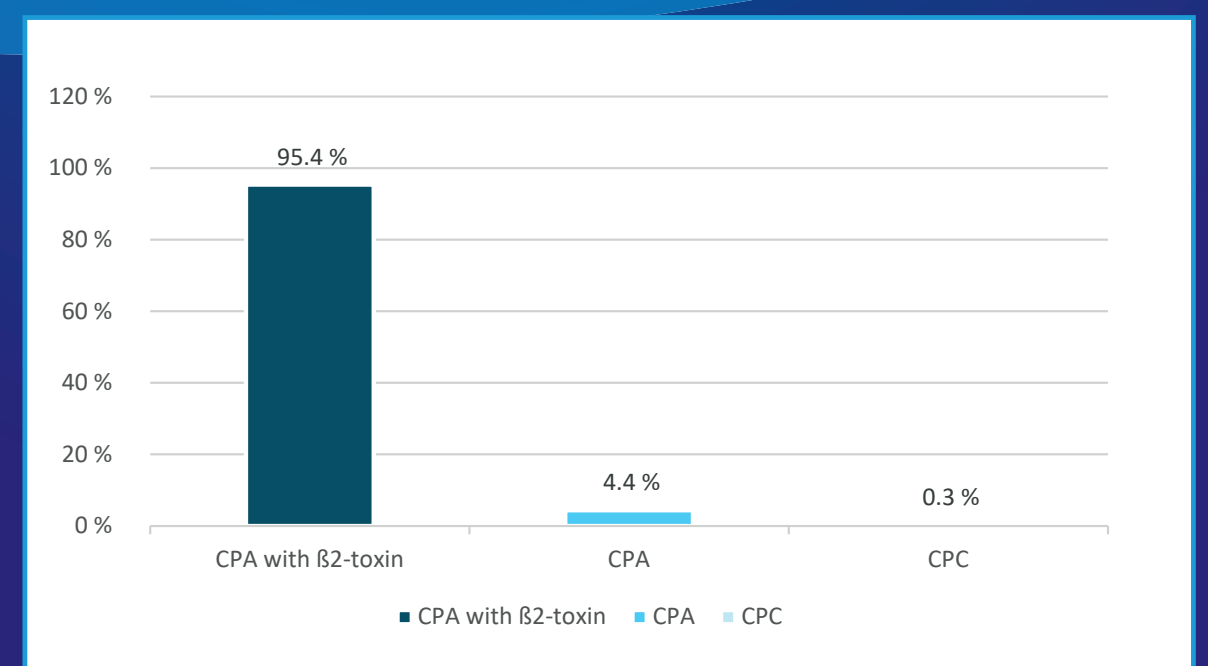


Figure 3:
Types of detected *C. perfringens* (n = 346) by mPCR.