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A CLINICAL APPROACH ON RESOLVING A PROBLEM OF NEW NEONATAL PORCINE DIARRHEA SYNDROME IN A FARROW-TO-FINISH HERD

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Introduction

New neonatal porcine diarrhea syndrome (NNPDS) frequently occurs in pig herds. The exact pathogenesis remains unknown, but the intestinal tract microbiota of neonatal piglets likely plays an important role. Management ways to control NNPDS outbreaks have not been widely described so far.

Materials and methods

On January 2017, a newly established 2000-sow herd reported recurrent outbreaks of NNPDS that occurred already for six months. On average, 70 to 80% of the litters became affected across batches. Overall pre-weaning mortality rates increased from approximately 14 to 20%.

Results

Submission of 12 dead piglets and 20 rectal swabs revealed the presence of *Clostridium perfringens* type A and B, rotavirus group A and C, and non-haemolytic *Escherichia coli* isolates that differed from the classical ETEC isolates. No *E. coli* isolates with genes encoding for factors indicative of ETEC were detected by PCR (e.g. for K88, K99, 987P, F41, LT). Antimicrobial treatments and the immunization of the sows against the aforementioned pathogens did not resolve the outbreaks. Therefore, alternative control measures focused on sow feeding. Firstly, the crude protein content of the gestation sow feed was reduced by 2%. Secondly, the percentage of meal particles with a size of less than 0.3 mm was reduced by 15 to 20%, in both the lactation and gestation sow feeds. After a seven-month implementation period, the percentage of litters with diarrhea dropped to 10%, while overall pre-weaning mortality rates dropped to 11%.

Discussion and conclusions

Sow feed with increased levels of protein as well as increased percentage of fine particles may have disturbed the intestinal microbiota of the sows. As piglets are colonized at birth by microbiota from the maternal genital and intestinal tract, this might have rendered piglets susceptible to NNPDS. In the present farm, sow feed alterations were able to resolve the NNPDS outbreaks.

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