

HERD HEALTH MANAGEMENT AND ECONOMY

HHM-PP-14

NEONATAL DIARRHOEA – OCCURRENCE OF VIRAL AND BACTERIOLOGICAL PATHOGENS

A. Ullerich¹, K. Dohmann¹, K. Strutzberg-Minder¹, I. Zerbin¹, D. Sperling², F. Schmelz³

¹IVD GmbH, Innovative Veterinary Diagnostics, Seelze, Germany

²Ceva Santé Animale, 10 Avenue de la Ballastière, 33500 Libourne - France

³Ceva Santé Animale, Dessau-Rosslau, Germany

Background and Objectives

Neonatal diarrhoea causes high losses in piglet rearing. The most common pathogens known are *Escherichia coli* (*E. coli*) and *Clostridium perfringens* (*C. perfringens*) as well as rota- and coronaviruses. In this study we evaluated which diarrheal pathogens could be detected in one farm at the same time using samples from a monitoring program in different European countries in 2020.

Material and Methods

In 79 European farms fecal or ileum samples were tested for diarrheal pathogens by bacteriological culture and by PCR (Rotavirus group A and C, Porcine Epidemic Diarrhoea Virus (PEDV), Transmissible Gastroenteritis Virus (TGEV)). The isolated *E. coli* and *C. perfringens* strains were typed molecular biologically in order to determine the occurrence of virulence and toxin genes. Most of the farms were located in Germany (n=52), followed by Poland (n=12) and Denmark (n=9), The Netherlands (n=3), UK (n=2) and Austria (n=1).

Results

The most frequently found pathogens on the farms were *E. coli* (96.2%), *C. perfringens* type A (CPA) (87.3%), Rotavirus (74.7%) and *Clostridioides difficile* (46.8%). PEDV was detected in 2 farms only, TGEV in none. Based on the presence of virulence-associated factors and the toxin gene patterns the *E. coli* isolates were classified into virulent or potentially virulent strains. Virulent or potentially virulent *E. coli* isolates were found in 78.9% (n=60) of the farms, CPA with $\beta 2$ toxin gene in 81.0% (n=64). *C. perfringens* isolates type C were not found at all. All 4 pathogens were found in 24.1% (n=19) of the farms simultaneously. The combination of 3 different pathogens occurred in 39.2% of the farms. *E. coli* as the most frequently found pathogen occurred mainly in combination with CPA with $\beta 2$ toxin gene (64.6%) or rotaviruses (64.6%).

Discussion and Conclusion

This study shows that neonatal diarrhoea in pigs rarely has a monocausal etiology. This should be considered with regard to prophylactic and therapeutical measures.