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VACCINATION WITH A LIVE BIVALENT *E. COLI* F4/F18 VACCINE SIGNIFICANTLY IMPACTS ANTIBIOTIC USE DURING THE NURSERY PERIOD

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Introduction

Post-weaning *Escherichia coli* diarrhea (PWD) remains a major cause of economic losses for the pig industry. PWD, caused by enterotoxigenic *E. coli* (ETEC), typically provokes mild to severe watery diarrhea (5-10 days post-weaning). Most common adhesins on ETEC from PWD are the fimbriae F4 (previously called K88) and F18. Therapy to combat PWD typically consists of antibiotic treatment in combination with high doses of ZnO (3000 ppm). An oral live bivalent *E. coli* F4/ F18 vaccine (Coliprotec® F4/F18; Prevtec Microbia) is available on the European market, which reduces the impact of PWD provoked by F4-ETEC and F18-ETEC. The objective was to compare technical results of *E. coli* F4/F18 vaccination with previous standard therapeutic approach under field conditions.

Materials & methods

A 250-sow farm (weaning at 25 days) with diagnosed problems of PWD due to F18-ETEC was selected. Piglets were vaccinated at 20 days with the oral live bivalent *E. coli* F4/ F18 vaccine. At weaning, no standard group (colistin) medication was applied for prevention of PWD. Several performance parameters were collected before (n = 900 piglets) and after implementation of the vaccination (n = 1200): time in nursery, mortality and medication use (TI_{100}) in piglets.

Results

Oral *E. coli* F4/F18 vaccination decreased TI_{100} by 95% for comparable number of days in nursery. Production parameters were identical before and after the switch to the oral *E. coli* F4/F18 vaccination. Mortality rate was also similar but was low (1%) both before and after vaccination.

Conclusions

The results show that live *E. coli* F4/F18 vaccination against PWD has led to similar technical performance parameters, in combination with a significant reduction in medication use. In conclusion, control of PWD through vaccination under field conditions is a good option to prevent piglets from the negative clinical outcomes of post-weaning F18-ETEC infection.