BBD-075

VACCINATION WITH A LIVE BIVALENT *E. COLI* F4/F18 VACCINE PREVENTS F4-ETEC POST-WEANING DIARRHEA AND REDUCES ANTIBIOTIC USE

F. Vangroenweghe [1], J. Vrielinck [2].

[1] *Elanco Animal Health, Antwerpen, Belgium;* [2] *DAP Vrielinck, Boezinge, Belgium.*

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 between 5 and 10 days after weaning. Most common adhesins on ETEC from PWD are the fimbriae F4 (previously called K88) and F18. An oral live bivalent *E. coli* F4/F18 vaccine (Coliprotec® F4/F18; Prevtec Microbia) is available, 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.

Materials & methods

A 250- sow farm (weaning at 25 days) with diagnosed problems of PWD due to F4-ETEC was selected. Piglets were vaccinated at 20 days with the oral live bivalent *E. coli* F4/ F18 vaccine. At weaning, no standard group medication (ZnO and/or colistin) was applied for prevention of PWD. Piglets were fed a farm-prepared mixed liquid feed formula. Several performance parameters were collected before and after implementation of the vaccination: pen weight at days 0 and 42, mortality, ADG and use of colistin (TI_{100}).

Results

Oral *E. coli* F4/F18 vaccination significantly decreased TI_{100} colistine from 16.7 to 0.0 ($P<0.05$) for all monitored groups after vaccination. Furthermore, contrary to batches before the implementation of the vaccination, no ZnO was used during the post-weaning period. Production parameters were comparable before and after the switch to the oral *E. coli* F4/F18 vaccination.

Discussion & 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 the 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 F4-ETEC infection.