

# Implementation of Coliprotec® F4/F18 and a new feed program in a French farrow-to-finish farm to control post-weaning diarrhea and improve performances

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## INTRODUCTION

Coliprotec® F4/F18 is a live non-pathogenic *E. coli* vaccine for active immunization of pigs against F4-Enterotoxigenic *E. coli* (ETEC) and F18-ETEC. This study describes the implementation of Coliprotec® F4/F18 and a feed program having an increased protein contents to control post-weaning diarrhea (PWD) and improve performances in the nursery.

## MATERIALS AND METHODS

This study reports on a French 540-sow farrow-to-finish farm with a 10 batches management system weaning at 21 days of age. Piglets showed PWD and laboratory analysis identified a F4-ETEC. For two consecutive batches, piglets were divided in two groups. Control groups followed the standard protocol of the farm with PWD-specific antibiotic treatments based on colistin and trimethoprim + sulfadiazin while vaccinated groups were drenched in the farrowing unit with Coliprotec® F4/F18 at 18 days of age (Picture 1). During the nursery, vaccinated groups were fed with a pre-starter and a starter feed containing an extra protein content of +1.57% and +1.06%, respectively (Table 1). For each group, mortality, average daily gain (ADG), feed conversion rate (FCR) and antibiotic treatments were recorded during the nursery. No statistical analysis was done.

## RESULTS – Table 2

- Following vaccination, PWD-specific antibiotic treatments were not required for vaccinated groups.
- Nursery average mortality was 0.5% and 0.9% for control and vaccinated groups, respectively.
- Nursery ADG was 392 and 404 g/day for control and vaccinated groups, respectively. For light piglets at weaning (weight below 4.7 kg), ADG was 356 and 379 g/day for control and vaccinated groups, respectively.
- Nursery FCR was 1.52 and 1.51 for control groups and vaccinated groups, respectively.

## DISCUSSION AND CONCLUSIONS

The vaccinated pigs did not need PWD-specific antibiotic treatments. Vaccination improved nursery ADG by 12 g/day, reaching +23 g/day for light piglets at weaning (weaning weight below 4.7 kg). Vaccination also allowed to move to a feed program having an increased protein contents in the nursery without occurrence of PWD.

**Picture 1.** Vaccination using a drench gun at 18 days of age in the farrowing unit.



**Table 1.** Feed program for control groups and vaccinated groups.

		Feed program for control groups	Feed program for vaccinated groups
Pre-starter	Protein content (%)	17.22	18.79
	Lysine (g/kg)	13.96	15.08
	Fat content (%)	6.70	6.69
	Net energy (MJ/kg)	10.73	10.61
Starter	Protein content (%)	17.73	18.79
	Lysine (g/kg)	12.52	13.24
	Fat content (%)	3.36	3.30
	Net energy (MJ/kg)	9.70	9.61

**Table 2.** Results of mortality, ADG and FCR for control groups and vaccinated groups.

	Control groups	Vaccinated Groups
Number of weaned piglets	588	586
Number of piglets entered in finishing	585	581
Mortality (%)	0.5	0.9
ADG (g/day)	392	404
ADG for light piglets (weaning weight < 4.7 kg, g/day)	356	379
Quantity of pre-starter (kg)	8.9	8.7
Quantity of starter (kg)	18.9	19.7
FCR	1.516	1.510