

# Evaluation of alternatives to in-feed medication in the prevention and control of post-weaning pig diarrhea

Opas and Suivet Research -

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## Background and objectives

Post-weaning diarrhea is one of the most common health challenges for post-weaning piglets. This challenge was classically being prevented or controlled by using in-feed medication or using medicated levels of zinc oxide (ZnO). Because of animal welfare, sustainability and legislation the industry needs to find ways to manage this challenge without in-feed medication or medicated levels of ZnO. This study was set up to evaluate an alternative feeding strategy (Milkiwean Vital Start) next to a classical in-feed medication approach.

## Material and Method

The trial was performed in North-Italy and contained 80, 4-week old weaned piglets which were randomly appointed to 2 treatment groups (4pens/treatment; 10 piglets/pen; piglet = experimental unit) divided over 2 identical units within the same stable. Piglets were offered *ad libitum* dry feed in troughs. Water was available *ad libitum* via nipples. The control (CON) was offered a standard commercial diet including in-feed medication (apramycine) to control post-weaning diarrhea, whereas the treatment group (TRT) was offered an alternative feed, based on a Milkiwean Vital Start concentrate, without any in-feed medication.

The trial lasted 18 days post-weaning and animals were monitored for weight, presence of diarrhea, mortality and need for treatment (antimicrobial injection in clinically diseased piglets). The data were analysed in SAS, using mixed models for weight and a glimmix model for diarrhea. Data are shown as average  $\pm$  s.e.m.

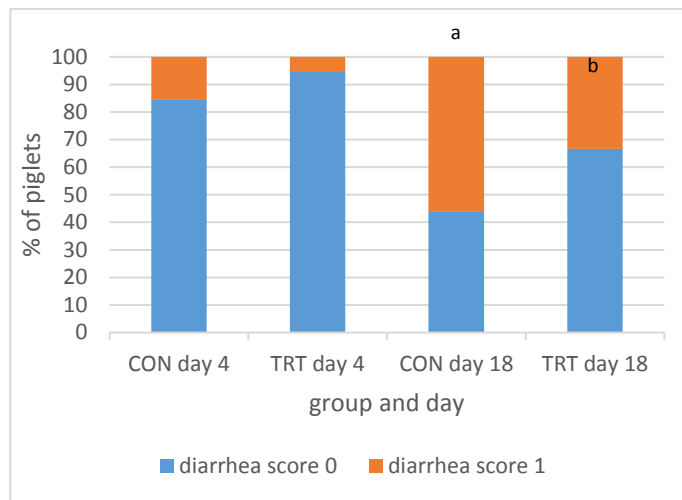


Fig 1. % of piglets without or with diarrhea (resp. score 0 and 1) at day 4 and 18 post-weaning.

## Results

Piglet weight was similar at day 4 (CON =  $8.2 \pm 0.2$  kg, TRT =  $8.0 \pm 0.2$  kg;  $P = 0.41$ ) and at day 18 (CON =  $10.3 \pm 0.3$  kg, TRT =  $10.1 \pm 0.3$  kg;  $P = 0.53$ ). Percentage of piglets experiencing diarrhea was numerically higher in CON (16.6 vs 5.1%,  $P=0.16$ ) at day 4, and day 18 (56.3 vs 33.3%,  $P=0.06$ ) (Fig 1). Mortality was absent in TRT, whereas 4 piglets died in CON. The % of animals needed additional treatment enrofloxacin (CON = 43.6%, TRT = 37.0%) and amoxicilline (CON = 10.6%, TRT = 10.6%) was comparable between groups. Total cost of treatments (in-feed + additional treatments) was 7.8 times higher in CON.

## Conclusion and discussion

This trial shows that the Milkiwean Vital Start is a feeding strategy that, compared to a medicated feed, reaches similar performance while at least maintaining post-weaning piglet health, reducing mortality and lowering the treatment cost during the immediate post-weaning period.