

Simultaneous replacement of ZnO and antibiotics with a natural non-antibiotic growth promoter (Lumance®) to prevent PWD and maintain performance in pigs in field conditions in Spain

M. Sevastiyanova*, C. Gougoulis*, A. Khadem*†. *Innovad NV/SA, Cogels Osylei 33, 2600 Berchem, Belgium

†Laboratory of Animal Nutrition, Faculty of Veterinary Medicine, Ghent University, Heidestraat 19, 9820 Merelbeke, Belgium

Background and objectives

Antibiotics and pharmacological levels of ZnO are common recommendations for prevention of PWD and improvement of growth performance in farms (1). The EC has scheduled a ban on ZnO as of 2022 and increasing incidence of AMR requires restrictive and prudent use (2). This study investigated the effectiveness of an in-feed complex alternative formula of esterified butyrins, medium chain fatty acids, plant extracts and essential oils (Lumance®, Innovad, Belgium) on PWD incidence, ADWG and FCR in growing pigs, weaned without ZnO and antibiotics on real farm conditions in Spain.

Material and methods

Set-up: On-farm swine integrator in Lleida, Spain. Eighty (80) pigs (40 males/40 females), weaned at D21 allocated in two groups on a random principal.

Control group: Regular pre-starter and starter feed supplemented with ZnO (D21-D42: 2500 ppm and from D43 until the end of the growing period: 1500 ppm) and neomycin (D21 - D42: 150 ppm) whereas, the trial group received no ZnO and neomycin and was supplemented with 4 kg/T Lumance®.

The average BW of the pigs at weaning was 5.836 kg and 5.897 kg for the Control and trial groups, respectively. The trial period was from D21 until transfer to the fattening stage.

Parameters followed: growth performance, ADWG, incidence of diarrhea cases, mortality, feed consumption, FCR and economic evaluation.

Results

Six (6) animals in total, 5 from the control group and 1 from the Lumance® group suffered from diarrhea and were treated with injectable enrofloxacin. All animals (except one from the control group that died at D23) responded to treatment. No dead pigs from the trial group.

The pigs from the trial group exhibited significantly better performance throughout the entire trial period (P-value: 0.0014) with reported improved BW (19.33 kg vs. 18.77 kg) and FCR (1.275 vs. 1.357). The increase of cost at 0.403 € / animal in Lumance® (4 kg/T) was offset by improvement in the overall productive parameters.

Since then, Lumance® has been implemented as the regular program to completely replace ZnO and Neomycin for the whole production of pigs in this and other integrators, totalling ~10 million pigs in Spain (supplemented at a lower dose 3 kg/T).

Conclusion and discussion

Lumance® has proved until now a highly effective program for simultaneous replacement of both ZnO and Neomycin used traditionally to prevent post-weaning diarrhea in real large-scale farming conditions in Spain, whilst improving the performance parameters of the treated animals.

References

- (1) Gesellschaft für Ernährungsphysiologie der Haustiere. Ausschuss für Bedarfsnormen. 2006. Energie- und Nährstoffbedarf landwirtschaftlicher Nutztiere, vol 4. Empfehlungen zur Energie- und Nährstoffversorgung der Schweine, 10th ed. DLG-Verlag, Frankfurt am Main, Germany.
- (2) Vahjen et al, High dietary zinc supplementation increases the occurrence of tetracycline and sulfonamide resistance genes in the intestine of weaned pigs. *Gut Pat*