

Different Feeds Trialled as Zinc Oxide Alternatives

Point of production: Breeding and Growing
Country of origin: Belgium



Zinc oxide is used in many countries throughout Europe, for prevention of post-weaning diarrhoea and oedema disease in weaned piglets. Adversely, the application of high doses of zinc oxide affects microbial composition that can lead to lasting effects during the development of the intestinal microbiota, while also being considered an environmental pollutant and therefore a health hazard. The European Commission is phasing out the therapeutic use of zinc oxide and therefore it is necessary to look for alternatives.

The solution - Best practice

The farm: Kris Gios' farm, in Oosterhoven, Belgium has been antibiotic-free since 2012. Up until September 2017, a feed containing 2000 ppm of zinc oxide was routinely used, to prevent weaning diarrhoea and improve the intestinal health of his herd.

The system: Kris asked his feed company to come up with an alternative diet excluding zinc oxide. The suggestion was to include a combination of herbs, including oregano, at the following rates:

- Seven days prior to weaning to seven days post weaning = 3mg herbs/kg feed
- Seven days post weaning to day 28 post weaning = 1.5mg herbs/kg feed

Kris also trialled the inclusion of inert fibres in standard feed in an attempt to calm the intestine.

Three groups of piglets were kept within the same barn. Each group was fed a different diet (either standard, herb-based or inert fibre) and weighed daily. Feed intake was monitored and growth and feed conversion were calculated, along with the % saving (€/pig) across production.

	Price, €/Tonne	Daily Live Weight Gain	FCR	Piglet Mortality	Cost at 25kg, €/pig	Total cost, €/slaughter	Total saving €/pig (%) – compared to InterPig BE (2017)
InterPig (average)	370	362	1.75	4%	53.86	1.431	-
Herbs	378.7	416	1.58	2%	52.2	1.429	3.1
Inert fibres	400	382	1.55	2%	52.57	1.42	0.1



Kris Gios



Piglets are weighed daily

Cost/Benefit analysis

Benefits:

- ✓ A better average daily gain, feed conversion rate and reduced weaner mortality rate was observed when feeding herbs
- ✓ The mortality rate of weaners fed inert fibres declined in line with the herb diet
- ✓ The overall effect of these technical improvements resulted in a reduction in production costs of 2.4%

Costs:

- The price of including herbs in feed was 2.3% higher than the standard diet

Additional information

The performance effects of the inclusion of herbs or inert fibres in place of zinc oxide need further investigation, however, this case study certainly highlights the potential of alternative feedstuffs as a method to remove zinc oxide from diets.

At Kris' farm, the feed has been used for three months to positive effect and the farm remains antibiotic-free. High doses of zinc oxide have been eliminated, without sacrificing the health status of the farm.

Further Research & Project Links

<https://www.eupig.eu/>
Link to technical report
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