

Fermenting Liquid Feed - An Alternative to Zinc Oxide

Point of Production: Sow farm and finishing
Country of Origin: The Netherlands



Cost/Benefit Analysis

Benefits:

- ✓ Sow mortality was reduced by 33%, pre-weaning mortality by 15%, rearing mortality by 24% and finishing pig mortality by 17%.
- ✓ Reduction in production costs of pig meat by 3.3%.
- ✓ A 5% reduction in the average cost of feed.
- ✓ A 30-50% decline in veterinary and medicine costs.
- ✓ Production costs are reduced by up to €2.70 per pig space.
- ✓ Up to 80% antibiotic reduction.
- ✓ 25% reduction in phosphorus and nitrogen in the diet.
- ✓ Sows wean half a piglet more per litter.
- ✓ Litter weight at 24 days are 0.5 kg heavier.
- ✓ Feed is more palatable and consistent in quality.

Costs:

- The energy costs for heating and administrating the feed will increase by 3% for sows and 5% for finishing pigs.
- Investment costs are approximately €16 per pig space.

Further Research & Project Links

<https://eupig.eu/>
Link to technical report
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Zinc oxide is commonly used across Europe in pig diets to prevent post-weaning diarrhoea. However, high levels can have adverse effects on pig performance and on the environment.

Therefore, the EU has banned the use of medical zinc oxide from 2022. This, combined with the increased demand for a reduction in antibiotic use, drastically increases the need for the pig industry to find alternatives to help prevent intestinal disorders.

The Solution - Best Practice

The Van Asten group in the Netherlands set out to improve the gut health of sows, piglets and fattening pigs and reduce antibiotic and zinc oxide use. Across a period of three years they introduced fermented liquid feeding and initially saw a reduction in antibiotic use of 50%.

Equipment and feed lines are cleaned with 70°C water for sterilization. Feed raw material is also mixed in 70°C water to kill all bacteria present. After mixing, cooler water and liquid active bacteria are added to reduce the temperature and secure fast growth. Temperature and cleanliness are important to obtain good lactic acid values and low acetic acid. The lactic acid metabolizes anti-nutritional factors (ANF) and difficult digestible starch; this acts as a probiotic and lowers the pH to reduce the risk of bacteria. Fermented liquid feed helps to stabilise the environment in the pig's intestines and improves growth rates. For maximum effect, it is fed together with a wheat barley mixture and plant-based proteins.

Additional Information

To achieve optimal results in weaned piglets, sows should also be fed fermented liquid feed as well as pre-weaned piglets.

This system can be easily adapted and used by a person who has experience with liquid feeding systems. Enough capacity is needed to produce fermented product. Once produced, the feed can be stored in tanks for 24 hours.

The use of fermented liquid feed appears to be a cost effective alternative to the use of antibiotic growth promoters, as well as making use of local protein.



Van Asten Group

