Maternal feeding of oregano essential oil supports piglet performance

There is increasing pressure on the pig industry to reduce antimicrobial usage while maximising animal health and performance. Therefore, identifying sustainable alternative solutions to support sow and piglet performance is an important topic for farmers and producers.

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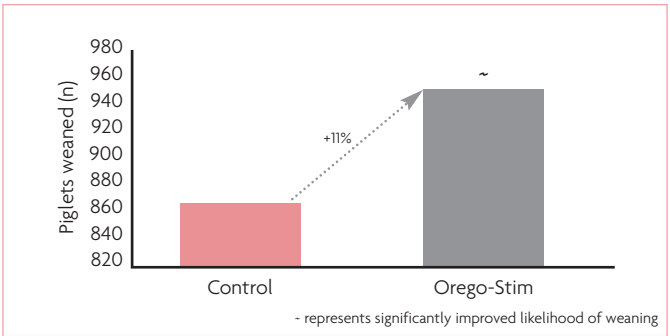


Fig. 1. Number of piglets weaned from control fed sows compared to those fed OEO (Orego-Stim, Anparo) supplemented feed (CISS, 2019).

Natural, functional feed ingredients, such as plant essential oils, have been evaluated for their potential to improve piglet gut health when fed to the sow during gestation and lactation.

Whether you are selling or finishing your piglets after weaning, ensuring they are robust and in optimum health at this time is crucial, as it has a significant impact on their lifetime performance.

Growth performance of piglets is directly linked to colostrum and milk intake. Supporting your piglets' performance by improving maternal nutrition can be an extremely successful and cost effective method to optimise piglet gut health.

Work by Hall et al., published in 2021 highlights the importance of maternal gut health on the microbial transfer to best support piglet gut health and growth performance prior to and around weaning. Since then, work has been undertaken to better understand the effects of oregano essential oil (OEO) on maternal transfer through milk.

A trial managed by Carthage Innovative Swine Solutions (CISS) in the US evaluated the efficacy of a 100% natural OEO feed additive supplemented in sow gestation and lactation diets.

Up to the point of weaning, 200 sows were fed either a basal gestation and lactation ration or the same gestation and lactation ration supplemented with OEO (Orego-Stim, Anparo).

Weaning was carried out at around 19 days of age, at which time the number of piglets weaned per litter and litter weaning weight were recorded for both groups.

The supplementation of OEO resulted in an improved performance for both the sow and her piglets. There was a reduction in removals, a 2% reduction in pre-weaning mortality and the average litter weights were significantly improved.

The number of piglets successfully weaned was 11% higher in the litters from sows fed the OEO supplemented diets (Fig. 1), and these improvements supported an impressive potential return on investment for the unit of 8:1.

In order to reduce the reliance upon antimicrobials at weaning, such as zinc oxide, pig farmers need to be able to produce more robust piglets.

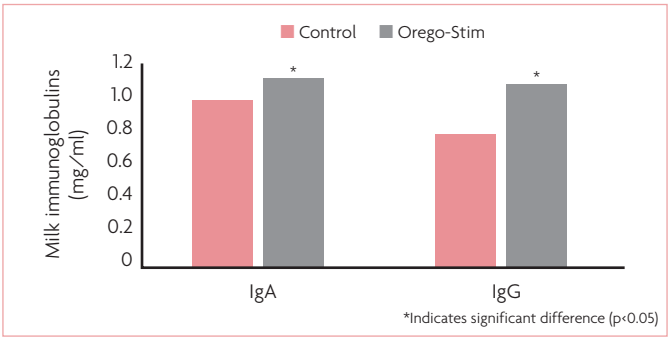
The weaning and nursery period is a critical time for developing and enhancing piglet health to ensure long term optimal performance and natural OEO feed additives, such as Orego-Stim, are an effective sustainable solution for success.

The improvements shown in the trial were likely due to improved milk and colostrum quality observed in sows fed OEO-supplemented diets. During this trial, colostrum and milk samples were collected and submitted for proximate and antibody analysis.

Immunoglobulins are specialised antibodies which are passed from the sow to her piglets through the milk. Two of the most important of these are Immunoglobulin G (IgG) and Immunoglobulin A (IgA), both of which are fundamental for piglet gut health and innate immunity.

Analysis showed that colostrum samples from OEO supplemented sows had a 26% greater IgA content and that in the milk, both IgA and IgG levels were significantly greater (Fig. 2). Higher levels of colostrum and milk antibodies would provide better support for the gut health of these piglets and could have been a driving factor in the improvements seen in their health and performance during this trial.

Fig. 2. Milk immunoglobulin content (mg/ml) in samples from control fed sows compared to OEO (Orego-Stim, Anparo) supplemented sows (CISS, 2019).



The trial concluded that OEO supplementation can support improved sow lactation performance, leading to an increased number of healthy, robust piglets weaned per sow. Improving health, particularly prior to and around the time of weaning, can have a significant effect on lifetime performance and medication requirements within the herd.

Previous findings have shown that dietary supplementation of oregano essential oil can decrease oxidative stress in sows and improve piglet health, and lifetime growth performance. These new trials show that driving piglet performance through improved maternal nutrition is a cost-effective way to maximise the health of growing piglets.

Oregano essential oil contains over 100 active compounds and is well documented to provide a wide range of benefits. Carvacrol and thymol are two such compounds and these have been shown to demonstrate both antimicrobial and antioxidant functions in the animal and play a role in appetite enhancement.

Utilising a natural oil, which is produced to a consistent, high standard, helps to ensure all compounds are in balance and so the benefits seen from using natural OEO are more comprehensive.

100% natural OEO feed supplements, such as Orego-Stim, are available as a powder, liquid, or to top dress on daily sow rations, which enables greater flexibility of application for pig producers.

OEO has been shown to benefit the sow and her progeny, helping to support the production of quality piglets through both maternal feeding and when fed directly to the piglet to support performance during periods of stress, such as weaning. ■

References are available from the author on request