Wood-based feed solutions for piglets' post-weaning period

Weaning is one of the most critical periods in a pig's life. Using wood-based nutritional solutions will support piglets during the challenging post-weaning period.

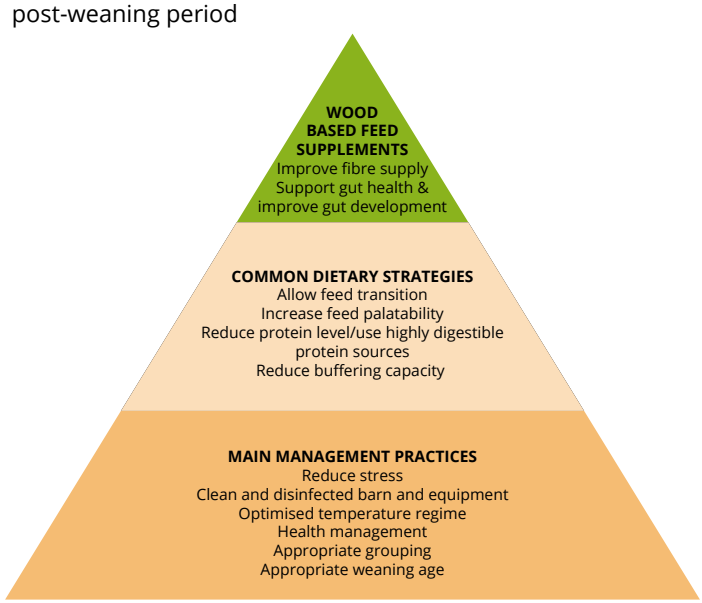
BY DR CHRISTINE POTTHAST, RND DIRECTOR AGROMED AUSTRIA GMBH

For a long time, post-weaning diarrhoea (PWD) has been addressed by the prophylactical use of antibiotics (antibiotic growth promotors; AGP) as well as zinc oxide (ZnO) at high doses (therapeutic levels). In addition, both were used to enhance growth performance and thus feed efficiency in weaning piglets. AGPs were banned in the European Union by 2006 and more and more countries worldwide aim to reduce or ban them.

High doses of ZnO are purported to have a wide variety of benefits and modes of action, making it difficult to interpret what is the precise mechanism for its efficacy.

Although using ZnO in piglet diets is highly effective, weighing up the positive with the negative effects led to the decision, that from June 2022, pharmacological doses of ZnO are no longer authorised in the European Union. Such a ban or reduction is also being discussed in other countries worldwide. So, novel strategies to avoid PWD during the weaning period are needed.

Figure 1 – Holistic approach by main management practices and nutritional strategies to support piglets in the post-weaning period



Alternatives to support piglets post weaning

It is a misconception that there is just one strategy or feed additive that can be considered to be the only true alternative to high ZnO dosages or AGPs. Many products containing diverse active components such as essential oils, pre- and probiotics, organic acids and others, alone or in combination are recommended. Their use requires as prerequisites general management measures such as hygiene and stress reduction, and dietary adjustments such as a balanced supply of fibre, the use of highly digestible protein sources and the avoidance of protein oversupply.

Wood-based nutritional solutions

Just as PWD is influenced by many factors, solutions also need to be considered at different levels, resulting in a conceptual approach targeting the different problem areas. A new approach is "wood for the future" (agromed Austria GmbH, Austria), a conceptual approach using wood-based nutritional solutions that support the piglet's performance and welfare as well as farm profits, subject to the general management and nutritional prerequisites being met. These practices are the main adjusting screws, and the basis for later fine-tuning by adding wood-based feed supplements (*Figure 1*).

Pyramidal approach based on wood nutritional solutions

The measures described above, including improvements in nutrition, housing and health management can effec-

PHOTO: KOOS GROENEWOLD

The included wood-based feed solutions offer new opportunities to support the gut health management.

tively reduce the adverse effects of weaning stress, but nonetheless, weaning remains a major challenge.

The young animal must overcome this stressful period and the related health risks and, additionally, needs to have optimal gut development – assuring high nutrient absorption as well as an optimal gut immune function.

The mentioned dietary and management practices may reduce the negative consequences for piglets to a certain degree but will never eliminate them completely – we still must compensate for the fact that the weaned piglet has an immature gastrointestinal tract (GIT) and immune function.

Also, under commercial conditions, operational factors will determine the level of health challenges – and consequently the level of necessary intervention (*Figure 2*). A low health challenge in this case means that all management and dietary prerequisites are fulfilled. The medium level assumes there are remaining challenges after adjusting management and dietary practices while with a high health challenge the general conditions on the farm hamper any improvement in management strategies.

Farms with low levels of endemic diseases and good levels of biosecurity – visible in low levels of morbidity and mortality – will profit from a basic wood-based nutritional solution that can be very effective for gut development and animal performance.

Prepare, support and protect

The basic level of piglet support is the supplementation of the pre-starter and starter diets with eubiotic lignocellulose (OptiCell; agromed Austria GmbH). This will effectively promote the development of physiological conditions in the gut as the basis for optimal gut health and structure to avoid early onset of gastro-intestinal dysfunction and its life-long negative consequences.

Weaning results in impaired gut structure and function, promoting non-visible subclinical inflammation, affecting the performance and well-being of the piglet. The selected range of wood nutrition solutions is supported by a wood-based feed supplement (agromed ROI; agromed Austria GmbH). This product is a phytonutrient containing active ingredients derived from wood (wood lignans) that support the animal against the negative effects of inflammation and intestinal stress and thus promote growth, as the maximum amount of energy and nutrients will be available, which leads to improved performance and feed conversion ratios.

Where there is a high level of health challenge – due to high pathogenic pressure, inappropriate housing conditions or continuous mixing of piglets with different origins – in the past therapeutically levels of ZnO may partially have countered the resulting PWD and related negative effects.

A second wood-based feed supplement (agromed protect; agromed Austria GmbH) may support the piglet. Its active ingredients (wood lignans and wood phenolic acids) are known to prevent diarrhoea, reduce the rate and severity of diarrhoea while protecting gut integrity – thus promoting growth and profitability.

A pyramidal approach including wood-based feed solutions offers new but well explained opportunities to support gut health management and to act as a sustainable answer in terms of animal nutrition and animal welfare. These solutions offer specific opportunities to overcome the problems experienced by post-weaned piglets.

Figure 2 – Pyramidal approach – different level of piglet's health challenges and possibilities to intervene with agromed's wood based nutritional solutions