Balancing the microbiome: the key issue for the highest profit

Livestock rearing – including the pig industry – is facing its highest challenges all over the world affected by the disruption in the feed supply. Climate change results in unpredictable fluctuations in the weather conditions, which more recently brought extreme drought to Europe and ruined crops.

As a consequence – besides the increased prices – the quality of the available feed will also be lower than expected.

by the Technical Team,
Dr Bata Ltd, Hungary.
www.drbata.com

Low quality feed, coupled with unexpected environmental circumstances, such as heat waves, will certainly represent a stress factor for the animals, which have a negative effect on the microbiome composition.

Any shift in an optimal balance of micro-organisms may be beneficial to the pathogens, and give rise to diseases such as porcine proliferative enteropathy or swine dysentery.

Focus on prevention

As antibiotics are useful in treating such diseases, nowadays the focus should be placed on preventing such courses, on maintaining a normal, healthy microbiome as the key factor for maximising pig production.

Feed additives, such as organic acids, pre- or probiotics, synbiotics and phytobiotics in a carefully designed feeding programme are useful tools for achieving antibiotic-free production and supporting the growth of beneficial micro-organisms.

Phytogenics represent a traditional way of controlling dysbiosis by keeping the intestinal flora in a natural balance, while nourishing the intestinal epithelium.

As a result of 30 years of research, Dr Bata Ltd developed Dysantic, a feed additive containing bioactive herbal extracts.

These herbal compounds improve the absorption of nutrients and due to their immunostimulatory effect, improve the body's resilience.

The bioactive ingredients have an additional regulating effect on the pathobiome, which is enhanced by the synergism with the prebiotic and antioxidant components of the additive.

In an in vivo trial conducted at a production farm in Spain, with 256 fattening pigs (128 males and 128 females) in the trial and 264 (133 males and 131 females) in the control group in two parallel houses, the performance of Dysantic was tested compared to a feeding programme where antibiotics were periodically administered to the diet to treat and control the frequent outbreaks of heavy dysentery.

Dysantic was added in the regular feed of the trial group in 1 kg/t concentration. The trial group started with a significantly lower average body weight (BW) compared to the control group, which remained significantly lower by the end of the fattening (99.10kg average BW for the control compared to 95.29kg average BW for the trial group).

The average weight gain of the trial group was higher (71.18kg) compared to the control group (70.69kg) (Fig. 1). In relation to the feed conversion rate, the animals in the trial group ended with better values. The animals of the test lot obtained a better conversion index (2.18) compared to the control animals (2.36) (Fig. 2), that consumed the usual feed coupled with periodical antibiotic treatments.

Effective and profitable alternative

The trial results demonstrate that Dysantic is an effective and profitable alternative to conventional treatment methods, where the consumption of the bioactive herbal extracts prevented gastrointestinal diseases and promoted the production parameters.

Herbs and essential oils have been used for centuries both in humans and animals, thus their efficacy and safety are ensured.

Currently the ongoing research concerns their mechanism of action, as these alternatives are gaining more and more importance in achieving antibiotic-free animal production. ■

Fig. 1. Body weight gain of animals during the trial.

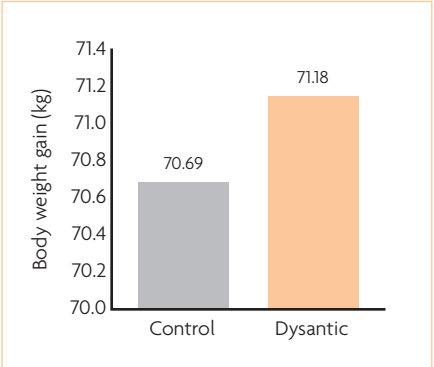

Fig. 2. Feed conversion ratio of the animals during the trial.