



Zinc-free pigs maintain performance with CELMANAX



by Sangita Jalukar, Ph.D., Technical Services Manager,
Arm & Hammer Animal and Food Production

Countries around the world continue to phase out the use of medicinal zinc oxide (ZnO) in swine diets. Some in the industry have voiced concern that completely removing ZnO from diets could negatively impact pig health and productivity. To successfully make this transition, changes to nursery pig management and use of research proven additives are a must. One such viable additive is CELMANAX™, which is supported by research demonstrating that sows and nursery pigs fed the product consistently outperform those fed ZnO.

A SUCCESSFUL TRANSITION

Producers around the world are making this transition. One Danish producer recently replaced ZnO with CELMANAX in swine lactation and nursery pig diets. He started by adding 200ppm of CELMANAX SCP to the lactation feed to reduce infection rates, then replaced ZnO in the weaning feed. The producer was initially concerned that incidents of weaning diarrhoea and medication consumption would increase after transitioning to CELMANAX, but no signs of a challenge occurred. One reason for this was due to the producer's emphasis on good management practices and high-quality feed mixes. The other was from the additional health benefits that result from feeding the enzymatically hydrolysed yeast cells in CELMANAX. The Danish producer believes the hydrolysed yeast modulates the micro-organisms in the pig's gut to improve immune response. Producers who have made the transition to CELMANAX find the natural product maintains intake, whereas ZnO can reduce intake. This allows the pigs to absorb more nutrients while fighting bacteria, promoting smoother weaning.

BETTER SOW PERFORMANCE

Multiple research trials have demonstrated the benefits of feeding CELMANAX to lactating sows. One US trial showed feeding it to sows resulted in an increased percentage of pregnant sows and reduced non-productive days by up to 1.5 days. In another trial, lactating sows consuming diets supplemented with CELMANAX produced milk with more fat, protein, energy and immunoglobulins than sows fed a control diet. Additionally, piglets from the CELMANAX-fed sows had heavier 10-day body weights and were heavier at weaning.

BETTER NURSERY PIG PERFORMANCE

Weaned piglets fed nursery diets supplemented with CELMANAX continued to outperform piglets fed control or ZnO diets. Research trials showed they had improved feed intakes, growth rates and body weight. Additionally, piglets fed CELMANAX required fewer medical treatments compared to piglets fed partial or full ZnO diets. Table 1 shows the full results of the nursery pig research trial and diets. ZnO will continue to be scrutinised. Producers should continue to look for viable alternatives before it is completely phased out. CELMANAX has proven to be a viable and versatile feed supplement, shown to improve sow and nursery pig performance compared to those fed diets containing ZnO.

Table 1. Effect of treatments fed in the nursery phase on piglet performance.

Piglet treatment	Control	CELMANAX	ZnO	CELMANAX +ZnO	P-value
Pens (n)	11	11	10	10	-
BW start (kg)	4.986	5.177	4.943	5.104	0.864
BW finish (kg)	13.132 ^{ab}	13.554 ^a	11.965 ^c	12.816 ^b	<0.001
ADG (g/d)	291 ^{ab}	299 ^a	251 ^c	275 ^b	<0.001
ADFI (g/d)	372 ^{ab}	387 ^a	318 ^c	361 ^b	<0.001
FCR (g/g)	1.296	1.305	1.305	1.329	0.521
Average mortality (%)	3.63	1.52	5.58	4.39	-
Treated piglets/total piglets	0.278	0.295	0.446	0.35	-

^{ab} Means within the same row with different superscripts differ

References for all research cited available on request

To learn more, visit www.AHfoodchain.com



Keep mycotoxins from impacting performance and profitability



by Sangita Jalukar, Ph.D., Technical Services Manager, Arm & Hammer Animal and Food Production

In a global survey, 85% of feedstuffs sampled were contaminated with at least one mycotoxin. Swine are highly susceptible to the detrimental effects of mycotoxins in the diet, meaning that their production and reproductive performance – and ultimately, profitability – could be compromised.

MYCOTOXIN-FREE FEEDSTUFFS?

Ideally, anyone involved in formulating swine rations and feeding animals would have full confidence that feedstuffs are free of all mycotoxins or other contaminants that could prove limiting or dangerous to animals. However, this is rarely the case regardless of the source. Typically, it is almost impossible to obtain clean and consistent feedstuffs to feed animals. Feed testing to identify mycotoxins tells you the level of challenge present and allows you to build a strategy to address it; however, this process can be expensive and time-consuming. Furthermore, feed testing results are not always helpful due to time lags between testing and feeding. Adding feed additives that bind mycotoxins is one way to reduce the damage that can be done when animals unknowingly consume mycotoxins. However not all common mycotoxins are bound by mycotoxin binders. A Prevent and Protect (PPR) approach makes animals resilient and maintain performance.

PPR 1: PREVENT

Feed additives containing bentonite such as BG-MAX™ from ARM & HAMMER™, bind some of the common mycotoxins encountered in feed.

PPR 2: PROTECT

Focusing on the protection needed against mycotoxins is another way to build a stronger herd. Adding Refined Functional Carbohydrates™ (RFCs™) to the ration, such as those found in BG-MAX from ARM & HAMMER, can help animals combat mycotoxins, regardless of feed source. Mycotoxins, when ingested, damage the gut epithelial cell surface and then migrate to different organs. In vitro studies have demonstrated that RFCs can prevent gut cytotoxicity caused by a variety of mycotoxins in ways that work better than other tested yeast products.

SUPPORTING RESEARCH

In a commercial trial, sows fed a gestation diet contaminated with prevalent mycotoxins zearalenone and deoxynivalenol and supplemented with RFCs showed improved rates of fertility, farrowing and mortality compared to control sows fed the same mycotoxin-contaminated feed. With the direct link between reproductive performance and farm profitability, these results could have significant implications for swine producers.

Results	BG-MAX	Control
Fertility (%)	93.40	87.50
Farrowing rate (%)	89.40	79.60
Mortality (%)	0.70	5.30
Piglet BW at birth (kg)	1.30	1.26

PPR 3: BUILDING RESILIENCY

Protecting your animals at the cellular level builds a resilient herd ready to tackle unseen challenges which may be hidden in the ration. Protecting the gut from mycotoxin damage reduces opportunistic gastrointestinal pathogen colonisation. In addition, the prebiotic nature of RFCs supports the growth of beneficial micro-organisms, thus leading to a healthier gut microbiome.

References for all research cited available on request

To learn more, visit www.AHfoodchain.com