Feeding CELMANAX to lactating sows boosts piglet performance

by Dr Ellen Davis, monogastric technical service manager, Arm & Hammer Animal and Food Production

What if your pigs were nearly 1kg heavier at the end of the nursery period without adding cost to the nursery diet? New research shows lactating sows fed a diet that included Refined Functional Carbohydrates™ (RFCs) in CELMANAX™ produced heavier pigs at weaning time. In the nursery, pigs from sows fed CELMANAX continued to gain more weight than pigs from control sows. Furthermore, supplementing CELMANAX in sow lactation diets resulted in pigs with similar body weights as those fed ZnO.

The trial was conducted at Swine Research Services, a facility in Arkansas, USA, using pigs weaned from sows reared in a commercial production facility. Sows were fed diets supplemented with either 0.01% CELMANAX or a control diet without CELMANAX in the lactation ration. The highly available RFCs in CELMANAX are proven to help prepare the animal's immune system ahead of challenges in the environment.

IMPROVED PIG WEIGHT GAIN

Sows fed CELMANAX in lactation weaned a 0.4kg heavier pig into the nursery, and pigs from CELMANAX-fed sows continued to gain more weight early in the nursery phase. This additional weight gain was a result of increased feed intake during the same time period in the nursery and ended with a 0.85kg heavier pig at the end of the 42-day nursery phase (see Table 1).

PERFORMANCE COMPARABLE TO ZnO IN NURSERY

Also in this trial, researchers compared the performance of pigs from sows supplemented with CELMANAX in lactation diets to pigs that received ZnO in nursery diets without sow supplementation. At the end of the nursery period, body weights and feed efficiencies were similar for both groups of pigs (see Table 2).

CONCLUSION

Enhancing sow health by supplementing CELMANAX in the lactation ration translates to resilient pigs that are able to grow and thrive in challenging production environments.

Table 1. Effect of CELMANAX fed to sows in lactation on nursery pig growth.

Treatment	Body weight (kg) Day 0	Body weight (kg) Day 42	ADG (kg/day) Days 7-21	ADFI (kg/day) Days 7-21
Control	5.90	21.07	0.254	0.34
CELMANAX	6.31	21.92	0.284	0.37
P =	<0.001	0.006	0.002	0.002

Table 2. Comparison of piglet performance based on lactating sow and nursery diets.

Treatment	Sow diet	Nursery diet	Piglet BW at end of nursery (kg)	Feed efficiency (gain/feed)
CELMANAX	CELMANAX	No ZnO	21.90	0.52
ZnO	No CELMANAX	ZnO	21.57	0.557

References for all research cited available on request

First published in International Pig Topics volume 34.2

Better reproductive performance for sows fed CELMANAX

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

New research shows that feeding the Refined Functional Carbohydrates (RFCs) in CELMANAX to sows through lactation can improve both sow reproduction and litter performance. RFCs help make sows more resilient against challenges that arise in the environment, leading to shorter wean-to-estrus interval (WEI) and higher pregnancy rates, according to the study. Conducted at a private commercial pig research center in the US, the trial involved 240 sows fed one of four dietary treatments:

- 0.01% CELMANAX SCP during gestation.
- 0.02% CELMANAX SCP during 17-day lactation.
- CELMANAX SCP at the above rates during both gestation and lactation.
- Control (no CELMANAX fed during either period).

REPRODUCTIVE BENEFITS FOR SOWS

Results showed that feeding CELMANAX helped improve sow reproductive performance. Supplementing CELMANAX in the lactation and gestation + lactation diets reduced WEI by up to 1.5 days compared with control animals. In the subsequent breeding cycle, nearly all (97-100%) of the sows fed the additive were bred within seven days compared to 86.5% of control sows (Table 1). According to the latest figures, each non-productive day (NPD) for a sow costs US$2.40. Therefore, the ability to reduce NPD by 1.5 days could have a significant positive economic impact for producers. In addition, sows that are bred successfully are able to stay in the herd, reducing sow cull rates.

Although sow weight loss was not affected with CELMANAX supplementation in this study, a similar 900-sow study showed CELMANAX in lactation diets decreased sow weight loss ($P<0.02$), while CELMANAX supplementation in gestation diets decreased backfat loss ($P<0.08$) and reduced the number of stillborn piglets/sow ($P<0.08$). Improvement in body condition of the sow when supplemented with CELMANAX may support reduced WEI and higher breeding rates.

BENEFITS FOR PIGLETS

Study results also show that feeding CELMANAX to lactating sows may improve litter performance. Piglet weaning weights were significantly higher when CELMANAX was included in the sow diets. This improvement in weaning weight is consistent with many other CELMANAX studies and can lead to improved pig performance during the nursery and grow-finish phases.

CONCLUSION

Feeding CELMANAX in sow diets positively impacted breeding performance – shortening WEI by up to 1.5 days and increasing the percentage of sows bred within seven days in the subsequent cycle. The ability to reduce costly non-productive days (NPD) for sows by 1.5 days could have major financial and productivity implications for sow producers.

Table 1. Sow performance overall results.

	Control	Gestation	Lactation	Gestation + lactation	SEM	P value
No.of sows	61.00	64.00	64.00	55.00	–	–
ADFI (kg)	7.79	7.46	8.03	7.82	0.19	0.17
Wt. diff. (%)	-2.71	-0.77	-3.00	-0.75	0.88	0.11
WEI (days)	5.99^{a}	5.12^{ab}	4.90^{b}	4.49^{b}	0.33	0.01
Bred (%)	86.53^{b}	97.06^{a}	97.85^{a}	100.00^{a}	3.24	0.01

$^{a, b, ab}$ Denotes significant difference ($P<0.05$)

References for all research cited available on request