



**Improve whole  
herd productivity.**



#ScienceHearted

At ARM & HAMMER™ we think big on a microscopic level to deliver safe feed and food solutions that drive business forward. We're your #ScienceHearted, local-and-global, animal and food production team.



## The cost of every non-productive day for each of your sows.

The economic impact of sows' non-productive days (NPD) adds up quickly. Longer wean-to-estrus (WEI) intervals and lower pregnancy rates are bad for the bottom line—and that's outside of the costs of piglet weight variation.

### What if you could improve whole herd health and productivity starting with the sow?



#### IMPROVE SOW PRODUCTIVITY.

What if you could reduce the wean-to-estrus interval and improve breeding rates?



#### PREP THE IMMUNE SYSTEM.

What if you could build resilience to challenges before they occur?



#### REDUCE ANTIMICROBIAL USE.

What if you could reduce the use of antimicrobials during the nursery phase?

### CELMANAX™

- 1 Delivers highly bioavailable Refined Functional Carbohydrates™ (RFCs™) that help animals cope with challenges.
- 2 Combines the benefits of multiple feed additives in one consistently high-quality formula.
- 3 Helps pigs consistently meet target weight goals by minimizing feed quality variation.<sup>1,2,4-13</sup>

## Improved sow productivity.

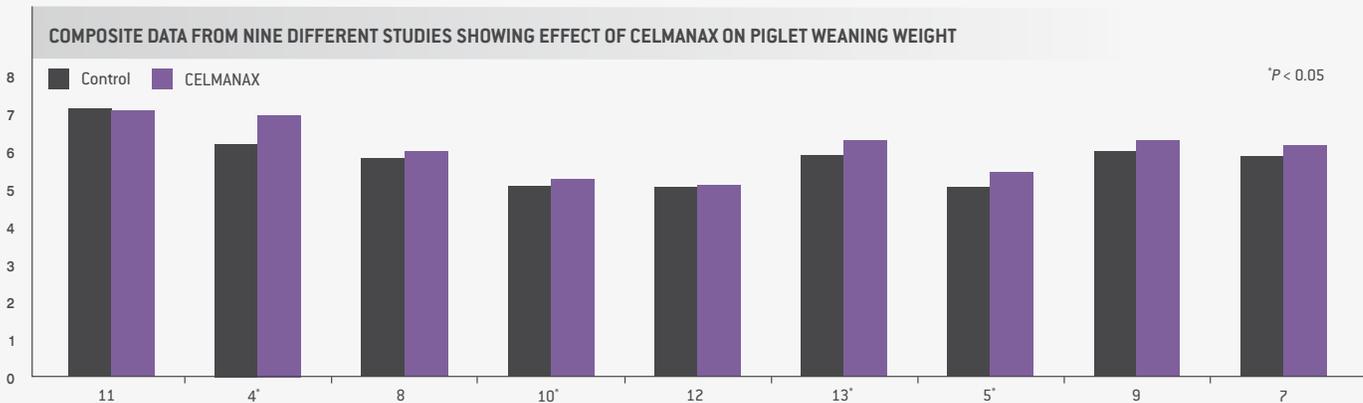
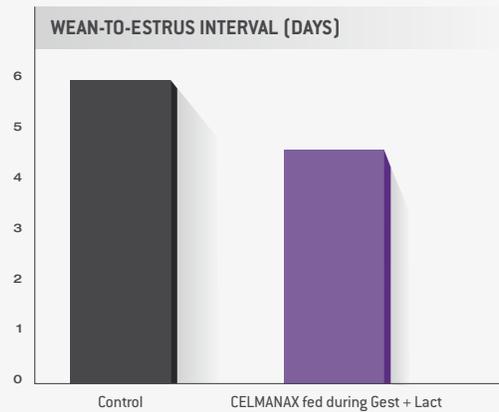
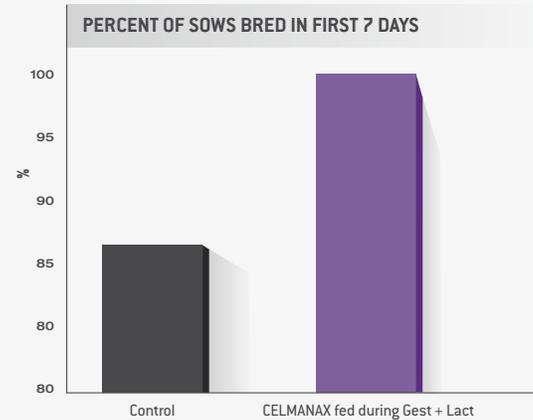
A study of 240 sows demonstrated that CELMANAX fed 35 days post-breeding through the end of lactation resulted in no significant sow body weight loss at the end of weaning, reduced the wean-to-estrus interval by up to 1.5 days and improved percent bred in the first 7 days to 97–100%.<sup>8</sup>

## Resilient to health challenges.

Research found lipopolysaccharide (LPS)-challenged piglets receiving CELMANAX-supplemented diets had lower rectal temperatures and respiratory rates compared to unsupplemented control pigs. Researchers concluded CELMANAX may help improve some aspects of the immune function and provide some benefit for weaned pigs during an immune challenge.<sup>3</sup>

## Growth gains.

Trials showed that sows fed CELMANAX had piglets with increased weight at weaning. The overall data demonstrated consistent increase in weight gain when feeding CELMANAX.<sup>4,5,7,8,9,12,13</sup> Similarly, CELMANAX has been shown to increase average piglet 10-day, weaning and end of nursery phase body weight when compared to zinc oxide.<sup>10</sup>



Research also showed piglets on CELMANAX, CELMANAX + ZnO and Mecadox<sup>®</sup> had higher BW at the end of the nursery phase (day 42) than control piglets.<sup>13</sup>

Treatments	Study 1*, d 42 BW kg (lb.)	Study 2**, d 28 BW kg (lb.)
CONTROL	20.60 <sup>c</sup> [45.4]	13.13 <sup>ab</sup> [28.89]
ZnO	21.53 <sup>bc</sup> [47.47]	11.97 <sup>c</sup> [26.33]
CELMANAX	21.80 <sup>ab</sup> [48.19]	13.55 <sup>a</sup> [29.82]
CELMANAX + ZnO	22.96 <sup>a</sup> [50.61]	12.82 <sup>b</sup> [28.20]
Mecadox	23.10 <sup>a</sup> [50.93]	

\*ZnO 2500 ppm was fed in nursery phase 1 and 2 and Mecadox, 50 g/ton was fed throughout nursery phase

\*\*ZnO, 3000 ppm and CELMANAX 0.02% was fed from 10 days after birth and into nursery

<sup>a,b,c</sup> superscripts denotes P<0.05

## Recommended feeding rates.\*

	SWINE (KG/MT)			SWINE (LBS/TON)		
	Sow	Nursery	Grow/Finish	Sow	Nursery	Grow/Finish
CELMANAX™	2	2	2	4	4	4
CELMANAX SCP	0.2	0.2	0.2	0.4	0.4	0.4
	ml/hd/day			ml/hd/day		
CELMANAX Liquid	6	2	6	6	2	6

\*Consult your nutritionist for your optimum feeding rates.

### Quality no matter the temperature:

CELMANAX SCP is proven effective in high temperatures, maintaining stability and efficacy during extrusion and pelleting.



### We're #ScienceHearted and we're here for you.

We're ever-curious farm kids turned nutritional innovators, microbial pioneers and food safety game changers. We use scientific research to unlock the power of nature to create products that focus on you, your animals and worldwide food security. To learn more about CELMANAX ask your nutritionist, veterinarian or ARM & HAMMER™ representative or visit [AHfoodchain.com](http://AHfoodchain.com).

- 1 CELMANAX Swine Research Trial in Starter Diets. Research Bulletin S-13.
- 2 CELMANAX Swine Research Trials in Nursery Pigs. Research Bulletin S-14.
- 3 Presented at 2008 ADSA-ASAS Joint Annual Meeting, 2008 and published in the *Journal of Animal Science* Volume 86, E-Supplement 2. Research Bulletin S-52.
- 4 Hung IF, Lindemann MD. Evaluation of CELMANAX on Performance of Sows and their Weaned Pigs. Research Bulletin S-62.
- 5 Peng Ma, Guozhu C, Jalukar S. Evaluation of CELMANAX SCP supplementation in sow diets on piglet performance at weaning. *J Anim Sci* 2013; Vol. 91, E-Suppl. 2.
- 6 Effect of CELMANAX (private label brand name) supplementation in sow diets on piglet birth weight. Report on file.
- 7 Ecuador CELMANAX sow trial. Report on file.
- 8 CELMANAX fed to sows helps improve piglet performance and subsequent breeding performance under commercial conditions. R. Thompson et. al. (2019) Presented at Midwest-ASAS meeting in Omaha. CELMANAX Research Notes S-93.
- 9 Brazil CELMANAX sow trial. Report on file.
- 10 CELMANAX fed in lactation diets to sows and in creep and starter diets to piglets reduces the dependency on zinc oxide for performance. CELMANAX Research Notes S-94. 2018. Data on file.
- 11 Murphy-Brown sow trial. Report on file
- 12 CH1901 Report on file.
- 13 CELMANAX Swine Research Notes S-96, Jalukar et. al. (2019) presented at Zero Zinc Summit in Copenhagen, Denmark.