



NUTRITION NOTES

Innovation + Research from Kent Nutrition Group

NOVEMBER 16, 2021

EFFECT OF NUTRIVANTAGE® AND/OR CHROMAX® IN GROW-FINISH PIGS

Michael Edmonds, Ph.D., Vice President, Swine and Poultry Nutrition

Developing products and feed programs to help producers raise pork more efficiently to feed a growing population is an ongoing effort at the Kent Research Farm. NutriVantage® Nutrition Optimizer® for swine is a research-driven feed supplement developed to help animals achieve optimum nutrition from their diet. Our exclusive NutriVantage formula is made with nutritional components that consist of a blend of organic macromolecules, trace minerals, antioxidants and chelating agents. This blend of ingredients may provide immune system support as well as aiding in nutrient availability. Another ingredient that helps with the uptake of glucose for supporting energy production for growth and immunity is chromium. Chromax® brand chromium tripicolinate is a scientifically researched source of organic, highly bioavailable chromium that is used with sows to help with pigs born alive and number weaned. In addition, it can reduce fat thickness and improve loin muscle area when fed throughout the growing and finishing periods.

In this trial, we evaluated NutriVantage at 3 lb/ton at a cost of \$2.35/ton along with Chromax at a cost of \$0.80/ton. These ingredients were fed individually as well as in combination by substituting these ingredients for corn. This trial utilized 792 pigs with 12 replications per group. We used a five-phase NexGen® program with 400 lb/ton of distillers dried grains with solubles in each diet. The overall performance and economic data are shown below:

Effect of NutriVantage and/or Chromax on Overall Performance and Economics in Grow-Finish Pigs				
GROUPS	1	2	3	4
NutriVantage, lb/ton		3		3
Chromax, ppb			200	200
Number of Pigs	198	198	198	198
Number of Pens	12	12	12	12
Final Weight*, lb	259.2	256.1	255.7	262.1
DAY 0-111				
ADG ^a , lb	1.925	1.897	1.894	1.951
ADF, lb	4.973	4.883	4.937	5.012
F/G ^b	2.583	2.575	2.606	2.569
Cost/lb Gain, ¢	26.75	26.98	27.13	26.94
NET RETURN, \$/PIG				
@ \$50/cwt live price ^c	49.71	48.47	48.10	49.94
@ \$60/cwt live price ^c	71.08	69.53	69.13	71.60
@ \$70/cwt live price ^c	92.45	90.59	90.16	93.25

^aNutriVantage x Chromax effect (P < 0.07); ^bNutriVantage effect (P < 0.11); ^cNutriVantage x Chromax effect (P < 0.05);

*Initial Weight/Group = 45.5 lb

— Continued on back

KENT NUTRITION GROUP



Continued from front —

DISCUSSION

In this trial, we did not see a growth response when NutriVantage and Chromax were added separately to the control diet. However, a positive interaction was noted when NutriVantage and Chromax were fed in combination. Pigs on that diet grew faster than the other three treatments. In fact, the pigs gained 0.026 lb faster per day, compared to the control, which resulted in a 2.9 lb advantage in final weight. Moreover, the positive interaction also occurred with net return (value of gain minus the feed cost of gain) in which net return values (@\$60/cwt live) were lower for both NutriVantage and Chromax when fed separately, but were significantly increased when fed together compared to the control pigs. Thus, the combination of these ingredients significantly increased net return by \$0.52/hog marketed.

Why was there a positive interaction or synergy when feeding NutriVantage and Chromax? We have discovered, in the last 15 years of research at our farm, that the components of NutriVantage influence pig health and performance in many ways. First, we have observed numerical increases in villus height (2019), which are the fingerlike projections in the small intestine that facilitate nutrient absorption. We have also found that the addition of NutriVantage can help stabilize glucose levels (2014) in pigs subjected to a stressor. Other potential mechanisms could involve the natural chelation properties of NutriVantage which may enhance the function of Chromax in the body. Finally, in 2019, we observed that NutriVantage positively influenced the activity of a carbohydrate targeted enzyme, allowing for increased available energy and resulting in heavier market hogs.

SUMMARY

The combination of NutriVantage and Chromax resulted in a positive, synergistic effect on pig performance, which resulted in an improvement in net return by \$0.52/hog when marketed at a live price of \$60/cwt. ■