



NUTRITION NOTES

Innovation + Research from Kent Nutrition Group

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SUPPLEMENTAL CHROMIUM SOURCES IN GROW-FINISH PIGS

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Developing products and feed programs, to help producers raise pork more efficiently, is an ongoing effort at the Kent Research Farm. Chromium is a trace mineral that helps with the cellular uptake of glucose, which provides energy that supports growth and immunity. In addition, this added energy can be especially helpful during the summer months during heat stress events. Chromax® brand chromium tripicolinate is a scientifically researched source of organic, highly bioavailable chromium fed to sows to help improve the number of pigs born alive and number weaned, as well as having a positive effect on carcass leanness. Another source of chromium used in the industry is chromium propionate, which has also been researched extensively in sows and grow-finish pigs. In general, added chromium sources can result in small improvements in gain and/or feed efficiency in grow-finish pigs.

We conducted the following trial (summer/fall) in which Chromax and chromium propionate were added at 200 ppb (replacing 1 lb of corn) at a cost of \$0.80 and \$0.90/ton, respectively, in complete feed. We used 816 pigs with 16 replications per group. We used a five-phase NexGen® program with 400 lb/ton of distillers dried grains with solubles in each diet. The data are shown below:

Supplemental Chromium Sources on Overall Performance, Carcass Traits and Economics in Grow-Finish Pigs			
GROUPS	1	2	3
Chromium Propionate, ppb		200	
Chromax, ppb			200
Number of Pigs	272	272	272
Number of Pens	16	16	16
Final Weight*, lb	276.11	272.19	276.56
Day 0-112			
ADG, lb	2.06	2.02	2.06
ADF, lb	5.32	5.23	5.28
F/G	2.59	2.59	2.57
Cost/lb Gain, ¢	31.62	31.72	31.51
Net Return, \$/Pig**			
@ \$66.67/cwt carcass price	77.90	76.75	78.24
@ \$80.00/cwt carcass price	105.32	103.78	105.70
@ \$93.33/cwt carcass price	132.74	130.81	133.17
@ \$106.67/cwt carcass price	160.17	157.85	160.65
Carcass			
Backfat, Last Rib, in	0.57	0.56	0.57
Percent Lean	56.34	56.28	56.33
Grade Premium, \$/Cwt	6.61	6.60	6.60

*Initial Weight/Group = 45.84 lb

**Total value of carcass, including grade premiums, minus the feed cost of gain

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In this trial, we observed that pigs fed diets with the added Chromax had a final weight that was 0.45 lb heavier than those pigs on the control diet. Pigs on the chromium propionate diet were 3.92 lb lighter when compared to the control. Feed efficiency was slightly improved (0.77%) with the added Chromax which resulted in a slight reduction in cost of gain (0.11 cents) compared to those without any supplemental chromium. In contrast, pigs on the diets with added chromium propionate had slightly higher cost of gain (0.10 cents) compared to the control. With a carcass price of \$80/cwt, the pigs on the added Chromax had a net return advantage of \$0.38 per hog marketed as opposed to a loss of \$1.54 for those on the chromium propionate. With the carcass price \$106.67/cwt, the pigs on the supplemental Chromax had a positive return of \$0.48/hog marketed compared to a loss of \$2.32 for those on the chromium propionate. The pigs were very lean with no carcass differences between the three groups.

Depending on the carcass price, the net return/hog marketed ranged from \$0.34 to \$0.48 from using supplemental Chromax at 200 ppb in the diet. That is a solid return on investment when the cost to use Chromax is about \$0.25/hog for the entire 16 week growth finish period. ■