

229 Effect of Dietary Chromium Propionate and *Yucca schidigera* on Finishing Pig Growth Performance.

J. T. Gebhardt^{*1}, J. C. Woodworth¹, M. D. Tokach¹, S. S. Dritz¹, J. M. DeRouche¹, J. A. Loughmiller², A. L. P. De Souza², M. J. Rincker³, R. D. Goodband¹,
¹Kansas State University, Manhattan, KS, ²Kemin Industries, Des Moines, IA, ³DPI GLOBAL, Porterville, CA

A total of 2,430 pigs [PIC (Hendersonville, TN) 359 × 1050; initial BW=29.3 kg] were used to evaluate the effects of dietary chromium propionate (Cr; Kemin Industries, Des Moines, IA) and a *yucca schidigera*-based extract (DPI Global, Porterville, CA) on growth performance of finishing pigs housed in commercial conditions. Pigs were placed in balanced, mixed-gender pens (27 pigs/pen), blocked by average pen BW, and randomly assigned to treatment. Diets were corn-soybean meal-based and were formulated in 5 dietary phases to meet or exceed NRC (2012) requirement estimates. Dietary treatments were fed for the full duration of the study and were arranged in a 2 × 3 factorial with 14 pens per treatment. Main effects included added chromium (0 or 200 µg/kg from chromium propionate) and *yucca schidigera* feed grade concentrate (0, 62.5, or 125 mg/kg). For the overall study, a marginally significant (linear; $P \leq 0.072$) Cr × *yucca schidigera* interaction was observed for ADG and ADFI. Pigs fed *yucca schidigera* without added Cr had similar ADG and ADFI; however, pigs fed added Cr had increased ADG and ADFI as *yucca schidigera* increased from 62.5 to 125 mg/kg. There was insufficient evidence that added Cr had an effect on G:F ($P > 0.05$). Increasing *yucca schidigera* resulted in a marginally significant reduction (quadratic; $P = 0.053$) in G:F. The main effect of added *yucca schidigera* on final BW and HCW (quadratic; $P = 0.012$) resulted in pens of pigs fed 62.5 mg/kg having the lowest final BW and HCW. Sufficient

Interactive effects of Cr and *yucca schidigera* supplementation on finishing pig growth and carcass performance, 29 to 124 kg BW

Added Cr, µg/kg	0	0	0	200	200	200	
<i>Yucca schidigera</i> , mg/kg	0	62.5	125	0	62.5	125	SEM
ADG, kg ¹	0.89	0.88	0.88	0.89	0.88	0.90	0.013
ADFI, kg ²	2.46	2.44	2.45	2.43	2.45	2.48	0.019
G:F ³	0.36	0.36	0.36	0.37	0.36	0.36	0.006

¹ Cr × *yucca schidigera*; linear, $P = 0.072$.

² Cr × *yucca schidigera*; linear, $P = 0.071$.

³ *Yucca schidigera*; quadratic, $P = 0.053$.

evidence was lacking ($P \geq 0.278$) to conclude added Cr influenced carcass characteristics including HCW, loin depth, backfat, percentage lean, and percentage yield. Added *yucca schidigera* did not demonstrate sufficient evidence of an influence on loin depth, backfat, percentage lean, or percentage yield ($P \geq 0.152$). In summary, adding Cr propionate along with *yucca schidigera* led to modest changes in performance, with the greatest benefit observed with 200 µg/kg Cr and 125 mg/kg *yucca schidigera*.

Key Words: chromium propionate, finishing pigs, *yucca schidigera*

POSTER SESSION IV: NONRUMINANT NUTRITION V: FEED ADDITIVES III: MYCOTOXINS

230 Effect of Cleaning Corn on Mycotoxin

Concentration. A. D. Yoder^{*}, C. R. Stark, J. M. DeRouche, M. D. Tokach, C. K. Jones, Kansas State University, Manhattan, KS

Mycotoxins are fungal secondary metabolites from molds grown on cereal grains and other commodities. These molds may produce aflatoxin B₁, which is carcinogenic to humans and animals. Mycotoxins are often concentrated in cracked or broken kernels because there is exposed substrate for mold growth. Removal of this material has been demonstrated to reduce the concentration of mycotoxin, but the reduction is highly variable. Most literature has used artificial mycotoxin contaminated grain to limit variability. Therefore, the objective of this experiment was to quantify the magnitude of natural mycotoxin concentration that may be reduced by cleaning corn in a traditional grain handling facility setting. 10 mT of corn naturally contaminated with aflatoxin (1,074 ppb), fumonisin (8.3 ppm), and ochratoxin A (206 ppb) was procured from central Oklahoma to evaluate the role of cleaning to reduce mycotoxin concentration in corn. After receiving regulatory approval to transport it, the corn was cleaned at the biosafety level-2 feed mill at Kansas State University. 3,000 kg of corn were divided into twenty 150 kg runs, which were then cleaned using a commercial corn cleaner (Gentle Roll, EBM Manufacturing, Norfolk, NE) to remove overs (material > 12.7-mm) and thrus (material < 4.76-mm) to establish 3 treatments: 1) unclean corn; 2) cleaned corn; and 3) screenings (overs + thrus). The corn cleaner was sanitized between each of the 20 runs. Three 5-kg samples of corn were collected by probing from each treatment of each run,