

Table 157. Effect of added Cr on pig performance, d 0 to 125

Grower added Cr, µg/kg:	0	100	200	100	200	Probability, <i>P</i> <		
Finisher added Cr, µg/kg:	0	100	200	200	100	SEM	Linear	Quadratic
ADG, kg	0.89	0.90	0.89	0.90	0.89	0.009	0.796	0.136
ADFI, kg	2.23	2.21	2.21	2.23	2.23	0.037	0.472	0.651
G:F	0.400	0.408	0.402	0.404	0.402	0.004	0.463	0.020

158 Interactive effects of KemTRACE Cr and Micro-Aid on finishing pig growth performance and carcass characteristics.

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A study was conducted to determine the interactive effects of Cr (KemTRACE Chromium propionate, Kemin Industries Inc., Des Moines, IA) and Micro-Aid (*Yucca schidigera*-based product supplied by Distributors Processing Inc., Porterville, CA) on growth carcass performance of finishing pigs housed in a commercial environment. There were 1188 pigs (PIC 337 × 1050; initial BW = 27.3 kg) with 27 pigs/pen and 11 pens/treatment. Pigs were split by gender on arrival at the facility, with 5 blocks of each gender and a final mixed gender block. Gender blocks were randomly allotted to groups of 4 pen locations within the barn. Block was included in the statistical model as a random effect and accounted for gender, initial BW, and barn location. Diets were corn-soybean meal-dried distillers grains with solubles-based and were fed in 5 phases. Diets were formulated to meet or exceed NRC (2012) requirement estimates. Treatments were arranged as a 2 × 2 factorial with main effects of Cr (0 or 200 µg/kg) or Micro-Aid (0 or 62.5 mg/kg). No Cr × Micro-Aid interactions were observed. Overall, ADG and G:F were not influenced by treatment. Adding Micro-Aid tended to increase (*P* = 0.077) and adding Cr increased (*P* = 0.049) ADFI. For carcass characteristics, HCW, loin depth, and carcass yield percentage were not influenced by treatment. Backfat depth tended to increase (*P* = 0.055) and lean percentage was decreased (*P* = 0.014) when Cr was included in the diets. In summary, no synergistic effects were observed from feeding Cr and Micro-Aid in diets fed to finishing pigs housed in a commercial environment. Only marginal differences in ADFI were observed from adding either Cr or Micro-Aid. Finally, diets containing Cr were associated with carcasses having more backfat and less lean.

Key Words: Chromium propionate, Micro-Aid, pigs
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Table 158. Interactive effects of Cr and Micro-Aid on finishing pig growth and carcass performance.

Added Cr, µg/kg	0	200	0	200	Probability, <i>P</i> <	
Micro-Aid, mg/kg	0	0	62.5	62.5	Cr	Micro-Aid
ADG, kg	0.87	0.87	0.87	0.88	0.446	0.490
ADFI, kg	2.22	2.26	2.26	2.30	0.049	0.077
G:F	0.39	0.39	0.39	0.38	0.115	0.178
BF, mm	16.97	17.69	17.26	17.54	0.055	0.787
Lean, %	56.89	55.92	56.83	56.54	0.014	0.261
Yield, %	74.51	75.23	75.27	75.44	0.302	0.254

SEM = ADG (0.009), ADFI (0.047), G:F (0.006), BF (0.639), lean% (0.408), and yield% (0.456)

159 Supplemental effects of fermented rice bran extracts on growth performance, bone characteristics, and immune response of broiler chickens.

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The objective of this experiment was to evaluate the supplemental effects of fermented rice bran extract (FBE, Maxcell Co., Los Angeles, CA) on growth performance, bone characteristics, and immune response in broiler chickens. FBE was produced from a fermentation process using rice bran and sucrose sources as medium inoculated by a mixture of probiotics (*Lactobacillus plantarum*, *Bacillus subtilis*, and *Saccharomyces cerevisiae*) producing metabolites. A total of 270 1-d-old male broiler chickens were used in a completely randomized design with 3 dietary treatments and 9 replicate cages of 10 birds per cage for each treatment. Broilers were fed a basal diet supplemented with FBE at the level of 0, 2.5, or 5 g/kg, respectively for 42 d based on 3 dietary phases. Body weight and feed consumption were recorded weekly. Ileal mucosa samples were collected for analysis of immune response and left tibias were removed for measuring bone characteristics. Data were analyzed using the GLM procedure of SAS. Increasing levels of FBE improved feed conversion ratio (FCR) (1.88 to 1.75, linear, *P* < 0.05) from d 29 to 42. During the whole experimental period, increasing levels of FBE decreased feed intake (4448 to 4121 g/bird, quadratic, *P* < 0.05), and tended to improve FCR (1.81 to 1.70, linear, *P* = 0.082) without affecting body weight gain. Increasing levels of FBE tended to increase tibia breaking strength (18.0 to 23.7 N/g, linear, *P* = 0.098). Supplementation of FBE did not affect the concentrations of immunoglobulin A, immunoglobulin G, and tumor necrosis factor-α in the ileal mucosa. In conclusion, dietary supplementation of FBE may improve