
Sixty-four pigs (initially 34.0 kg BW) were used to determine the effects of dietary L-carnitine, betaine, and chromium nicotinate supplementation on growth performance and carcass characteristics. Pigs were blocked by sex, age, and weight and allotted in a randomized complete block design to each of four dietary treatments. The dietary treatments were: (1) negative control, (2) 50 ppm carnitine, (3) 1,000 ppm betaine, and (4) 200 ppm chromium from chromium nicotinate. Grower diets (34 kg to 56.7 kg) were formulated to contain 1.0% lysine and finisher diets (56.7 kg to 102 kg) were formulated to contain 0.8% lysine. All diets were isocaloric and contained varied levels of Ca, P, and vitamin A. Body gains and feed intake were measured weekly. At market, pigs were fasted 16 h and then weighed and bled. Carcasses were not chopped. Carcass weights were measured, and feed efficiency was calculated. Fatty acids, cholesterol, and vitamin A were measured in longissimus lumborum muscle. Body weight gain, feed efficiency, and carcass characteristics were measured. The results indicate that dietary L-carnitine and chromium nicotinate supplementation may be effective in increasing carcass leanness in growing-finishing pigs. Further study of the effects of carnitine, chromium nicotinate, and betaine is needed to examine possible modes of action in the growing-finishing pig.

Key Words: Carnitine, betaine, carnitine, chromium nicotinate, pigs, growing-finishing pig.