

The Effects of Different Levels of Fat and L- carnitine on Performance and Carcass Characteristics of three week old Broiler Chickens

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Abstract

Broiler performance and carcass characteristics may be influenced by supplementation of diet with L-carnitine. A study was conducted to evaluate the effect of L-carnitine in fat containing diets on the performance and carcass characteristics of 3-wk-old broiler chickens. Treatments were included three levels of fat (0, 3 and 6 % soybean oil) and three levels of L-carnitine (0, 75 and 150 mg/kg). Four hundreds and five one day old Ross 308 broiler chicks were received from a commercial hatchery and randomly assigned to experimental treatments in a 3×3 factorial arrangement with completely randomized design. Feeding different levels of fat had no significant effect on body weight, feed intake and feed conversion ratio at 21 days of age. Chicks fed with diets containing 3% fat had the highest breast meat and lowest abdominal fat percentage than others (P<0.05). Using fat in the diet improved carcass weight significantly (P<0.05). Supplementation of diets with L-carnitine could not affect weight gain, feed intake and feed conversion ratio significantly. Use of 75 and 150 mg/kg L-carnitine in the diet increased breast meat yield, decreased abdominal fat content and improved carcass weight significantly (P<0.05). The results of this study showed that L-carnitine could reduce the deposition of fat in the abdominal cavity of broiler chickens by altering the lipid metabolism and could enhance the carcass weight and breast meat yield.

Key World: L-carnitine, fat, broiler, performance, carcass characteristics