

Effects of L-carnitine Supplementation on Serum Lipid Profile of Broiler Chicken Fed with Animal Fat

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Abstract

The objective of the present study was to evaluate the potential effects of dietary L-carnitine supplementation on serum lipid profile of broilers fed with animal fat diet. This experiment was carried out using eighty, day-old commercial broiler chicks (Vencobb) in a completely randomized design with two levels of L-carnitine (0 or 900 mg/kg). The chicks were randomly allotted to two treatment groups with four replications of ten chicks each. The study lasted six weeks, with the first four weeks as a starter and the last two weeks as finisher period. The dietary treatments were T₁ (Control ration as per BIS, 1992 specifications with five per cent animal fat) and T₂ (control ration supplemented with 900 mg of L-carnitine/kg diet). Both the diets were isocaloric and isonitrogenous and were fed ad libitum to chicks from 1 to 42 days of ages. During the experimental period body weight, feed intake and feed conversion ratio were measured at weekly intervals. At the end of 42 days of experimental period, blood was collected for serum biochemical analysis. Growth performance parameters of birds were not affected by L-carnitine supplementation. The birds fed with L-carnitine significantly ($P < 0.01$) reduced the serum cholesterol and LDL-cholesterol levels compared to control. However, no significant effect was noticed on the serum triglyceride, HDL-cholesterol and VLDL-cholesterol levels. In conclusion, L-carnitine supplementation did not affect the growth performance, however reduces the cholesterol and LDL-cholesterol level improves the serum lipid profile in serum of broiler chicken.

Keywords: L-carnitine, Animal fat, Broilers, Growth performance, Lipid profile.