EFFECT OF COENZYME Q10 SUPPLEMENTATION ON LIPID METABOLISM IN BROILERS

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A study was carried out to evaluate the effect of coenzyme Q10 (CoQ10) supplementation on serum and muscle lipid metabolism in broiler chicken fed with three energy levels. The birds were fed with normal energy (NE) as per breeder specifications, low energy (LE) (NE-100 kcal) and high energy (HE) (NE+100 kcal) along with three levels of CoQ10 at 0, 20 and 40 mg/kg of diet. Feeding of experimental diets was carried out for 42 days. At the end of 42 days, nine birds per treatment were slaughtered and serum and breast muscle were collected for lipid profile tests and QCI content. When compared to respective unsupplemented fed birds, CoQ10 at 20 and 40 mg/kg in NE reduced total cholesterol (99.21 and 116.54 vs 184.54 mg/dl), LDL cholesterol (65.47 and 76.17 vs 141.64 mg/dl). In HE diet, only at 20 mg CoQ10/kg increased HDL cholesterol (35.43 vs 29.23 and 28.69) and 40 mg/kg CoQ10 reduced triglycerides (42.97 vs 67.45 mg/dl). The muscle cholesterol was decreased and muscle CoQ10 was increased by CoQ10 supplementation at 20 mg CoQ10/kg. Supplementation of CoQ10 at 20 mg/kg resulted in higher QCI in all the three energy diets than the respective energy unsupplemented diets. The study reveals CoQ10 supplementation favourably alters lipid metabolism and increases the muscle antioxidant status.]