More dietary biotin is needed when diet of quails contains soybean oil

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Abstract
The objective of this study was to evaluate the effects of dietary biotin supplementation with different fat sources (soybean oil or beef tallow) on live performance, carcass characteristics, organ weights, and plasma concentrations of some minerals and metabolites in Japanese quails. One hundred and twenty 10-day-old healthy Japanese quails were assigned to 4 treatment groups. The experiment was designed in a 2 X 2 factorial arrangement using two types of fat source (5% soybean oil or 5% tallow) and two levels of biotin supplements (0 or 300 mcg/kg diet). Feed intake was not influenced by either fat source or biotin supplementation in the diet \((P > 0.05)\). Final body weights and feed efficiency were greater when the diet of quails contained soybean oil compared with that of tallow \((P \leq 0.012)\). Liver weights \((P = 0.017)\) and abdominal fat accumulation (although not significantly, \(P = 0.17\)) were greater in quails fed tallow. Plasma cholesterol and triglyceride concentrations decreased with soybean oil feeding, but cholesterol concentrations increased with biotin supplementation. Biotin supplementation increased plasma glucose concentrations \((P = 0.01)\). It was concluded that biotin can be supplemented at 300 mcg/kg diet to the quail diets containing %5 soybean oil.

Key words: biotin, soybean oil, tallow, quail