

The Comparative effects of synthetic choline and herbal choline on hepatic lipid metabolism in broilers

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Abstract

An experiment of 0-42 days in day old 150 Vencobb broiler chickens was conducted to determine comparative effects of synthetic choline and herbal sources of choline on hepatic lipid metabolism in broilers. Birds were randomly distributed into three groups (T0- T2), one untreated control and two treatments. Chicks in Group T0 were given feed without any additional source choline chloride. Chicks of Group T1 were fed with feed mixed with herbal product (Repchol supplied by Ayurved Ltd., Baddi, India) @ 500gm/tonne of feed and T2 was given combination of synthetic choline chloride@1kg/tonne (60%) and biotin @ 150 mg/ton of feed. To study the effect of inclusion of herbal sources of choline and synthetic choline on hepatic lipid metabolism, serum triglycerides and cholesterol were estimated on day 21st and 42nd of experimental study. Gross pathological changes in liver were recorded on representative birds per group at the end of the study. It was recorded that inclusion of either synthetic choline or herbal source of choline exerted a hypocholesterolemic effect and also decreased the level of triglycerides as compared to untreated control thus minimizing the incidence of fatty liver, however the two treatment do not differ significantly. Gross pathological study also revealed no significant changes in the architecture of liver as compared to control. It can be concluded that the herbal supplements can successfully replace their synthetic analogues from broiler ration.

Key words: Broiler chickens, Hepatic, Synthetic choline, Herbal, Lipid Metabolism.