

Performance and lipid profile of broilers fed two medicinal plants

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Abstract:

This experiment was conducted to investigate the effect of feeding garlic powder and dried thyme leaves on the performance, digestibility, dressing percentage, carcass and non carcass cuts and lipid profile of broilers. A total of 216 day-old Cobb-500 chicks were used in this experiment. Birds were divided into nine experimental treatments of 24 birds in each. Each treatment was composed of 4 replicates with 6 birds in each replicate. The control group was fed a commercial starter and finisher diet. The second and third groups were supplemented with garlic at the rate of 0.2 and 0.4%, respectively. Birds in fourth and fifth groups were supplemented with thyme at the rate of 0.02 and 0.04%, respectively. The birds in the last four experimental groups were supplemented with a mixture of the supplements at the two levels (0.2%+0.02% for the sixth group, 0.4%+0.04% for the seventh group, 0.2% + 0.04% for the eighth group and 0.4% + 0.02% for the ninth group). In the last week of experiment, three birds from each experimental unit were used in metabolic and slaughter trials. Blood samples from all groups were collected on 3rd, 4 and 5th weeks of age from wing vein for lipid profile studies. Total cholesterol (TCHO), triglycerides (TG), high density lipoprotein (HDL), low density lipoprotein (LDL) levels were determined. Results of this study showed that both garlic powder and the dried thyme leaves when fed separately had no significant effects on broilers weight gain, feed intake, feed conversion ratio, carcass cuts, visceral organs. However, both plants decreased ($P<0.05$) the levels of serum cholesterol (CHO), triglycerides (TG), low density lipoprotein (LDL) and the high density lipoprotein (HDL) compared to the control birds. The digestibility of dry matter (DM), crude protein (CP) and ether extract (EE) was improved by feeding garlic powder and dried thyme leaves individually. Diets supplemented with mixture of garlic powder and dried thyme leaves caused a significant improvement ($P<0.05$) in final body weight, feed intake, feed conversion ratio, dressing percentages, carcass weight, EE and the digestibility of DM, CP and EE compared to other treatments and the control chicks. These mixtures at different levels and separately caused a significant reduction ($P<0.05$) in the levels of CHO, TG, and LDL, and cause improvement in (HDL). The mixtures used had no effect on carcass cuts and visceral organ weight. It can be concluded that garlic powder and dried thyme leaves supplements can provide positive advantages in broilers performance.

Key words: garlic powder, thyme leaves, broilers, performance

