

INFLUENCE OF BUTYLATED HYDROXY TOLUENE ON GROWTH RATE OF BROILER CHICKEN

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Butylated hydroxy toluene (BHT) has been reported to have ameliorative action on the liver over the damage caused by aflatoxins (Larsen *et al.*, 1985). So, a study was undertaken in broiler chicken on the effect of different levels of BHT.

Materials and Methods

One hundred and five commercial, day old broiler chicks of either sex were procured, weighed and randomly allotted to seven groups, and maintained in battery brooders, with *ad libitum* supply of feed and water. The basal feed was commercial broiler mash without any added synthetic antioxidant. The group I was

given only the basal diet whereas the group II was given Dimethyl sulphoxide (DMSO - vehicle control) with basal diet. The BHT dissolved in 0.2 ml of DMSO was given to each bird daily at the rate of 130, 260, 520, 1040 and 2080 mg/kg bodyweight to groups II to VII respectively from 0-6 weeks. Body weight, feed consumption and feed conversion were measured at weekly intervals. The results were statistically analysed (Snedecor and Cochran, 1968).

Results and Discussion

Effect of BHT on growth rate parameters is given in Table 1.

Treatment groups	Average body weight gain (g)	Feed consumption (g)	Feed conversion
I (Feed control)	1173 ^a	2446 ^a	2.085 ^a
II (Vehicle control)	1167 ^a	2445 ^a	2.091 ^a
III (BHT 130 mg/kg)	1237 ^a	2357 ^a	1.905 ^a
IV (BHT 260 mg/kg)	1159 ^a	2402 ^a	2.072 ^a
V (BHT 520 mg/kg)	1126 ^a	2437 ^a	2.164 ^a
VI (BHT 1040 mg/kg)	1065 ^a	2450 ^a	2.300 ^b
VII (BHT 2080 mg/kg)	980 ^b	2222 ^b	2.267 ^b

Means bearing the same superscript do not differ at one per cent level of significance.

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There was significant ($P < 0.01$) decrease in body weight gain in group VII. Though the treatment groups IV to VI showed a reduction in weight gain, the changes were not statistically significant. A highly significant ($P < 0.01$) reduction in feed consumption was observed in the group VII i.e., 2080 mg/kg level and a highly significant ($P < 0.01$) effect on feed conversion was observed in the groups VI and VII given BHT at 1040 and 2080 mg/kg levels. Larsen *et al.* (1985) observed the inhibition of weight gain in chicks given BHT for six weeks. Takahashi *et al.* (1981) reported a decrease in body weight gain in rats dosed with a lower level of 918 mg BHT/kg/day for a week. Better weight gain observed in the group III fed BHT at 130 mg/kg level might have been due to hepatic microsomal enzyme induction at lower doses as also opined by Larsen *et al.* (1985).

Summary

The effect of Butylated hydroxy toluene (BHT) on growth rate, feed consumption and feed conversion was studied in 105 broiler chicken dosed with 130, 260, 520, 1040 and

2080 mg BHT/kg body weight for six weeks period. A significant reduction in growth rate ($P < 0.01$) and feed consumption ($P < 0.01$) was observed at 2080 mg/kg level while feed conversion was affected significantly ($P < 0.01$) at 1040 and 2080 mg/kg levels.

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