

Performance of broilers fed betaine hydrochloride supplemented diets

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Introduction: Betaine is reported to improve production performance, replace other methyl group donors such as choline and methionine, assist birds under heat stress conditions and improve slaughter characteristics. The principal physiologic role of betaine is either as an organic osmolyte to protect cells under stress or as a catabolic source of methyl groups via transmethylation for use in many biochemical pathways. The present experiment was conducted to study the effect of betaine hydrochloride on the performance of commercial broilers as an osmolyte.

Methodology: One twenty numbers of one day old broiler chicks were divided into three dietary treatment groups T1-control without any supplementation, T2-0.2% betaine hydrochloride and T3-0.3% betaine hydrochloride supplemented diets. Feed consumption and body weight of birds were recorded. Feed conversion efficiency was calculated. At the end of the experimental period of 42 days, two birds from each replicate were slaughtered and parameters such as weight of hot carcass, liver, heart, gizzard, giblet and intestinal length were recorded. All the data were subjected to analysis of variance test. Means of different groups were compared using Duncan's multiple range tests using SPSS software (version 15.0).

Results and Discussion: The body weight and feed conversion ratio of T2 & T3 groups fed betaine hydrochloride were significantly ($p < 0.05$) better when compared to the control. The feed cost (per kg weight gain) was significantly low in T2 & T3 groups compared to control group. The feed intake, weights of hot carcass, liver (as % of body weight), heart, gizzard, giblet and intestinal length, RD titre value did not differ significantly among the treatment groups. Numerically higher serum Na and K concentrations were recorded in birds fed with control diet compared to the betaine supplemented groups.

Conclusions: From this study, it could be concluded that supplementation of betaine hydrochloride at an inclusion level of 0.2% or above was found to improve the production performance in commercial broiler birds.

Biography

P.Vasanthakumar, M.V.Sc. Ph.D., Associate Professor working in Tamil Nadu Veterinary and Animal Sciences University, India has completed Ph.D. during the year 2002. He is involved in teaching, research and extension activities related to Animal Nutrition for the last 16 years. He has published more than 20 papers in reputed journals / proceedings and has guided two master degree students. He has completed four external funded research projects and currently involved in five research schemes.

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