The free edges of cut portion were joined using 3/0 catgut. Boroglycerin paste was applied locally and calf was treated with antibiotic (Injection Streptomycin and Penicillin (20 mg/kg body weight)). The calf was able to suckle and recovery was uneventful.

References

Influence of Energy and Protein on Serum Biochemistry of Broilers Reared in Environmentally Controlled Houses

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Abstract
An experiment was conducted by feeding diets with different levels of energy (2850, 2950 and 3050 kcal/kg in pre-starter diet, 2950, 3050 and 3150 kcal/kg in starter diet and 3050, 3150 and 3250 kcal/kg in finisher diet) and protein (21.5, 22.5 and 23.5% in pre-starter diet, 20.5, 21.5 and 22.5% in starter diet and 19, 20 and 21% in finisher diet) to commercial broilers for a period of five weeks to assess the serum biochemical parameters and the results are reported.

Key words: Energy, Protein, Biochemical parameters, Broiler.

Generally energy and protein are key nutrients required for normal body functioning and acting as essential constituents of animal body. Among these, protein having major effect on growth performance of the bird and is also the most expensive nutrient in broiler diets apart from energy. However a right proportion of these nutrients are essential to ensure maximum utilization of all nutrients for optimum growth of broilers.

Materials and Methods
The biological experiment was carried out with 288 sex separated, day-old, commercial broiler chicks belonging to single hatch purchased from local hatchery. The chicks were wing banded, weighed and randomly allotted into nine treatment groups with four replicates of eight chicks in environmentally controlled housing system. In environmentally controlled house, the brooding temperature was set at 33°C on the first day and gradually reduced to 27 °C on 10th day and the same temperature was maintained till the end of the experiment. The humidity was set at 65 per cent from day one to 5 weeks of age. At the end of the experimental period (35th day), four males and four females, totally eight birds from each treatment group were randomly selected and blood samples were collected for serum biochemical analysis.

The collected blood samples were allowed to clot and centrifuged for 20 minutes at 1500 rpm to separate the sera. The sera samples were stored at -20°C for the analysis of total protein, albumin, globulin, A/G ratio and uric acid. The total protein content of serum was estimated by direct biuret method (Lowry et
The albumin content in serum was estimated by the Doumas method (Lowry et al., 1951). The globulin content of serum was calculated by difference between the total protein and albumin. The uric acid content in serum was estimated by the Diacetylmonoxime (DAM) method (Coulambe and Favrean, 1965). The data on serum biochemical parameters were subjected to statistical analysis as per the method suggested by Snedecor and Cochran (1989).

**Results and Discussion**

Statistical analysis of data on serum total protein, albumin, globulin, A/G ratio and uric acid revealed no significant difference among treatment groups at five weeks of age in broilers reared in environmentally controlled housing system.

Though there was no significant difference observed between treatment groups, the group T₉ had higher serum total protein level (4.78 g/dl) and the lowest level of serum total protein was recorded in group T₄ (4.09 g/dl). The serum albumin and globulin levels were also higher in group T₉ (1.89 g/dl and 2.92 g/dl respectively) and lowest level of albumin and globulin were recorded in group T₁ (1.71 g/dl and 2.38 g/dl respectively). The albumin-globulin ratio is higher in group T₆ (0.74) and lower in group T₈ (0.64). The group T₉ had higher serum uric acid level (5.05 mg/dl) and the lowest level of serum uric acid was recorded in group T₁ (4.78 mg/dl).

The results of the study revealed that dietary protein level had a significant influence on serum total protein, albumin and uric acid level in broilers. As the dietary protein level decreased, there was a linear decrease in the serum total protein, albumin and uric acid level in broilers.

The results of this study concur with the findings of Malomo et al. (2013), who reported that the plasma protein and albumin level were significantly (P<0.05) higher in broilers fed with high protein diet (22%) compared to low protein diet.

The data of this study on serum uric acid values are in agreement with Namroud et al. (2008) and Darsi et al. (2012), who also reported that the broilers fed with decreased crude protein had a decreased serum uric acid and greater value was obtained with high crude protein diet in broilers. In contrary to the results of this study, Malomo et al. (loc. cit) reported that the plasma uric acid level were significantly (P<0.05) higher in broilers fed with low protein diet (16%) compared to higher protein diets.

**References**


