EFFECT OF DIETARY PROBIOTIC, PREBIOTIC AND SYNBIOTIC SUPPLEMENTATION ON PERFORMANCE, CARCASS TRAITS AND BLOOD SERUM PARAMETERS IN BROILER CHICKEN

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Excessive fat deposition in the broiler carcass considered to be a waste of dietary energy, is an unfavorable trait for both producers and consumers. Therefore, the present study was conducted to evaluate the effect of dietary probiotic, prebiotic and synbiotic supplementation on growth performances, carcass traits and blood serum parameters in broiler chicken. Two hundred (200) day-old broiler chicks were randomly assigned into four treatments in a completely randomized design with four replicates for each treatment. Basal feed (Control), basal feed with prebiotic, basal feed with probiotic and basal feed with synbiotic were used as treatments. Growth parameters were measured weekly. Blood serum parameters, meat quality characteristics, and abdominal fat were measured at slaughtering on d 42. Data were analyzed using the Mixed Analysis of Variance in SAS. Feed conversion ratio, total feed intake, dressing percentage, the weight of carcass parts and internal organs, total cholesterol, low-density lipoproteins, high-density lipoproteins, triglycerides, and very low-density lipoproteins were not differed significantly ($p>0.05$) among the treatments. The abdominal fat content was significantly lower ($p<0.05$) in the probiotic-fed group and carcass weight also showed a significant difference ($p<0.05$) among the treatments. Water holding capacity, pH and meat color, were not significantly different ($p>0.05$). *Lactobacilli* and *Coliform* population in the cecum content were not differed significantly ($p>0.05$). However, the synbiotic-fed group showed a significantly higher ($p<0.05$) feed intake during the age of 2nd week. Average body weight gain of the synbiotic fed group was significantly higher ($p<0.05$) during the age of 2nd and 3rd weeks. This study revealed that supplementation of probiotic, prebiotic and synbiotic to broiler diet did not cause any significant change in broiler performance, meat quality, and blood serum parameters. However, probiotic incorporated basal feed seems to be a better solution for the reduction of excessive fat deposition in the abdomen.

Keywords: Abdominal fat, Broilers, Prebiotic, Probiotic, Synbiotic