ABSTRACT

The potential of using Prosopis juliflora pods was evaluated as a partial replacement of energy source layer's diets. The main objective of the experiment was to assess the effect of replacement of Prosopis juliflora pods at 10, 20, and 30% on egg production, weight gain, and natural antibody titer values (IgG and IgM). The diet treatments were formulated (iso-caloric and iso-nitrogenous, 12.8 MJ/kg ME and 16% crude protein, respectively) to meet the nutrient requirement of the indigenous chicken. Sixty-four KALRO-improved indigenous chicken layers of 43 weeks were assigned into four dietary treatments using a completely randomized design. Body weight gain, egg production, and ELISA assay were run to get the data. Data were statistically analyzed using the GLM procedure of SAS. The differences among treatment means were determined using the Tukey's range test. The inclusion of Prosopis juliflora pods in the diets, except at 10%, decreased weight gain and egg production ($p < 0.05$). The addition of Prosopis juliflora pods had no significant effect on natural IgG and IgM titer values. This study indicated that Prosopis juliflora pods can be included at levels up to 10% in layer diets without affecting egg production and weight gain.

Keywords: Egg production; KALRO-improved indigenous chicken; Natural antibodies; Prosopis juliflora pods; Weight gain.