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Effect of corn gluten feed on performance, immune response and blood parameters of broilers

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Abstract

This study was conducted to evaluate the effect of different levels of corn gluten feed on performance, immunity, morphology, serum biochemical parameters and ileum digestibility of dietary nutrients in broiler chickens. A completely randomized design was used with four treatments, five replicates and 25 birds in each. The experimental treatments included: 1) 0% corn gluten feed (control), 2) diets containing 2.5% corn gluten feed, 3) diet containing 5% corn gluten feed and 4) diet containing 7.5% corn gluten feed. The results of this experiment showed that use of corn gluten feed up to 7.5% had no significant effect on weight gain, feed intake and feed conversion ratio compared to control treatment. Also Serum biochemical parameters, livability, production index and feed cost per kg body weight of broiler chickens were not affected by dietary treatments. The evaluation of immune response showed that response to SRBC was significantly higher in treatment with 2.5% corn gluten feed ($p < 0.05$). Length, width and depth of crypt in duodenum and jejunum were not affected by treatments. Dry matter digestibility, protein, crude fat, calcium, phosphorus and energy of diets showed a significant difference ($p < 0.05$). So that in the 2.5% level of corn gluten feed, the highest digestibility of dry matter, calcium and energy were observed. On the other hand, the highest digestibility of crude protein, crude fat and phosphorus was observed in diets with 7% corn gluten feed. Finally, based on feed cost reduction per Kg of body weight, using 5 % corn gluten feed is recommended in broiler diet.

Key word: Gluten corn feed, yield, immunity, morphology and broiler chickens