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Farmers’ and academia’s views”

Use of natural zeolite in broiler diet and its effect on performance and carcass traits

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Abstract

This experiment was carried out to determine the effects of Natural Zeolite on performance, carcass traits and the content of blood protein and calcium in broilers. 240 Ross unsexed broiler chicks (one day old) were allocated into one control treatment without natural zeolite and 3 zeolite treatments (with 0.5 %, 1 % and 1.5 %) respectively, and 5 replicates and 12 birds each. The local natural zeolite (NZ) used in this experiment contains 92 % Clinoptilolite. Birds were kept in litter floor pens with the same size in a deep litter system. The experimental diets were based on maize-soybean meal and were formulated to meet the nutrient requirements of broiler. Results indicated a significant effect ($p < 0.05$) on body weight and feed conversion ratio in the entire period by adding 1.5 % NZ comparing to birds with 0.5 % or 1 % NZ and without zeolite (control birds). But there were no significant differences observed in feed intake and carcass yield among all treatments in this study. Also, the addition of 0.5 and 1 % of natural zeolite had no effect ($P > 0.05$) on performance parameters. However, adding of 1.5 % zeolite increased significantly ($p < 0.05$) the weight of breast, edible organs (heart, gizzard, liver) and the weight of tibia. The zeolite addition did not affect the blood protein, but the content of blood calcium was increased significantly by 1.5 % zeolite in the diet. In conclusion, adding of 1.5 % natural zeolite to broiler diet improved the growth rate, feed conversion ratio, tibia weight and increased the blood calcium concentration and could be added to broiler diet in this percentage.

Keywords: Carcass, growth performance, tibia, zeolite