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Efficacy of Ginger (Zingiber officinale) and a Zeolite (Hydrated Sodium Calcium Aluminosilicate) in the Amelioration of Aflatoxicosis in Broilers

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Abstract : This study focused on the effects of ginger and a zeolite (toxin binder) in reducing the toxic effects of aflatoxin B1 (AFB1) in broiler chickens 7 to 49 days of age. The chicks were maintained normally until experimental diets were introduced on day 7 post-hatching. Nine hundred and thirty six, 7-d-old broiler chickens were randomly assigned to 18 treatment groups; each group had four replicates, each with 13 chickens. The experimental groups or diets had factorial combinations of the following; AFB1 0, 1 and 2 mg/kg diet, ginger 0 and 5g/kg diet, and zeolite 0, 15 and 30 g/kg diet. Diets were based on corn and soybean meal and a starter diet was fed from 1 to 14 days, a grower diet from15 to 28 days and a finisher diet was provided from day 29 until the end of the experiment. Both dietary levels of AFB1 decreased ($P<0.05$) body weight and feed conversion, and increased relative liver weights. Independent dietary inclusion of ginger or zeolite restored chick performance when diets contained 1mg/kg but not at 2mg/kg. Supplementation of zeolite together with ginger improved performance of birds fed contaminated diets. Interestingly, adding ginger to the control diet that was not contaminated with AFB1 improved ($P<0.05$) performance. Our results suggest that toxin binders and ginger can provide protection against the negative effects of AFB1 on performance of broiler chicks.

Keywords : aflatoxin, broiler, ginger, zeolite
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