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Liver histopathology and growth performance of turkey poults fed with aflatoxin contaminated diets supplemented with nevatox binder

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Abstract

Aflatoxin has become a nightmare in poultry industry affecting the birds as a result of various diseases caused by ingestion of the toxin. Clay minerals has however shown some potency in neutralizing the effect of the disease on broilers and other class of poultry, while such information in turkey management is scanty. Therefore this study was conducted to investigate the efficacy of Nevatox, a clay mineral in ameliorating aflatoxicosis in turkey poults

A total of 80, 21-d-old turkey poults were randomly allotted to five dietary treatments with four replicates of four poults per replicate in a completely randomised design. Treatment 1 is positive control diet with no aflatoxin and no nevatox, treatment 2 is the negative control with 0.2 mg/kg of aflatoxin, treatment 3 is the negative control with 2.0 g/kg Nevatox, treatment 4 is the negative control with 4.0 g/kg Nevatox, treatment 5 is the negative control with 6.0 g/kg Nevatox. The feeding trial lasted for 21 days. At the end of the feeding trial, performance data were collected for feed intake, body weight gain and mortality while 2 birds per replicate were killed and their liver harvested for histopathology examination.

Significant reductions were observed in that feed intake (1087.50g, 632.10g, 570.50g, 525.00g, & 650.00g)and body weight gain (365.00g, 129.00g, 140.20g, 151.00g & 70.25g) of the poults at the end of the feeding trial while mortality figures (0 %, 36 %, 24 %, 30 % & 28 %) were significantly higher in all treatments that received aflatoxin including treatments with Nevatox. In addition, Induced pathological lesions were observed in the liver of birds fed treatments 2 to 5. Supplementation of the diet with Nevatox at 2, 4 and 6 g/kg did not improve the performance of the birds.

It can be concluded from the results that dietary supplement of Nevatox at the levels prescribed had no protective effect against aflatoxicosis caused by aflatoxin B1 in turkey poults

Keywords: Aflatoxin B1, detoxification, histopathology, nevatox, turkey poults

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