

Evaluation of the detoxifying effect of yeast glucomannan on aflatoxicosis in broilers as assessed by gross examination and histopathology.

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Abstract

1. We evaluated the efficacy of yeast glucomannan (Mycosorb_®), incorporated into the diet at 0.5 and 1 g/kg, in reducing the detrimental effects of 2mg aflatoxin/kg diet on growing broiler chicks from 1 to 21 d of age.
2. A total of 240 male broiler chicks (Ross-308) was divided into 6 treatment groups [Control, Aflatoxin (AF), Yeast glucomannan (YG; 0.5 g/kg), AF plus YG (0.5 g/kg), YG (1 g/kg), and AF plus YG (1 g/kg)].
3. Ten chicks from each of the 6 groups were slaughtered and pathological examinations were performed on the liver, bursa of Fabricius, thymus, spleen and kidney.
4. The aflatoxin treatment caused moderate to severe hydropic/fatty degeneration in the hepatocytes of the liver and the tubular epithelium of the kidneys, and follicular depletion in the bursa of Fabricius, thymus and spleen.
5. Yeast glucomannan added to the aflatoxin-containing diet at 0.5 and 1 g/kg diminished the severity of pathological changes, slightly and moderately, respectively. The number of affected organs was also reduced in the group given 1 g/kg yeast glucomannan, compared to the aflatoxin group.
6. These results show that yeast glucomannan effectively diminished the adverse effects of aflatoxin on the pathological changes and that the higher concentration of yeast glucomannan (1 g/kg) was more effective than the lower concentration (0.5 g/kg) and itself had no adverse effect.