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**EFFECT OF SOME NATURAL FEED ADDITIVES ON PERFORMANCE,
SOME PHYSIOLOGICAL PARAMETERS AND IMMUNE RESPONSE OF
YOUNG CKICKENS FED AFLATOXIC DIETS.**

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ABSTRACT

The main objectives of this work were to investigate; 1- the response of a local Egyptian chicken strain (Inshas) to aflatoxicosis, 2- the effectiveness of using three anti-aflatoxic agents with different mode of actions. The three agents investigated included; a) Hydrated sodium calcium aluminosilicate (HSCAS) as an adsorbent which demonstrated a high affinity for aflatoxins, b) Mannan oligosaccharide (Bio- Mos[®]) as a biological derivative, c) Radish extract (RE) as an antioxidant agent rich in peroxidase enzyme.

The experimental design consisted of nine experimental groups: control and 8 dietary treatments as follows ; (T1) Basal diet + AF(1.0mg total AF/kg diet) , (T2) Basal diet + AF+ Bio-mos (1.0g/kg diet) , (T3) Basal diet +AF+ RE(10g/kg diet) , (T4) Basal diet +AF+ HSCAS(0.5%) , (T5) Basal diet + AF+ Bio-mos + RE , (T6) Basal diet +AF+Bio-mos +HSCAS , (T7) Basal diet +AF+RE + HSCAS , (T8) Basal diet +AF+Bio-mos +RE + HSCAS , and (T9) Basal diet (control).

Characteristics investigated included :Live body weight ; feed consumption and efficiency of feed utilization; relative weight of internal organs (bursa of Fabricius, the thymus glands, spleen , liver, the gall bladder, kidneys, ovary and testes); serum biochemical estimates (serum AST and ALT activities, total lipids, total protein, albumin, globulin, A / G ratio, creatinine, urea and calcium) ; hematological traits (Total RBC's and WBC's counts, differential leukocytic count, hematocrite %, H / L ratio); age at sexual maturity ; egg production traits (egg number / hen / first 4 k of laying , average egg weight, egg mass / hen / first 4 wk of laying) ; immune response against NBVD; residual AF in the liver, muscles and eggs ; histapothological investigation of the liver, bursa of Fabricius, spleen, thymus glands, caecal tonsils, testes and ovary.

Results obtained could be summarized as follows ;

- 1- All traits studied were adversely affected by AF treatment.
- 2- The three anti – AF agents studied showed significant beneficial effects in ameliorating the adverse effects resulting from AF administration.
- 3- In most cases, the best protective effects were obtained with MOS and its combinations followed by HSCAS.
- 4- Radish extract (RE) seemed to be less effective than the other two agents.
- 5- In many cases RE antagonized the action of MOS or HSCAS.

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