ACADEMIC INN INTERNATIONAL

ISSN: 2663-9513 (Online) ISSN: 2663-9505 (Print)

South Asian Journal of BIOLOGICAL RESEARCH

open access

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To cite the article: M Tahirul, T Rahaman, MS Islam, KA Ferdous and MA Hassan (2020) Effect of different doses of dietary arsenic (as) on biochemical, gross and histo-morphological changes in different organs of commercial broiler, *South Asian Journal of Biological Research*, 3(1): 1-17.

Link to this article: http://aiipub.com/journals/sajbr-200102-031144/

Article QR

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EFFECT OF DIFFERENT DOSES OF DIETARY ARSENIC (As) ON BIOCHEMICAL, GROSS AND HISTO-MORPHOLOGICAL CHANGES IN DIFFERENT ORGANS OF COMMERCIAL BROILER

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ARTICLE INFO

Article Type: Research

Received: 01, Jan. 2020.

Accepted: 02, Feb. 2020.

Published: 03, Feb. 2020.

Keywords:

Arsenic, toxicity, Body weight, ,Alanine Transaminase (ALT), serum creatinine, Morphological and Histopathology

ABSTRACT

The study was aimed to investigate the toxic effects of arsenic(As) exposure in a commercial broiler. A total number of 72 broiler chicks (12 days of old) were assigned in four dietary treatments with three replicates. Control group T0 received only basal diet and the other groups T1, T2 and T3 received feed supplementedwithAs at a dose level of 100,200 and 300ppm/kg feed respectively. The body weight of each bird was weighed at 3 days interval and found decreases in weight gain significantly (P<0.01) among the As treated groups. Elevated ALT (P<0.01) and serum creatinine in treated birds was attributed to gross and histopathological changes in liver and kidney respectively. Gross pathological changes showed diffuse congestion, haemorrhage, presence of necrotic foci on liver and congestion in kidney. Microscopical examination of liver from control and T1 groups revealed normal histological picture. However, liver of higher treatment group birds showed fatty changes and congestion. Severe congestion and dilatation of hepatic vessels were the common histological inT2 group. Cirrhosis, severe congestion of hepatic vessels and fatty changes were observed in T3. Microscopically, kidneys from control (T0), T1 &T2 (200ppm) showed normal architecture with normal glomeruli, proximal convoluted tubules (PCT) and distal convoluted tubules (DCT).Fatty degeneration, cytoplasmic vacuoles were observed in the kidneys of birds from T3 group.

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