THE HISTOLOGICAL, BIOCHEMICAL AND HEMATOLOGICAL ALTERATION IN ANABAS TESTUDINEUS (CUVIER) EXPOSED TO INSECTICIDE MONOCROTOPHOS.

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ABSTRACT

Monocrotophos is an organophosphorus insecticide widely used in agricultural fields for controlling varieties of insect pests. Extensive use of pesticides has led to contamination of water bodies thereby affecting the aquatic biota. This study was carried out to evaluate the possible histological, biochemical and hematological alterations in Anabas testudineus exposed to sublethal concentration of monocrotophos (45ppm). Histopathological changes in liver like distortion of hepatic parenchyma, pyknotic nuclei, leucocytic infiltration and in kidney like multifocal cloudy, cytoplasmic vacuolation, necrosis of hemopoietic tissues were observed. Biochemical analysis showed increased total tissue protein in the initial period of exposure and then depletion in later stage in hepatic and renal tissues accompanied with enhanced catalase activity. A decrease in total erythrocyte count, hemoglobin content and increased total leucocytes count was observed. The histological, biochemical and hematological alterations led to conclusion that monocrotophos has deleterious effects on Anabas testudineus and may jeopardize the health of other aquatic organisms.

KEY WORDS: Monocrotophos, Protein, Catalase, Erythrocyte, Leucocytes & Liver and Kidney

Received: May 13, 2019; Accepted: Jun 04, 2019; Published: Sep 23, 2019; Paper Id.: IJZRDEC20192