

BIOCHEMICAL STUDIES ON THE TOXIC EFFECT OF SOME PESTICIDES ON EXPERIMENTAL RATS

By

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Abstract

In this investigation, the subchronic toxicity of two organophosphorous pesticides namely malathion and monocrotophos was studied, on some plasma biochemical components and some blood components.

The obtained results can be summerized as follows :

- 1 - All used doses of pesticides caused significant alterations in plasma proteins concentration , both albumin and globulin conc. and A/G ratio.
- 2 - Total lipids, cholesterol, triglycerides and glycerol were more affected by 1/20 LD50 malathion and 1/5 LD50 monocrotophos.
- 3 - Glucose conc. was significantly affected in females treated by malathion more than other treatments especially in 1/5 LD50.
- 4 - Significant alterations were occurred in transaminases activities in females more than males.

- 5 - Alkaline phosphatase activities was not significantly affected in females, expect in animals treated with 1/20, 1/10 LD50.malathion after 9th week administration.
- 6 - Cholinesterase activity was significantly inhibited in males more than females.
- 7 - Total bilirubin, urea conc. and creatinine conc. were not significantly affected except in some concentrations.
- 8 - Uric acid was significantly affected in 1/20LD50 monocrotophos treated males after 4th week only, while in females significant alterations were caused at all doses and after all periods while uric acid in animals was affected in males more than females by malathion.
- 9 - Hematocrite value and hemolobin conc. were not significantly affected.
- 10 - Both pesticides were caused significant alterations in RBC, WBC by all doses and affter all periods.

Key words :

Malathion , Monocrotophos , Mammilian toxicity