

***In vivo* Impact of Monocrotophos on Biochemical Parameters of a Freshwater Fish during Subacute Toxicity and Following Cessation of Exposure to the Insecticide**

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In vivo toxicity of monocrotophos on key metabolites and enzymes of the protein metabolism was investigated in important tissues of the freshwater fish *Clarias batrachus*. Fish were exposed to 1/10 and 1/20 of LC₅₀ concentration for 28 days. After 28 days of exposure, some fish were transferred to monocrotophos-free water and kept in the same for 21 days (recovery period) in order to study the recovery response. Total protein, amino acid, and ammonia contents were decreased in gill, kidney, liver, and muscle tissues, and recovery was slight at the end of 21 days of transfer of fish into freshwater. Urea and glutamine levels were elevated, except in kidneys, and recovered at the end of the recovery period. The activities of protease, transaminase, and phosphatase enzymes were elevated in all tissues during 28 days of exposure and at both concentrations. Recovery of the activity of enzymes was more significant at the lower concentration as compared to the higher concentration.

Key words: Monocrotophos, Biochemical Alterations, Fish