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Sub-lethal concentrations of Dimethoate Organophosphorous pesticide on some parameters of oxidative stress in the livers of rainbow trout

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Abstract

The pollution of aquatic environments by pesticides causes changes in metabolic activity and biochemical compounds of aquatic organisms. This study was conducted to investigate the effect of sub-lethal concentrations of dimethoate on oxidative stress indices in rainbow trout liver. In this study, rainbow trout were exposed to concentrations of L-1 3675/0, mg/ L-07/0735/ mg and L-73/1 mg / L of the pesticide, for 30 days. The results sampling was done on days of 5, 15 and 30. Biochemical indices were measured, including catalase enzymes, superoxide dismutase, glutathione peroxidase, and protein. Showed no activity of superoxide dismutase In the liver tissue of *Oncorhynchus mykiss* exposed to Dimethoate, significant changes in activity at the lowest concentration, Glutathione peroxidase levels decreased, except on Day 15, significantly in the rest of the course. Catalase activity increased significantly on day 15. The level of protein decreased in all groups compared to the control group. Changes in oxidative stress indices in fish liver exposed to Sub-lethal concentrations of Dimethoate indicate damage to the liver tissue due to increased levels of free radicals. Among the concentrations, the amount of 7350 mg L-1 and the glutathione peroxidase antioxidant were highest.

Keywords: Glutathione Peroxidase Enzyme, Free Radical, Biochemical Indices