

EFFECT OF SEL-PLEX SUPPLEMENT ON OXIDATIVE STRESS IN ONCORHYNCUS MYKISS REARING

M. Berköz¹, A. O. Hunt², S. Yalın³, F. Ozkan⁴, S. G. Gunduz⁴

¹Mersin University, ¹Faculty of Pharmacy, Department of Pharmaceutical Technology, ²Faculty of Fisheries, Department of Aquaculture, ³Faculty of Pharmacy, Department of Biochemistry, ⁴Faculty of Fisheries, Department of Basic Science, 33169, Mersin, Turkey

Selenium plays an essential role in metabolism, regulating normal growth, launching reproductive efforts, neutralizing free radicals, supporting the body's normal defense mechanism against infection and activation of antioxidants, especially glutathione peroxidase (GSH-Px) and thioredoxin reductases. Despite the traditional practice of supplementing animal diets with inorganic selenium, selenium deficiencies remain widespread, and ultimately cost producers in terms of overall health and reproductive issues. Sel-Plex is an organic form of selenium and includes seleno-amino acids and related compounds ideally suited to digestion and metabolism. Sel-Plex supplementation enhances growing, immune system and antioxidant activity of the aqua livings. In this study, the influence of the Sel-Plex supplement on oxidative stress in rainbow trout (*Oncorhynchus mykiss*). Totally, 24 rainbow trout were used and they were divided into equal 4 groups. Group I was determined as the control group and was nourished with standard feed, Group II, III and IV were nourished with feed that contained 100, 200 and 300 mg/kg of Sel-Plex, consequently. All the fishes were sacrificed after 60 day feeding. Liver tissues of fishes in all groups were isolated and lipid peroxide levels were determined using malondialdehyde (MDA). To determine the antioxidant levels GSH-Px, superoxide dismutase (SOD) and catalase levels were investigated. All data were statistically analyzed using SPSS 11.0 program. At the end of this study, it was found that MDA levels were significantly decreased in Group III. GSH-Px activities were increased in Group II, III, IV; catalase activity was increased in Group III; SOD activities were increased in Group III, IV upon comparison with the control group ($p < 0.05$). Based on the results, it can be stated that 200 mg/kg Sel-Plex supplement concentration is the optimal amount for enhancing the antioxidant defense system for *Oncorhynchus mykiss* culture.



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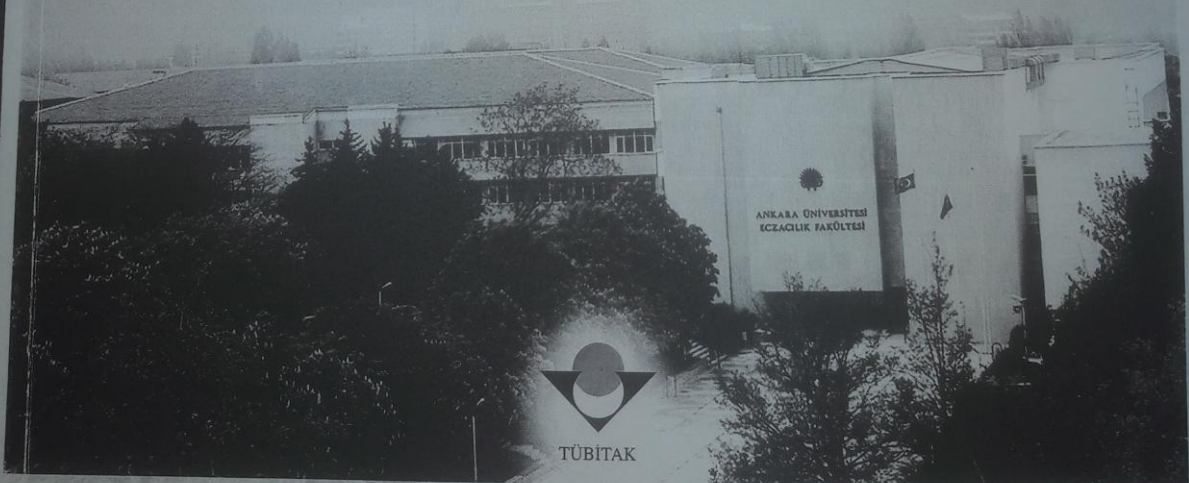


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