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ABSTRACT BOOK



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**ANTIOXIDANT AND IMMUNOSTIMULANT EFFECTS OF
ORIGANUM MINUTIFLORUM O.SCHWARZ et. P.H. DAVIS ON RAINBOW TROUT**

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The effects of *Origanum minutiflorum* O. Schwarz et P.H. Davis on non-specific immune system and in-vivo antioxidant defense are investigated in rainbow trout. Rainbow trout experiment groups are fed with feed containing plant powder form, lyophilized powder and essential oils obtained from plant at different concentrations for a period of eight weeks. In order to evaluate the effects on non-specific immune system, lysozyme activity, respiratory burst activity, phagocytic activity were analyzed and body weight were monitored in the end of the feeding period. For the determination of in-vivo antioxidant capacity, malondialdehyde levels, superoxide dismutase, glutathione peroxidase, glutathione S-transferase, catalase enzyme activities were examined from the liver samples. Non-specific immune system parameters like respiratory burst, lysozyme and phagocytic activity were found highest in the experiment groups fed with 1000 mg / kg essential oil containing feeds. In the group fed with feed containing 500 and 1000 mg / kg lyophilized extract, respiratory burst activity and phagocytic activity were increased significantly. Through antioxidant activity related parameters, the malondialdehyde levels were decreased significantly in the experiments groups fed with 1000 mg / kg feed lyophilized extract and 250, 500 and 1000 mg / kg feed essential oils. The superoxide dismutase activities in the liver were increased in 1000 mg / kg feed essential oil and 1000 mg / kg feed lyophilized extract group; glutathione peroxidase levels were increased in all essential oils and lyophilized extract groups; the catalase activities were increased 1000 mg / kg essential oil and lyophilized extract group.

Based on the data which are obtained from this study we can conclude that *Origanum minutiflorum* which is an endemic plant for our country could be used in feeds for the rainbow trout considering the plant extracts and especially essential oil of the plant have positive effects on non-specific immun system and antioxidant defenses of the rainbow trout.