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Effects of dietary Thyme (*Thymus vulgaris*) extract on the Resistance and some biochemical parameters in Common carp (*Cyprinus carpio*) against salinity stress

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Abstract

In order to survey the effect of Thyme (*Thymus vulgaris*) extract on the common carp, 180 fish with the average weight of 10.84 ± 0.063 were randomly divided into four groups (with Thyme extract added in 0, 0.5, 1 and 2% to the fish diet) in three replicates (each with 15 fish) for 70 days. At the end of this period, 30 fish from each group were exposed to the seawater with 13 and 14 ppt for 12 hours to survey biochemical parameters and survival rate and resistance, respectively. In this regard, blood samples were collected before salinity stress and 6, 24, 72 and 168 hours after salinity stress. Our results showed that added Thyme supplement into the food has no effect on fish resistance during the experimental period ($P > 0.05$). Cortisol, glucose, total protein, albumin showed no significant differences between treatments before salinity stress ($P > 0.05$). However, increasing salinity increased cortisol and glucose significantly in all treatments compared to pre-salinity stress ($P < 0.05$). Albumin and total protein did not show any significant difference in any treatments ($P > 0.05$). Based on the results of the present study, adding thyme extract at 0.5, 1 and 2% into the diet did not have any effect on fish resistance and blood biochemical parameters of the common carp exposed to the salinity stress.

Keywords: Blood biochemical parameters, Common carp (*Cyprinus carpio*), Resistance, Salinity stress, Thyme extract

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