

## عنوان مقاله:

Evaluation the effects of different levels of Echinacea purpurea extract on the immunity responses, biochemical and (hematological indices and disease resistance against Streptococcus iniae in rainbow trout (*Oncorhynchus mykiss*

## محل انتشار:

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## خلاصه مقاله:

rainbow trout fingerlings weighting 16 gram were randomly allocated into three treatment groups including 0.5, 240 1.0 and 1.5 gr/kg of Echinacea purpurea extract in food, and a control group (without EPE in food), each in triplicates for 60 days. At sampling times, some of hematological and biochemical parameters including C3 and C4 complements, oxygen free radicals, lysozyme activity, and other hemathological parameters were analyzed. Also, at the end of the experiment, fishes challenged with Streptococcus iniae and the mortality was analyzed. However, there were no significant differences in C4, total immunoglobulin, lymphocyte and monocyte ( $p > 0.05$ ). The amount of glucose, serum total protein and albumin decreased at the end of the experiment significantly ( $p < 0.05$ ). In addition, the results showed that mortality percentage in Echinacea treatment group with 1.5 gr/kg concentration was significantly lower than other treatment groups ( $p < 0.05$ ). In conclusion the results have shown that Echinacea extract had the positive effect on immunity responses of rainbow trout especially in higher concentration (1.5 gr/kg). Also, adding Echinacea extract in rainbow trout diet increased the resistance of rainbow trout against S. iniae

## کلمات کلیدی:

bacterial challenge, hematology, immunology, Echinacea purpurea

## لینک ثابت مقاله در پایگاه سیویلیکا:

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