The effect of garlic powder (*Allium sativum*) on growth and hematological indices of fingerlings trout (*Onchorhynchus mykiss*)

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Abstract
The effects of garlic (*Allium sativum*) as an effective indicator of hematology and blood serum indices in fingerlings farmed trout (*Onchorhynchus mykiss*) were studied in the Shahid Motahhari Genetic and Breeding center of coldwater fishes in 2014. 5 diet treatments tested on a diet without garlic as a control, and four diets with different amounts of garlic oil (.05, 1, 1.5, 2) g per kg in three replications. Treatment was designed. 900 fingerling farmed fish with an average weight of $3.41 \pm .0.01$ mg for 8 weeks and were fed with prepared diets. At the end of the 8th week, growth and blood serum indices were measured. Specific growth rate (SGR) and percentage of weight increase were affected and in all treatment were improved in comparison to control (P<0.05). The highest specific growth rate was determined in treatment 1 %. The total number of erythrocytes, hemoglobin and hematocrit, mean corpuscular volume of red blood indices in different treatments showed significant changes in fish fed the diets containing high utility plant garlic powder (P<0.05). Cholesterol showed significant difference compared to the control. Glucose showed no significant difference (P>0.05). Blood serum globulins and albumin levels in fish fed diets containing garlic powder were higher than the control group and triglyceride level increased compared to the control diet.

Keywords: Garlic, Trout, Growth indices, Hematologic parameters, Hematological parameters, Biochemical serum.