

The Effect of Soybean Lecithin on Immunity and Some Biochemical Indices of *Salmo trutta caspius*

Jenabi Haghparast, Rezvaneh¹; Sarvi Moghanlou, Kouros^{2*};
Mohseni, Mahmoud³; Imani, Ahmad⁴

1- PhD Student, Department of Fisheries, Faculty of Natural Resources, Urmia University, Urmia, Iran. Email: rezvanehjenabi@yahoo.com

2- Associate Professor, Department of Fisheries, Faculty of Natural Resources, Urmia University, Urmia, Iran. Email: k.sarvimoghanlou@urmia.ac.ir

3- Associate Professor, Iranian Fisheries Science Research Institute, Cold-water Fishes Research Center, Agricultural Research Education and Extension Organization (AREEO), Tonekabon, Iran. Email: mahmoudmohseni73@gmail.com

4- Associate Professor, Department of Fisheries, Faculty of Natural Resources, Urmia University, Urmia, Iran. Email: a.imani@urmia.ac.ir

Received Date: March 17, 2018

*Corresponding Author

Accepted Date: July 3, 2018

Abstract

The present study was to evaluate the effect of soybean lecithin on some immunological parameters (Lysozyme, ACH50 and Total antibody), hematological and serological parameters, and liver antioxidant enzymes activity of *Salmo trutta caspius*. For this purpose, 90 fish ($350\text{g} \pm 10$) were randomly divided into three treatments with three respective replicates. The first group (control) was fed only with commercial feed, while the second group was fed with diet supplemented with 12% soybean oil, and the third one received feed supplemented with 6% soybean oil and 6% soybean lecithin for 90 days. In treatments 2 and 3, immunological, glutathione S transferase and superoxide dismutase activities and some biochemical parameters (LDL, HDL and Cholesterol), except VLDL and triglyceride, were significantly higher than in the control treatment ($P < 0.05$). VLDL of treatment 1 was significantly higher than that of treatments 2 and 3 (those fish received soybean oil and/or lecithin). Hematological indices of treatment 2 including RBC, Hb and Hct, and Hct and WBC of treatment 3 were significantly different from treatment 1 ($P < 0.05$). In conclusion, addition of 6% soybean lecithin as a supplementary feed to the diet of Caspian Sea salmon (*Salmo trutt caspius*) is suggested due to its ameliorative effects on physiological indices.

Keywords: *Lecithin, Immunity, Blood Biochemistry, Salmo trutt caspius.*
