



Effects of supernutrients on some stress and biochemical indices in Siberian sturgeon (*Acipenser baerii*)

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Abstract

Antibiotic usage has lateral disasters in aquatic animals such as bacteria resistance or transferring some part of them to consumers. Present research was carried out with the aim of determining super nutrients effect on some stress and biochemical indices in juvenile *Acipenser baerii* in international Sturgeon Research Institute of the Caspian Sea and glucose and cortisol and some plasma biochemical levels measured in VIRO MED laboratory in Rasht during 6 months. Blood samples obtained in days 45 (stage I) and 90 (stage II) of experiment and plasma provided. Totally, 180 Siberian sturgeon (mean weight 680.89 ± 29.93 gr and mean length 63.79 ± 1.18 cm) were prepared and adapted for two weeks. Fish were randomly introduced to 15 fibreglass tanks containing a volume of 2000 litres. The fish were fed Skiritting Company diet. Super supplements at 2.5 % (T₁), 5 % (T₂) and 10 % (T₃) were added to the diet and experiments were performed in triplicate. Glucose level showed significant difference in different treatments in compared to control at stage II ($P < 0.05$). Cortisol level increased significantly in treatments compared with control at time stage I and II ($P < 0.05$). Triglyceride level increased significantly in treatments compared to control at time stage I, but reached to maximum in control having antibiotic. Cholesterol level showed significant difference in treatments compared to control at stage I ($P < 0.05$). At stage II, the maximum level of cholesterol observed in control and treatment 3 and increased significantly. Based on obtained results, adding super nutrients in diet of *Acipenser baerii* caused to significant difference in some stress and biochemical indices and improved them. Therefore, it recommended using of supernutrients in Siberian sturgeon diet.

Keywords: Stress indices, *Acipenser baerii*, Supernutrients, Antibiotic