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The Effect of Different *Saccharomyces cerevisia* Yeast on Growth Indices and some of the Hematological and Immune System of Juvenile *Acipenser baerii*

Sayed Hassani, Mir Hamed[1*]; Yazdani Sadati, Mohamad Ali[2];
Yegane, Hooshang[3]; Pourgholam, Mohebali[4]; Hossein Pour, Ali[5]

1- MSc, Aquaculture Department, Caspian Sea International Sturgeon Research Institute, Rasht, Iran. Email: mirhamedhassani@yahoo.com

2- Associate Professor, Iranian Fisheries Science Research Institute (IFSRI), Rasht, Iran. Email: myazdanisadati@yahoo.com

3- MSc, InstituteAquaculture Department, Caspian Sea International Sturgeon Research, Rasht, Iran. Email: hooshan. yegane@yahoo.com

4- MSc, Aquaculture Department, Caspian Sea International Sturgeon Research Institute, Rasht, Iran. Email: a.pourgholam@yahoo.com

5- Assistant Professor, Iranian Fisheries Science Research Institute (IFSRI) Rasht, Iran. Email: ahpour@gmail.com

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Abstract

In this study, The effect of different *Saccharomyces cerevisia* yeast on Growth indices and some of the hematological and immune system of juvenile *Acipenser baerii* were investigated. 150 fingerling *Acipenser baerii* with average weight of (32.18±0.51 g) in 15 fiberglass tank were distrubted. Five diets (SR0 SR0.75, SR1.5, Sr2.25 and SR3) containing protein: 45%, fat: 16% and fiber: 3.5% that *Saccharomyces cerevisiae* supplemented at levels of 0, 0.75, 1/5, 2/25 and 3 g kg^{-1} were prepared. Fish were fed for 3 percent of body weight in day for 8 weeks. Total fish were biomtry in feeding period in 15 day interval. At the end of feeding trail, blood samples were collected from 30 percent total of population tanks and transferred to laboratory. Final weight and condition factor of fish fed with $SR_{1.5}$ and $SR_{2.25}$ were significantly higher than of fish fed diet without yeast ($P<0.05$). Highest weight gain, feed efficiency ratio, Specific growth rate and lowest Feed conversion ratio belonged to fish fed $SR_{1.5}$ showed significant difference to the ratios of fish fed with control diet ($P<0.05$). Yeast supplemented to diet (1.5, 2.25 and 3 gr/kg) led to significant increase of white blood cell, neutrophil, lysozyme and compliment (C4) ($P>0.05$). Also, amount of lymphocyte and monocyte of fish fed with $SR_{1.5}$ and SR_3 were significantly higher than of fish control ($P>0.05$). The results of the present study indicated that the supplementation of *S. cerevisiae* had a positive effect on growth and immune system performance of juvenile *Acipenser baerii*.

Keywords: *Saccharomyces cerevisia yeast, Acipenser baerii, Growth indices, Hematological parameters, Immiune system parameters.*