

Effect of using yeast (*Saccharomyces cerevisiae*) as probiotic on growth parameters, survival and carcass quality in rainbow trout *Oncorhynchus mykiss* fry

M. Pooramini¹, A. Kamali¹, A. Hajimoradloo¹, M. Alizadeh², R. Ghorbani¹

¹Faculty of Fisheries, Gorgan University of Agricultural Sciences and Natural Resources, Gorgan, Iran *²Yazd Fisheries Research Center, Yazd, Iran*

Abstract

The effect of *Saccharomyces cerevisia* var. *elipsoidous* as probiotic in the diet of rainbow trout *Oncorhynchus mykiss* fry was studied during 25 days after the first feeding in ratios of 1%, 5% and 10%. After 25 days there was no significant difference in the fry growth performance (

P
> 0.05). There was also no significant difference (

P
> 0.05) in the effect of the dietary yeast on mortality, condition factor (CF) and food conversion ratio (FCR). Also an experiment with only fish oil (without yeast) was done and all results were compared with the control group. The specific growth ratio (SGR), body weight increase (%BWG) and protein efficiency ratio (PER) were significantly higher in the 5% yeast diet compared to the control diet (

P
< 0.05). A significant increase in the lipid content of the carcass was observed with a probiotic in the diet. With increase of the yeast in the diet, the ash content of the carcass increased and the protein content decreased. The results of these experiments showed that the use of yeast as additive in the diet during the early life stage of the rainbow trout fry is suitable and it is probable that a 5% concentration of yeast in the diet will have the best results on the growth performance and the feed efficiency ratio.

Keywords: Probiotic, *Saccharomyces cerevisia*, Rainbow trout, Growth rate, Survival, Carcass quality