

Effects of Dietary Protein and Lipid Levels on Growth Performance, Survival and Body Approximate Composition of Caspian Kutum (*Rutilus Frisii Kutum*) Fry

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Abstract

Different levels of protein (35, 40, 45 and 50 percent) and fish oil (1, 3, 5 and 7 percent) were added to the diet of Caspian Kutum larvae with an average weight of 0.2 ± 0.02 grams. Growth index and body composition were tested using 16 diets in 8 weeks. Results showed that the interaction between protein and fat levels had no significant ($p > 0.05$) effect on growth parameters. But, average protein levels had significant effects on Relative Growth Rate (RGR), Condition Factor (CF) and Specific Growth Rate (SGR). Diets with 40 percent protein showed a better growth. The amount of 7 percent added fish oil in the diet (17 percent lipid) showed significant effects on growth performance. Body composition analysis resulted in no significant differences with protein levels ($p > 0.05$). But, higher amounts of lipid in the diet significantly increased the amount of lipid in the body ($p < 0.05$). In conclusion, it can be stated that the amount of 40 percent protein and 3 percent added fish oil in the diet (with 14 percent lipid) of Caspian Kutum larvae could result in a better growth.

Keywords: Caspian Kutum, Protein, Lipid, Carcass Component, Growth Indices.

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