

Effect of various levels of dietary carbohydrate on bioenergetic parameters of Snow trout juveniles (*Shizothorax zarudnyi*).

The Snow trout (Cfidak-e-Sistan) (*Schizothorax zarudnyi*) is an endangered species of endemic fish to Hamoon Lake, Sistan, Iran. In this study, evaluated the effect of different levels of carbohydrate in artificial diets on bioenergetic indexes of Snow trout juveniles (*Shizothorax zarudnyi*) in 8 weeks. Hundred fifty Snow trout juveniles with average weight 3.54 ± 1.14 g and length 8.5 ± 2.4 cm fed with five isonitrogenous and isolipidic diets and varying levels of carbohydrates ($D_1 = 16.59\%$, $D_2 = 22.2\%$, $D_3 = 26.99\%$, $D_4 = 32.9\%$ and $D_5 = 36.77\%$). Ten advanced fry were stocked into each 45-l aquaria with triplicate in five treatments and fed twice daily at 5% body weight rate. Results indicated highest body weight gain (2.83 ± 0.02), specific growth rate (1.05 ± 0.03), average daily gain (5.06 ± 0.05), protein efficiency ratio (0.71 ± 0.01), feed efficiency ratio (0.25 ± 0.01) and lowest feed conversion ratio (3.94 ± 0.04) observed in D_4 treatment group that fed by diet containing 32.9% carbohydrate that no significantly difference with D_5 treatment group that fed by diet containing 36.77% carbohydrate while significantly differences with other treatments ($p > 0.05$). Also there were no significant differences in wet and ash of carcass treatment fed by various levels of dietary carbohydrate, while lipid and protein in carcass in treatment that fed by diet containing 32.9% and 36.77% carbohydrate increase and decrease respectively ($p > 0.05$). Finds of this study indicated that optimum carbohydrate level in diet for optimal growth and nutrition indexes in Snow trout juveniles is 32.9% to 36.77%.

Key words: nutrition, growth, carbohydrate, Snow trout (*Shizothorax zarudnyi*).



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