Comparison of the effects of farmed Chironomid extract and methionine as food attractants on growth, survival and carcass composition of Persian sturgeon (*Acipenser persicus*) larvae

Reza Taati[1*]
Hamid Reza Pourali Foshtomi[2]
Hosseinali Sharifi Ardehjani[3]

1, 3. Department of Fisheries, Talesh Branch, Islamic Azad University, Talesh, Iran.
2. Department of Aquaculture, International Sturgeon Research Institute, Agricultural Research, Education and Extension Organization (AREEO), Rasht, Iran

***Corresponding author:**
r.taati@gmail.com

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Abstract

This research was carried out to compare the effect of methionine as a synthetic attractant and farmed Chironomid extract as a natural attractant on growth and carcass composition of Persian sturgeon (*Acipenser persicus*) larvae. A total number of 240 larvae weighing 0.4±0.09 g and total length 3.8±0.29 cm were fed under rearing conditions in International Sturgeon Research Institute for 8 weeks. Four treatments were designed including control (without attractant), farmed Chironomid extracts at the levels of 5% and 25% and methionine 3% in three replicates (completely randomized design). Larvae were randomly distributed into twelve 30-L fiberglass tanks equipped with aeration system. The results showed that the final weight, percentage of body weight increase, specific growth rate, final biomass, protein efficiency ratio and survival rate in 25% farmed Chironomid extract were significantly higher than the other treatments ($P<0.05$). In addition, farmed Chironomid extract at the level of 25% had the lowest FCR which showed significant difference with other experimental treatments ($P<0.05$). There were no significant differences in carcass composition including protein, fat and moisture percentage in among the treatments ($P>0.05$). Based on findings, farmed Chironomid extract at the level of 25% can stimulate the appetite of Persian sturgeon larvae and improve the growth parameters.

Keywords: *Acipenser persicus*, Attractant, Farmed Chironomid extract, Methionine.