Effect of length and weight on amino acids of rainbow trout meat *(Onchorhynchus mykiss)*

Majid Mohammad Nejad[1]*

1. Department of Fishery, Bandar Gaz Branch, Islamic Azad University, Bandar Gaz, Iran.

***Corresponding author:**
majid_m_sh@bandargaziau.ac.ir

Received date: 2022.10.28
Reception date: 2023.06.05

Abstract

Amino acids play a vital role as building blocks of proteins and as intermediaries in metabolism. In addition, amino acids are associated with health and amino acid deficiency leads to various diseases. Hence, the knowledge of amino acid composition of foods is important as a basis for determining the nutritional value of substances. Various factors such as type of diet and nutrition, age, weight, maturity, etc. affect changes in the body's nutritional composition, including proteins. In this study, the effect of size (length and weight) on amino acid changes in rainbow trout with 50±10, 250±10 and 600 ± 10 g weight groups and 12±5, 22±5 and 38±5 cm length groups was studied in the summer of 2019. The results of amino acid analysis showed that the amount of essential amino acids including: arginine, histidine, leucine, methionine, thronin, lysine, phenylalanine and valine in different weights and lengths were not significantly different (P> 0.05). Also, the amount of non-essential amino acids including: aspartic acid, gluten, serine, glycine, alanine, proline, tyrosine and cystine in different weights and lengths were not significantly different (P> 0.05). The results of this study showed that in rainbow trout, fish size has no significant effect on the amount of amino acids. Also, the results of this study and its comparison with other fish showed that rainbow trout is a fish rich in essential and non-essential amino acids that are needed for human health. In addition, this fish is richer in terms of amino acids arginine, methionine, lysine, phenylalanine, tyrosine and proline than some fish such as common carp and the amount of aspartic acid, serine, glutamic acid, glycine and alanine is less than other fish.

Keywords: Length, weight, amino acids, rainbow trout.