

Amino Acid Composition of Cultured Black Sea Trout (*Salmo trutta labrax* PALLAS, 1811)

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Aim of the study: Black Sea trout is endemic fish species of northern Black Sea region and cultured since 1999 by Central Fisheries Research Institute. Since those days, Black Sea trout has been more prevalent in public, and hence has become a one of the primary choices for the aquaculture sector. However, the processing of Black Sea trout in the seafood sector was limited. In this study, it was aimed to reveal the high amino acid content of Black Sea trout. Thus, these results provide information for the further studies and it can be compensates lack of information about nutrient content.

Material and Methods: In this study, 30 individuals of cultured trouts approximately 350 gr each of them were used. Fillets were cut into two pieces throughout from anus to dorsal, vertically. The meat tissue from anus to caudal fin named as caudal section. Second part of the fillet were also divided two pieces throughout to linea laterallis and upper part was named as dorsal, lower part was named as abdomen sections. Thus, amino acid analyses were carried out in dorsal section (DS), abdomen section, caudal section, liver and gonadal tissue. In the analyses, the two gram of all samples were taken and digested with 10N HCl at 110°C in a drying oven for 24 hours. The obtained mixtures were filtered by 0.20 µm PTFE syringe filter. Thereafter, samples were derivatized and syringed (20 µl) to the Agilent Infinity 1260 model HPLC system with 2mL/min flow rate, gradient mobile phase (A:Na₂HPO₄, B:ACN:MeOH:H₂O) and Zorbax amino acid colon (4.6x75mm, 3.5µm). Finally, samples were detected with diode array detector (DAD) in two different wavelengths as 338 nm and 262 nm. The obtained results after being integration were calibrated and expressed as g/100g. Also, proximate composition of all samples was determined.

Results: According to results, dorsal section has 16.021±0.21 g/100g, abdomen section has 12.034±0.37 g/100g, caudal section has 15.617±0.17, liver has 11.510±0.41 and gonad has 17.274±0.43 total amino acid. In the meat tissues, the most commonly found amino acids were found as glutamic acid, aspartic acid and lysine, respectively. Dorsal and caudal section's amino acid contents were found similar to each other, while abdomen section has lower amino acid content than others statistically. The abdomen contains more fat than other sections. In parallel with this, it contains less protein and the amino acid ratio is lower. Likewise, liver has lowest amino acid compositions among groups with their high fat and glycogen content. The gonadal tissues has high amount of raw fat, ash and protein. Besides, it has highest amino acid content among groups. Besides, it was found that all groups contained all of the eight essential amino acids in significant amounts. In the view of the results, Black Sea trout's meat and gonad are rich in terms of amino acid composition especially essential ones.

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Keywords: Black Sea trout, *Salmo trutta labrax*, amino acid, seafood, cultured fish, endemic fish.