Effect of seasons on the composition and the ratio of omega-3 to omega-6 fatty acids of muscle tissue of *Barbus xantopterus*

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Abstract

The aim of this study was to determine the Seasonal variations in the muscle fatty acid composition of Barbus xantopterus. For this purpose, 21 samples of fish were caught in the middle month of each season during 2014-2015 and Total fatty acid compositions in 7 sample were investigated by a gas chromatographic method. The SFA content of the muscle were at the highest in the spring and significant difference with other season (P<0.05). The SFA content of the muscle were at the highest in the winter and were significantly reduced in the spring. Docosahexaenoic acid (22:6n-3), Eicosapentaenoic acid (20:5n-3), Linoleic acid (18:2n-6) and γ-linolenic (18:3n-6) were the most abundant PUFA.Omega-3 and docosahexaenoic fatty acids of the muscle tissue were not significantly different in different seasons. were dominant. Range of P/S ratio was from 0.52 to 1.36 in the different seasons. The changes range of IA and IT indices were 0.22 -0.96 and 0.25-0.66, respectively. In conclusion, it was shown that the saturated and mono unsaturated fatty acid compositions in the muscle of B. Xantopterus was significantly influenced by the seasons and poly unsaturated and mega3 fatty acids was not significantly influenced by the seasons.

Keywords: *Barbus xantopterus*, Muscle, Fatty acid Composition, Season, Shadegan Wetland.