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 2014-2015and 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.