

Comparison of fatty acids, cholesterol, fat soluble vitamins and carotenoids content of skin and edible tissue of farmed African catfish (*Clarias gariepinus*, Burchell 1822)

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Abstract. African catfish (*Clarias gariepinus*) is new species for the Bulgarian market. It is a valuable source of biologically active components that play an important role in human diet, but there is lack of information for the quality of its dietary lipids. This study focuses on the assessment of skin and edible tissue lipid quality of farmed African catfish based on lipid content and detailed fatty acids, fat-soluble vitamins, cholesterol and carotenoids composition. Fatty acid composition was determined by gas chromatography with mass spectrometer (GC/MS) after lipid extraction. Vitamins A, D₃ and E, beta-carotene, astaxanthin and cholesterol were analyzed simultaneously using high performance liquid chromatography (HPLC) with ultraviolet and fluorescence detectors. Lipids, cholesterol, astaxanthin and monounsaturated fatty acids (MUFA) were significantly higher in skin, whereas vitamin A and E, polyunsaturated fatty acids (PUFA) were higher in muscle tissue. Vitamin D₃ showed comparable amounts in both tissues. Eicosapentaenoic acid (C20:5n3) and docosahexaenoic acid (C22:6n3) which are important indicators for fish lipids quality presented significantly high amounts. A portion of 100 g filet without skin contains approximately 600 mg. Results confirmed that African catfish meat – with or without the skin, can be valuable and preferable source of biologically active lipids.

Keywords: African catfish, fatty acids, vitamins, cholesterol, carotenoids

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