**If you catch it, should you eat it? Fatty acids profile of wild largemouth bass (*Micropterus salmoides* Lacépède, 1802) captured in Alentejo region reservoirs**

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In the last 20 years the consumption of fish has increased exponentially around the world, due to health benefits to humans, in providing n-3 long chain polyunsaturated fatty acids (n-3 LC- PUFA) and high protein quality1. The increase consumption linked with the decrease of wild fish species captures, conditioned the increase of aquaculture especially the production of freshwater fish species.

While the protein composition is generally very stable in fish, the fatty acid (FA) composition is greatly influenced by the diet, therefore depends on food source quality, which has raised the question about the nutritional profile between aquaculture freshwater fish and naturally caught freshwater species. The main source of n-3 LC- PUFA for aquaculture feeding is mixtures based on fish meal and oil fish. These products are used in different production sectors, so their accessibility is increasingly limited. Therefore, this industry tries to supplement diets with plants components, which in many cases decrease the proportion of n-3 LC- PUFA typical of fishes. On the contrary, the wild freshwater fish diet is based on phytoplankton and zooplankton and on algae producing essential LC-PUFA and being the freshwater fish able to biosynthesize n-3 LC-PUFA from their 18-carbon precursor2.

The wild largemouth bass is one of the most used species in sports fishing in the world. In Portugal, especially in the innermost regions of the country, is considered a delicacy, and in some places, it is described as a regional cultural landmark3. This freshwater species has highly variable diets throughout its life cycle and therefore, the lipid composition of their fillet and its gastronomic interest can value it as a potential food and marketing item.

GC/MS is one of the most used techniques to quantify or qualify fatty acids profiles4. Nevertheless, the separation between FA geometrical isomers is in most cases very difficult because they have similar polarity and boiling point, occurring in several cases coelution between isomers. To resolve these issues, an optimized method was applied to the separation, identification and semiquantitative determination of individual fatty acid contents in muscle matrix5.

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