ASSESSMENT OF MERCURY LEVEL IN CANNED FISHES (TUNA AND BONITO). INFLUENCE OF THE TECHNOLOGY AND TOXICOLOGICAL RISK

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Heavy metals are considered the most important form of pollution of the aquatic environment because of their toxicity and accumulation by marine fishes. Mercury is a known human toxicant and the primary sources of mercury contamination in man are through eating fish. The aim of this study was the determination of the mercury content in samples of canned tuna (Thunnus thynnus) and canned bonito (Sarda sarda), and in fresh fish. It was carried out the statistical analysis of the factors that influence its accumulation (packing, preparation and commercial brand), and the evaluation of the toxicological risk due to its consumption 110 samples, commercialized in Galicia (Spain), were subjected to digestion, in acid medium on a microwave station. The determination of mercury content was performed by inductively coupled plasma mass spectrometry (ICP-MS). As results, considering the studied presentations (parking), the order for the mercury content was: fresh > canned > glass container. The glass presentation was the least contaminated with average value of 0.3111 μg/g wet weight. According to the preparation type, levels of mercury were: oil ~ natural > pickle. As for the commercial brands, statistically significant differences were not observed, and "Albo" showed the lowest contents. The results of this study indicate that tuna and bonito fishes have concentrations bellow the permissible FAO/WHO levels for this toxic metal (1 μg/g), except in two samples of fresh tuna that exceeded this limit. In general, taking in account the participation of tuna and bonito, in Spanish diet and the mercury concentrations in this study, a consumption of these species, canned and fresh, does not represent a toxicological risk, except for pregnant women.

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