

Total Mercury Loss Evaluation Before and After Cooking in Fish Most Commonly Consumed in Manaus, Amazonas State, Brazil

Luciana Farias (*Instituto de Pesquisas Energéticas e Nucleares (IPEN / CNEN - SP)*), Déborah Fávoro (*Presenting Author, Brazilian Nuclear Commission Instituto de Pesquisas Energéticas e Nucleares (IPEN / CNEN - SP)*), José Osman Santos (*Instituto de Pesquisas Energéticas e Nucleares (IPEN / CNEN - SP)*), Vera Akiko Maihara (*Instituto de Pesquisas Energéticas e Nucleares (IPEN / CNEN - SP)*), Marina Beatriz Vasconcellos (*Instituto de Pesquisas Energéticas e Nucleares (IPEN / CNEN - SP)*), Lucia Yuyama (*Amazon National Research Institute, INPA*)

Environmental mercury contamination from natural and anthropogenic sources is a widespread problem in freshwater and marine fish. Fish is the main protein source for several population groups, mainly those riverine populations in the Amazon. There is much information regarding mercury content (Hg) in several fish species, portraying the chemical composition of fish in natura. This study evaluated the mercury loss from fish usually consumed in the city of Manaus prepared by three different cooking processes (roasted, cooked and fried). Sixty four fish samples of 12 different fresh water species, those being Aracu (*Schizodar sp*), Aruanã (*Osteoglossum bicirrhossum*), Branquinha (*Curimata laticeps*), Curimatã (*Prochilodus nigricans*), Jaraqui (*Prochilodus insignis sp*), Pacu (*Mylossoma spp*), Pescada (*Plagioscion spp*), Pirapitinga (*Piractus brachypomum*), Sardinha (*Triportheus elongatus spp*), Surubim (*Pseudoplalystoma fasciatum*), Tambaqui (*Colossoma macropomum*) and Tucunaré (*Cichla ocellaris spp*), were purchased at CEASA (central receiving market) in Manaus. These samples came from the Ariaú and Puraquequara lakes and also Autazes, Codajás, Careiro and Terra Nova counties. The fish samples were purchased in October of 2004 and transported to the Food and Nutrition Laboratory (CNPS) from INPA (Amazon National Research Institute) for preparation. The content of total Hg was determined by Cold Vapor Atomic Absorption Spectrometry (CV/AAS). Median for Hg contents in the fish samples analyzed in natura ranged from 0.03 mg kg⁻¹ to 2.39 mg kg⁻¹, for roasted fish from 0.05 mg kg⁻¹ to 1.67 mg kg⁻¹, cooked fish from 0.02 mg kg⁻¹ to 1.60 mg kg⁻¹ and for fried fish from 0.02 mg kg⁻¹ to 1.16 mg kg⁻¹. Data group distribution characteristics were examined using descriptive statistics, as well as Shapiro – Wilk and F tests. Differences in Hg losses for three different cooking processes were described by means univariate statistic (scatterplot and boxplot) and nonparametric test.

11443