Evaluation of the amount of mercury in the water, soil and rice planted in Guilan rice fields

Shima Bigdelou*,Fereshteh Nematollahi, Fariba Zamani Hargalani,

Abstract: more than a third of people in developed countries suffer food-borne illnesses every year, and the death rate food-borne illnesses in developing countries is estimated at 2.8 million per cent annually Has been. The present study was conducted to measure the amount of mercury in rice of Hashemi sample. The correlation of mercury concentration in soil, water and rice samples was also investigated. Soil, water and rice samples 10 fields randomly ed Gilan province were collected. The DMA-80 was used to determine the mercury content of the Mercury Analyzer. The results of the evaluations showed that in the tested samples, the average mercury in rice (ng g-1) was 7393/14, the mean mercury in water (µg L-1) was 6381 and the average mercury in soil (ng g- 1) is 2532/39 and the results obtained spss showed that there is no significant correlation between mercury concentration in water and soil of rice fields with its concentration in rice (significant level is greater than 0.05) and concentration of mercury in rice Less than its concentration in the soil and more than its concentration in groundwater. In order to evaluate the risk, the estimated daily consumption of this element in the studied areas (288.58 kg / ng) with a tolerance limit (TDI) determined by FAO / WHO (5000 kg / ng), which revealed that the contamination of the sample Rice has lower mercury levels than the global limit, and the daily absorption of mercury through the use of rice is not alarming. Keywords: Rice, Soil, Mercury, Assess potential health risk, Estimated Daily Intake.

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