

عنوان مقاله:

Determination of Radionuclide Concentrations in Tea Samples Cultivated in Guilan Province, Iran

محل انتشار:

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خلاصه مقاله:

Introduction Foodstuffs are known to contain natural and artificial radionuclides. Determination of radionuclide concentration is of great significance for the protection of human health. The main objective of the present study was the quantification of radionuclides in tea samples, cultivated in Guilan Province in North of Iran. **Materials and Methods** The activity concentrations of ^{226}Ra , ^{232}Th , ^{40}K , and ^{137}Cs in 18 tea samples were measured, using a gamma spectrometry system. In addition, radium equivalent index (Raeq) and radiation hazard index (HI) were calculated. ANOVA test was used for the statistical analysis of the data **Results** The concentration of ^{137}Cs was below the minimum detectable activity (MDA). The concentrations of ^{226}Ra and ^{232}Th ranged from $< \text{MDA}$ to 0.042 and $< \text{MDA}$ to 0.037 Bq/kg respectively. The mean concentration of ^{40}K was 410 ± 15 Bq/kg. Based on the findings, the concentration of ^{40}K was significantly higher than other radionuclides ($P < 0.01$). Also, the mean Raeq value was estimated at 31.8 ± 1.2 Bq/kg, and HI in the samples ranged from 0.075 to 0.093 . **Conclusion** According to the findings, the activity level of radionuclides in tea samples was found to be within the acceptable range and therefore, non-threatening to public health.

کلمات کلیدی:

Radionuclide, Tea, gamma spectrometry

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