

عنوان مقاله:

Radiological assessment of different varieties of pistachios produced in Iran

محل انتشار:

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خلاصه مقاله:

Nuclear radiations are harmful to the human body. The main sources of nuclear radiation are the decay chains of U-238, U-235, and Th-232 and also some radionuclides as K-40, which are present in small amounts in the materials of the earth's crust, including plants, rocks, soil and water. Radioactive substances are transferred to the human body in a variety of ways, including plant and animal products. Therefore, it is very important to determine the amount of radioactive substances in food products. In this research, seven samples of pistachios with different types were collected from Tehran markets in Iran. In this project, ultra-pure germanium spectroscopy system model GCD30195 was used. The specific activities of Ra-226, Th-232 and K-40 varied from 1.96 to 9.86, from 1.21 to 1.95, and from 317.22 to 382.80 Bq.kg⁻¹. The artificial radionuclide of Cs-137 in all samples was lower than minimum detectable value (MDA). Calculations of the radiological impact showed that consumption of pistachios would endanger human health. The results of this study also showed that the amount of natural radionuclides in pistachio cores is higher than pistachio shells.

کلمات کلیدی:

Pistachio, HPGGe, Ra-226, Th-232, Radiation

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