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# **BOOK OF ABSTRACTS**



## Natural and artificial radionuclides in herbal teas from Serbia

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Due to their therapeutic and pharmacologic properties, medicinal herbs have a long history of use around the world. The objective of this study is to determine the activity concentration of natural ( $^{40}\text{K}$ ,  $^{226}\text{Ra}$ ,  $^{232}\text{Th}$ , and  $^{238}\text{U}$ ) and artificial ( $^{137}\text{Cs}$ ) radionuclides in samples of herbal teas from Serbia.

The samples of the following commercially available teas: dandelion leaf (*Taraxaci folium*), mulberry leaf (*Mori nigrae folium*), ground ivy (*Glechoma hederacea*), sweet wormwood (*Artemisia annua*), rose hip (*Cynosbati fructus*), wall germander (*Teucrium chamaedrys*), and thyme (*Thymus vulgaris*), were collected in Serbia in 2021. The radionuclides' activity concentrations were determined using gamma spectrometry.

The results show that among the natural radionuclides,  $^{40}\text{K}$  is dominant (316–1616 Bq/kg), while the activity concentration of  $^{226}\text{Ra}$  and  $^{232}\text{Th}$  ranges from below the minimum detectable activity (MDA) to 12.3 Bq/kg, and below the MDA to 13.4 Bq/kg, respectively. In all investigated samples, the  $^{238}\text{U}$  activity concentration is below the MDA. Cesium-137 is detected in five out of seven analysed samples (0.3–2.9 Bq/kg).

The results indicate that  $^{137}\text{Cs}$ , released into the atmosphere after the Chernobyl accident in 1986, is still present in the environment of Serbia. Nevertheless, according to the Serbian legislation regulating the maximum permitted levels of radionuclides in foodstuffs, all of the investigated samples of herbal teas are safe for human consumption.

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