MONITORING OF SEVERAL RADIOISOTOPES IN SOILS AND PLANTS FROM URANIUM MINING AREAS

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Abstract

A five-year survey of gross $\alpha+\beta$, $^{226}$Ra, and $^{137}$Cs in soils and selected spontaneous plants ($Hypnum cupressiforme$, $Urtica dioica$, $Dryopteris filix-mas$, and $Cirsium arvense$) in the Crucea and Lesu Ursului mining areas is presented. The maximum activities in soils were found to not exceed 0.257 Bq/g for gross $\alpha+\beta$, 0.35 Bq/g $^{226}$Ra, and 0.05 Bq/g $^{137}$Cs. All plant species shown similar capabilities for gross $\alpha+\beta$ and $^{226}$Ra assimilation. The soil-to-plant transfer coefficients are of about 1÷2, in line with values already reported and lower than ones found for other much effective species as $Mentha piperita$, $Fragaria vesca$, or $Abies alba$.

Key words: Gross $\alpha+\beta$, $^{226}$Ra, $^{137}$Cs, radioactive monitoring, spontaneous vegetation

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