



## **Behaviour of Naturally Occurring Radionuclides in Perennial Plants**

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**Abstract:** Much of our food directly or indirectly originates from plant material, thus detailed studies on plant contamination processes are an essential part of international environmental research. This overview attempts to identify and describe the behavior of natural radionuclide transfer to plants. Knowledge of this behavior can help to assess and prevent radiological exposure of humans. This knowledge can also help to guide researches and modelling related to transfer of radionuclides to food chain. A comprehensive study was conducted to determine the soil to plant transfer factor ( $TF_{S-P}$ ) of  $^{232}\text{Th}$ ,  $^{238}\text{U}$ ,  $^{40}\text{K}$  and  $^{137}\text{Cs}$  in perennial plants using high-resolution  $\gamma$  spectrometry. A total of 40 soil and 60 plant samples were collected from different locations in the nearby area from nuclear research centre (NRC) of Egypt (about 30 km radius) at Inshas area.

**Keywords:** Transfer factor [ $TF_{S-P}$ ],  $^{232}\text{Th}$ ,  $^{238}\text{U}$ ,  $^{40}\text{K}$  and  $^{137}\text{Cs}$ .

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