TRANSFER OF ^{137}CS FROM SOIL TO PLANTS IN DIFFERENT TYPES OF SOILS

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The results of the investigations of the transfer of ^{137}Cs from soil to plants in different types of soils are presented. The investigations were carried out in two mountainous regions in the West and South region of the country (Mt.Tara, 1280 m and Mt.Sara, 2000 m). The investigations are part of the long term project on the distribution of natural and man made radionuclides in »soil – plants« ecosystems. The activity of ^{137}Cs in the samples of soils and plants was determined by a HPGe detector (ORTEC, relative efficiency 20%) by standard gamma spectrometry.
Three main types of soils were examined: shale, limestone and the mixed one and a certain number of plants: grass, meadow flora, pinewood, blueberries, an endemic species of Mt.Sara and the bioindicators: moss and lichten. The transfer factors defined as ratios od ^{137} Cs concentrations in plants and soil from the same locality were calculated. The factors are in the range of 0.1 – 2.0 due to the type of soils and plants (3.0 – 10.0 for bioindicator plants). The vertical distribution of ^{137} Cs in the first 15 cm of soils indicate the slow migration of Chernobyl cesium through soils except on riversides due to the wash-out effect. Generally the concentration of ^{137}Cs in soils strongly depends on the configuration of the terrain.