

INFLUENCE OF THE OCCURRENCE DEPTH AND THICKNESS OF THE ¹³⁷Cs CONTAMINATED SOIL LAYERS ON THE UPTAKE COEFFICIENT OF PLANTS

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The influence of occurrence depth and thickness of the ¹³⁷Cs contaminated soil layers on the uptake coefficients of cultured plants, such as wheat (*Triticum aestivum L.*), rye (*Secale cereale L.*), maize (*Zea mais L.*), having fibrous root systems, and pea (*Pisum sativum L.*), bean (*Phaseolus vulgaris L.*), soybean (*Glicine max (L.) Merr.*), having tap root systems, was studied. In full controlled laboratory conditions considerable differences in ¹³⁷Cs uptake by different species of plants in dependence on the form of their root systems were established. It was found that the uptake coefficient of plants with fibrous type root system is bigger than one of the plants with tap type root system. The maximum values of uptake coefficient were obtained when upper 0 - 4 cm layer was contaminated. For deeper occurrence of the contaminated layers, the uptake coefficient values decreased, reaching their minimum at 12 - 16 cm. When the contaminated layer thickness increased from 4 to 16 cm the uptake coefficient values also increased in 1.9, 1.4, 3.0, 1.0, 2.4, and 1.2 times for wheat, rye, maize, pea, food bean, and soybean respectively. Obtained data suggests that form of the root systems, ¹³⁷Cs contaminated layer occurrence depth and thickness are of determinative significance for the uptake coefficient values of plants.