

GENOTOXIC INFLUENCE OF RADIONUCLIDE SOIL POLLUTION ON PLANT MERISTEM

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The vertical heterogeneity of ^{137}Cs and ^{90}Sr distribution in the main root of seedling with prevailing concentration of radiocesium in meristem zone and radiostroncium in elongation zone is established. The obtained data have allowed to calculate the dose loads on plant critical tissue in conditions of radionuclide pollution. The negative influence of $3,7 \cdot 10^5$ Bq/kg ^{137}Cs soil pollution on seed germination and growth rate of onion seedlings is shown. At levels of soil pollution about $3,7 \cdot 10^2 - 3,7 \cdot 10^5$ Bq/kg the increasing of mitotic index of meristem tissue of the onion seedling main root is shown. The level chromosome aberration in meristem cell at ninth day was about 241, 216 and 151 % for soil with activity $3,7 \cdot 10^4$, $18,7 \cdot 10^4$ and $3,7 \cdot 10^5$ Bq/kg correspondingly. The root growth rate and mitotic index in irradiated variants exceeded with control level, that denoted on restoration and radioadaptation processes. The essential difference between the quantitative characteristics of radiocesium and radiostroncium cytogenetic action is not revealed.