

**EVALUATION OF  $^{241}\text{Am}$  GENOTOXICITY  
IN TEST-SYSTEM OF *ALLIUM CEPA L.* SEEDLINGS ROOT TIP CELLS**

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The present study was designed to elucidate the rate of chromosome damages induced by  $^{241}\text{Am}$  in plant test-system. The seedlings of onion *Allium cepa L.* were used as a test-system. The impact of  $^{241}\text{Am}$  - irradiation on the frequency of chromosome aberration (FCA) in root tip cells (using anaphase method), mitotic index (MI) and energy of germination (EG) was evaluated. The seed were soaked and germinated in  $^{241}\text{AmCl}_3$  solutions different concentrations ( $1,5 \cdot 10^{-9}$  -  $3,0 \cdot 10^{-7}$  g/l). Water solution-to-plant transfer factor for  $\text{Am}^{241}$  was found to be  $0,18 \pm 0,04$ . The effect of  $\gamma$ -irradiation on FCA on the same assay was also evaluated for comparison with that of  $^{241}\text{Am}$  to establish the relative biological effectiveness (RBE) of  $^{241}\text{Am}$ . We revealed strong effects on both FCA and MI at  $\gamma$ -irradiation. The clearest impact of  $^{241}\text{Am}$ -irradiation on EG-parameter was registered. We had not received statistically significant values that could demonstrate any changes in FCA in seedlings grown on  $^{241}\text{Am}$ -contained solution in comparison with the control. We revealed the greatest rate of difference of FCA in one case, than concentration of  $^{241}\text{Am}$  in solution was  $1,5 \cdot 10^{-8}$  g/l. This rate was taken to account the RBE and it amounted to  $58 \pm 18$ . The real number of RBE should be some lower due to differences between condition of  $\alpha$ - and  $\gamma$ -irradiation.