

EFFECT OF TREATMENT OF TOMATO SEEDS AND ROOT-KNOT NEMATODE EGG SACKS BY VARIOUS DOSES OF γ -IRRADIATION ON THE DEVELOPMENT OF PLANTS AND NEMATODE

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Summary. Radioactivity is a process which influences the life on our planet since the organic matter has been organized. One of its components is the gamma-rays which have great biological effect on all living organisms. It can induce of various mutations, activates of biochemical systems and resistance of organisms. Investigations of the effect of ionizing radiation on the host-parasite systems make clear various aspects of interactions between parasite and its host and it is of great importance to increase the plant resistance to parasitic attacks.

Influence of various doses of γ -irradiation (90, 700 и 1800 mGy.) on Tiny Tim tomato plants and eggs sacks of root-knot nematode *Meloidogyne arenaria* developing were investigated. Ionizing radiations of tomato seeds by low dose (90 mGy) stimulate the development of plants. Height doses γ - irradiation (700 and 1800 mGy) suppress the development (height, root and shoot weight) of tomato plants.

The irradiation doses (700 and 1800 mGy) retarded the growth of nematodes. Metric characteristics of *M. arenaria* females, mainly on body size were smaller. The highest experimental dose (1800 mGy) disturbed development of females of *M. arenaria* (J4) to mature forms. Change of correlation between females and males specimens under influence of γ -ionizing has been observed at the expense of decreasing of males.

These results show perspectives of the further researches of application of γ -irradiation in management of root-knot nematodes.