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INFLUENCE OF A WILD TYPE AND MUTANTS OF BACILLUS THURINGIENSIS BY U.V. IRRADIATION ON MELOIDOGYNE INCOGNITA JUVENILES UNDER LABORATORY AND GREENHOUSE CONDITIONS

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Abstract

The nematicidal activity of the wild type and three mutants namely (24, 10, 32) of the chitinolytic bacteria, *Bacillus thuringiensis* was evaluated against juveniles of *Meloidogyne incognita* using U.V. irradiation as a safer and environment friendly control, alternate of chemical nematicides under laboratory and greenhouse conditions at 25 ± 5 ºC. Results, generally indicated that the mutant no. 24 is more effective in reducing the nematode juveniles followed by mutant no.10, then mutant no. 32 as compared to the wild type which achieved the lowest nematode mortality under laboratory conditions. These values ranged from (64.2 to 82.6 %), (55.2 to 57.7 %), (51.2 to 54.5 %), (35.5 to 49.7 %), respectively compared to 7 % in untreated control after 96 hr time. Under greenhouse conditions, percentage reductions in number of both galls and egg-masses at using standard (S) concentration ranged from (72.5 - 88.9 %) and (88.9 - 97.8 %), respectively. Plant growth parameters of the nematized sunflower plants were significantly increased with using the tested mutants and the wild type of B.t. The best plant growth improvement was found at using the mutant no.24 followed by no.10 then no.32 as compared to the wild type which gave the lowest plant growth promotion..