Abstract

Root-knot nematodes *Meloidogyne* spp. consider as one of the most important disease agent in tomato through the world. These nematods attack to more than 2000 plant species and cause crop lost nearly 70 billion dollar annual. The main objective of the research was to decrease the nematode damage using biological agents. The effect of biological of the 11th strains of Fluorescent Pseudomonads, *Trichoderma harzianum* two strains, two strains of *Glomus mosseae* and *Glomus intraradices* on this kind of nematode was considered. The percentage of mortality of 2th larva stage and unhattching of nematode eggs influenced by bacterial strains and *Trichoderma* strains in 96-well plates were considered by binocular. Four bacterial strains selected for green house tests which had adverse effect on nematodes. The effect of two strains in lab conditions were not significant in %1 levels then these two kinds of strains selected for green house test. In green house tests, after period of two weeks antagonistic agents and nematode inoculated to tomatos. After 45 days, plants were harvested and then were gauged a number of growth and disease indexes. For all tests used complete randomized design. UTPF86 and UTPF95 bcterial strains, $T1Mt_1$ and $T2Mt_1$ fungi treatments, *G. mosseae* fungi isolate controlled more than %50 damage of nematode in green house conditions. Inoculation of *Trichoderma* controlled more than %70 damage of nematode and could exert an enhancement for plant growth. Results showed which $T1Mt_1$ and $T2Mt_1$ fungi treatments could probably control the disease by the aggregation of metabolites and antagonistic activity in soil. This treatments might paralyze the nematode and hindered the penetration of nematode due to colonization of fungi on root. UTPF86 bacterial strain to produce high salicylic acid, creation of induced resistant and UTPF95 strain by the production of HCN could controls the damage of nematode. Mycorrhizal fungi might control the penetration of nematode by indused resistant in plant and colonization of roots. It could also increase the plant resistance or probably changing of physiology and root secrets for declining of the damage of nematode.

Key words: Root-knot nematodes, Fluorescent Pseudomonads, *Trichoderma,* Mycorrhizal, Biological control

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Biological control of tomato root- knot nematode by some antagonistic agents

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