Effect of Sewage Sludge on Root Knot Nematode Pathogenicity (*Meloidogyne javanica*) on Tomato

A. Abdolahi Arjenaki and A. A. Fadaei Tehrani[1*]

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Abstract

Plant parasitic nematodes, especially root knot nematodes, cause damage to most of agricultural products, and many efforts have been done to control them. In recent years, application of industrial waste and wastewater sludge as organic fertilizers in agriculture has been increased. To investigate the effects of sewage sludge on root knot nematode pathogenicity in tomato, different weights of sewage sludge (0, 4, 8, 15 and 25% of sludge in the soil) in soil were added as a completely randomized design with six replications. Analysis variance and mean comparison of growth indices of plants showed significant effects of treatments. For example, means of stem length of plants increased in soil with more amount of sewage sludge. This relationship was also observed in other indices and nutrients elements. So using sewage increased nitrogen, phosphorous, calcium and magnesium in tomato shoots inoculated with nematodes while the change of potassium was very small. Application of sewage sludge decreased the number of galls, egg-masses and eggs in egg-mass of root knot nematode.

Keywords: Control, Root knot nematode, Sewage sludge, Tomato.

1. Dept. of Plant Protection, College of Agric, Shahrekord Univ., Shahrekord, Iran.
*: Corresponding Author, Email: ma_fadaei@yahoo.com

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