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Determining the Efficiency of Fumigant Applications Against Root Nematodes (*Meloidogyne* spp)

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Abstract

Root-knot nematodes (*Meloidogyne* spp) have a wide host range and cause significant crop losses in vegetable fields. Root nematodes are still causing high yield losses in the greenhouses due to application mistakes in recent years. Different fumigants applications are important to determine the effects of fumigants against nematodes. For this purpose, fumigant applications in the province of Mersin in 2014-2015 were investigated for the root nematode controlling. EDN (Ethanedinitrile), a new fumigant to control root-knot nematodes, was used in this experiment. Metam sodium was applied as comparison fumigant at the dose of 125 l/da and EDNTM at the doses of 200, 300, 400 and 500 l/d by the drip watering system. The 0-10 galling index was used in the evaluation of the experiments and the Abbott formula (%) was used to determine the efficacy. It was determined that the rate of root galling in greenhouse 1 in non-treated parcels was 7,15. In the EDNTM application at the rates of 200, 300, 400 and 500 l / da against root-knot nematodes were 3.2, 0.44, 0.45, 0.4 of galling index, respectively, and the percentage effects were 54.5; 94; 93.3, 94.5, respectively. Metam sodium, which is a comparison fumigant, was found to be effective at a rate of 92.5 percent with a rate of 0.55 galling index at a dose of 125 l / ha. Parallel results were determined in Greenhouse 2, too. These results indicate that the EDN fumigant is successful in the nematode controlling and can be used as a fumigant against root nematodes in the tomato cultivation.

Key Words: Ethanedinitrile, Fumigant, root knot nematode