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Poster Presentation

Nematicidal effect of *Nerium oleander* extract on nematode development and function

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Abstract

Root knot nematodes are important genus within the plant parasitic nematodes that are polyphagous group and highly obligate parasites. They are found almost all over the globe in tropical and some temperate regions and infect a vast amount of plant species including vegetables and agricultural crops. Tomato is one of the important crop for Turkey due to its broad consumption. However, root knot nematodes are one of the main limiting factor for tomato production. Different control strategies are available to control Root knot nematodes however; environmentally friendly applications have been getting popular in recent years due to low damage to soil rhizosphere. Plant extracts may also promising options to control Root knot nematodes. In this study, *Nerium oleander* different rate of dilutions of leaf extract were used to determine the effect of nematode development and function, and effects on plant growth in the roots of tomato plants. For this aim, different concentration of extracts (1%, 5%, 15%, 30%, 40%) were tested to determine best dilutions for nematode controlling. Results revealed that no differences were in galling index among the concentrations, however 1% of leaf extract resulted in higher amount of fresh weight and 15% followed it. No differences were found among the nematode reproduction rate among the dilutions in greenhouse conditions. The dilutions of *Nerium oleander* extracts: 1%, 5%, 15%, 30% and 40% caused to kill nematode juveniles at 3%, 10%, 74%, 88% and 96% in laboratory conditions, respectively. To conclude, although leaf extract kill higher rate of nematodes, further studies are needed in field conditions to confirm laboratory and greenhouse results.

Keywords: *Nerium oleander*, nematode, leaf extract, *Meloidogyne incognita*