



This file was edited using the trial version of Nitro Pro 7
Buy now at www.nitropdf.com to remove this message

Abstract
Citrus nematode (*Menchulus semipenetrans*) is one of the nematodes that widely spreads in the Citrus gardens of world and from it causes less the yield and decline of trees. The purpose of this study was to investigate the anti nematode activity against Citrus nematode and identification some local Streptomyces strains isolated from citrus soils. In order to investigate the effect of biological agents on mortality of larvae in summer 1392 from citrus orchards soils in Guilan, Mazandaran and Golestan were sampled from trees with and without symptoms of nematode. Isolation of Streptomyces in a semi selective medium Casein Glycerin Agar (CGA) was done. 46 Streptomyces strains for studying larval control citrus in vitro were isolated and purified. To study the antagonistic effect test, the citrus Roughlemon seedlings infected with citrus nematode were keep for three months in the greenhouse. The soil samples transferred to laboratory then larvae were isolated from soil by tray method. The test was conducted in a completely randomized design with three replications. 13 isolates in 4 days showed antagonistic ability. Among the 13 isolates, the isolates SP13-2 and SP8-3 as much as 49.66% and isolates SP23-1 with 49.33% mortality of larvae showed the highest antagonistic activity. Identification the effective Streptomyces strains by the Morphological, physiological, biochemical and molecular traits was performed. Then, the region of 16srDNA sequenced and the PCR product of 16srDNA district ribosome of 8 isolates including SP8-3, SP23-1, SP15-1, SP13-2, SP4-1, SP8-2, SP8-1, SP16-5 sent to Korea. The results of sequencing refered to the GenBank and after Blasting of sequences, these recorded in GenBank (WebCite of NCBI).

Keywords: Citrus nematode, Streptomyces, Biocontrol, Morphologic, Biochemical and molecular



This file was edited using the trial version of Nitro Pro 7
Buy now at www.nitropdf.com to remove this message

University of Zabol
Graduate school
Faculty of Agriculture
Department of Agriculture

**The Thesis Submitted for the Degree of M.Sc
In the Field of plant pathology**

**Identification of *Streptomyces* spp. of north of Iran
and their effects on control of citrus nematode
(*Tylenchulus semipenetrans*)**

**Supervisors
Dr. N. Panjekeh
Dr. M. Golmohamadi**

**Adviser
Dr. M. Salari**

**By
H. Bahramyan**

January 2015