Pak. J. Nematol., 26 (1): 97-106, 2008

INTEGRATION OF SOLAR-HEATING AND SOIL-AMENDMENT, AN EFFECTIVE CONTROL MEASURE AGAINST ROOT-KNOT NEMATODES IN CUCUMBER FIELDS

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Abstract

The potential of soil-solarization to control (*Meloidogyne javanica* and *M. incognita*) root-knot nematode and soil amendment with cow dung 40T / ha alone or in integration were studied in cucumber fields. The study was conducted during hot season at two provinces in Iran between July and August for the periods of five weeks in two consecutive years. Bioassay of cucumber roots indicates that soil solarization alone could reduce the incidence of root-knot nematodes to 52.56 %, and in amended soil to 56 %, however, integration of soil-solarization and soil-amendment could effectively reduce the nematode incidence by 83 %. Total parasitic nematode population of the genera *Aphelenchoides* sp., *Helicotylenchus* sp., *Heterodera* sp.,*Paratylenchus* sp., and *Tylenchus* sp., was reduced to 71, 69 and 79 % in the respective treatments. The total free-living nematode populations of the genera *Aphelenchus* sp., *Cephalobus* sp., and *Rhabditis* sp., was increased only in amended soil and integration of both treatments of soil amendment (30 %) and soil solarization (53 %).