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Nematicidal Effect of *Pseudomonas fluorescence* on root-knot Nematodes

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Abstract—*Root-knot nematode species (Meloidogyne) are one of the most widespread agricultural pests in the world. Their extensive distribution connects root-knot nematode with infection of all major crop plants. Now-a-days use of chemical nematicides are discouraged because of their negative impact on the environment and human health. Search for environmental friendly alternatives to manage Meloidogyne populations are needed to solve the problem. The nematicidal effect of six Pseudomonas fluorescens strainsviz., Pf-9858,Pf-9768, Pf-7200, Pf-2269, Pf-1749 and Pf-6was tested in-vitroagainst second stage juveniles (J2) and inhibition on egg hatching of Meloidogyne incognita. Each bacterial culture containing 10^8colony forming units (cfu) per ml was prepared. Further dilutions (1.0 to 50.0%) were prepared with addition of sterilized distilled water. Efficacy of all the P. fluorescenscultures were tested by direct application on the J2 and egg masses, at various concentrations ranging from 1.0% to 50.0%. The non-inoculated broth and waterserved as control. The observations were recorded on J2 mortality and egg hatch at an interval of 24, 48, 72 and 96 hours of treatment. The results of present study on J2 mortality revealed that LC_{50} for all P.fluorescens strains was 6%,except for Pf-7200 strain which was at 3% after 24 hours of inoculation. The strain Pf-2269 and Pf-1749 at 1% and 6%, respectively showed inhibitory effect on egg hatching after 24 h of treatment. While almost all the eggs in broth and water were hatched. Thus,P. fluorescensstrains Pf-7200 and Pf-2269were most effective against J2 and egg hatch, respectively.*