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NATIVE RHIZOBACTERIA FOR THE BIOLOGICAL SUPPRESSION OF *RADOPHOLUS SIMILIS* INFESTING BLACK PEPPER (*PIPER NIGRUM* L.)

B. Beena, S.J. Eapen and K.V. Ramana

Indian Institute of Spices Research, Calicut – 673 012, Kerala, India.

ABSTRACT

Burrowing nematode (*Radopholus similis*) is the most serious nematode pest of black pepper (*Piper nigrum* L.). Being a migratory endoparasite, its management by fungal bio-agents is not effective. In this study attempts were made to screen 25 isolates of promising rhizobacteria to suppress these nematodes infesting black pepper rooted cuttings. Different strains of rhizobacteria were collected from the rhizosphere of black pepper and antagonistic plants like *Strychnos nuxvomica*; and short-listed based on *in vitro* bioassays. Fresh cuttings of a high yielding black pepper variety were dipped in the bacterial suspension for 10 minutes and planted in sterilized soil. Further 10 ml of the above suspension was poured on to the root zone. There were six replications and three replications in each treatment were inoculated with R. similis @ 50 nematodes per plant, two weeks after the bacterial inoculation. An absolute control and a nematode treated control were also maintained. All the plants were maintained in a greenhouse for seven months.

After seven months, the plants were uprooted and observations on total biomass, root weight and height were recorded for each plant. The nematode population in roots was estimated using standard procedures. The results showed that some of the rhizobacteria viz. IISR 853, IISR 865, IISR 528 and IISR 658 were excellent in suppressing *R. similis*. IISR 853, IISR 865, IISR 658 and IISR 663 were excellent growth promoters. Judicious deployment of these rhizobacteria will lead to effective control of *R. similis* in black pepper cultivation.