

Management of root-knot nematode, *Meloidogyne incognita* (Kofoid & White) Chitwood in bittergourd using bioagents and organic amendment

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Received August 28, 2017 and Accepted October 9, 2017

ABSTRACT: Studies were conducted to determine the efficacy of bio agents (*Purpureocillium lilacinum*, *Pochonia chlamydosporia*, *Pseudomonas fluorescens* and *Bacillus pumilus*), organic amendments (glyricidia geen leaf mulch and farm yard manure) and chemical (carbosulfan) in managing root-knot nematode in bittergourd under field condition. Soil application of either *P. lilacinum* or *P. chlamydosporia* (cfu 2×10^6) @ 2.5 kg along with *P. fluorescens* (cfu 2×10^6) and 2.5 tones of farm yard manure/ha found to be equally effective to chemical in reducing the nematode population in root (88 to 97 per cent reduction over untreated). Plants treated with *P. lilacinum* (cfu 2×10^6) @ 2.5 kg along with *P. fluorescens* (cfu 2×10^6) and 2.5 tones of farm yard manure/ha showed significantly lower gall index (1.00) and soil nematode population (23.33 *M. incognita* juveniles/200cc soil). Highest yield (20.83 t/ha) was observed in plants treated with *P. lilacinum* (cfu 2×10^6) @ 2.5 kg along with *P. fluorescens* (cfu 2×10^6) and 2.5 tones of farm yard manure/ha. Results clearly indicated the effectiveness of egg parasitic fungi (*P. lilacinum*) and bacteria (*P. fluorescens*) in combination with organic amendment (farm yard manure) in reducing the nematode population and thereby increasing yield in bittergourd.

Key Words : Bio agents, organic amendment, root-knot nematode, bitter gourd.