

Management of *Meloidogyne incognita* in *Artemisia pallens* with Bio-organics

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The sedentary endoparasitic root-knot nematode [RKN], *Meloidogyne incognita* (Kofoid and White) Chitwood, is worldwide an economically important agri-pest, reducing the yield and quality of crops. The traditional method of RKN control is based mainly on chemical nematicides, which will not be frequently available from 2005 onwards; their use is highly objectionable due to their major contribution to ground water contamination, and dangers to the environment and to human and animal health. Consequently, new and environmentally safe tools for RKN management are urgently needed. The objective of the present investigation was to evaluate different bio-organic wastes on RKN infestation and the growth / oil yield of *Artemisia pallens* Wall. The tested wastes were: 1. Distillation waste of *Mentha arvensis* (menthol mint); 2. *Murraya koengii* (meethi neem / curry leaf); 3. *Cymbopogon flexuosus* (lemongrass); 4. *C. martinii* (palmarosa); 5. *C. winterianus* (citronella); 6. *Pelargonium graveolens* (geranium); 7. *Pogostemon patchouli* (patchouli); 8. *Tagetes minuta* (marigold); 9. Vermicompost of *M. arvensis*, *Chrysanthemum cinerariaefolium* (pyrethrum), *Tagetes minuta* and *C. winterianus*; 10. *Trichoderma harzianum* isolate U; ¹ VA fungi *Glomus aggregatum*; *G. fasciculatum*. The results obtained with these different bio-organics were compared with three controls: untreated – uninoculated, untreated – inoculated and the chemical pesticide carbofuran. Results revealed a considerable enhancement of herbage biomass, flower bud and oil yields when plants were treated with the distillation waste of *C. martinii*, *C. winterianus*, *M. koengii*, *M. arvensis*, vermicompost of *C. cinerariaefolium*, *T. minuta*, *M. arvensis* and bio-agent *T. harzianum*. Least nematode infections were recorded with the distillation waste of *M. koengii*, *C. martinii*, *C. flexuosus*, and vermicompost of *T. minuta*, *C. cinerariaefolium* and *M. arvensis*. The results revealed that these environmentally sound bio-organics could be used for replacement of chemical nematicides.

KEY WORDS: *Artemisia pallens*; bio-organics; distillation waste; *Glomus aggregatum*; *G. fasciculatum*; *Meloidogyne incognita*; *Trichoderma harzianum*; vermicompost.

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