

Investigations on mass production of the potato rot nematode, *Ditylenchus destructor* (Thorne, 1945) using different monoxenic cultures

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Abstract

The reproduction of an Iranian population of *Ditylenchus destructor* Thorne, 1945 was investigated in different media under laboratory conditions to identify the best medium and fungal host for mass production of this nematode. Four media, including three handmade PDA media (Potato Dextrose Agar), prepared from extracts of three cultivars of potato (Santana, Ramos & Maradona) and one medium of OMA (Oat Meal Agar), were used as substrates to grow fungi isolated from potato fields, including different anastomosis group of *Rhizoctonia solani* (AG3, AG4, AG5, AG6, AGD, AG9), *Phytophthora capsici*, *Botrytis cinerea* and *Fusarium oxysporum* f.sp. *lycopersici*. These fungal cultures were then inoculated with the nematodes and maintained at 20 and 25 °C. The results showed that the nematode fed and reproduced more on *R. solani* (AG3, AG4 and AGD) and *F. oxysporum* f.sp. *lycopersici* than on other fungi. However, *R. solani* (AG3 and AG5) and *P. capsici* at 25 °C were also suitable for mass production of this nematode. The reproduction of the nematode was greater at 25 °C than at 20 °C.