

Dry Mycelium of *Penicillium chrysogenum* Protects Cucumber and Tomato Plants against the Root-knot Nematode *Meloidogyne javanica*

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Incorporation into soil of dry mycelium of *Penicillium chrysogenum*, a waste product of the pharmaceutical industry, enhanced plant growth and reduced root galling caused by the root-knot nematode *Meloidogyne javanica* in cucumber and tomato plants. Incorporation into sandy loam soil in pots of dry mycelium at a concentration of 0.25% (w/w) resulted in complete protection of cucumber plants from the nematode. The number of juveniles recovered from soils containing dry mycelium was greatly reduced even at a concentration of 0.1% (w/w). In microplot studies conducted at two sites in two seasons, with three or four doses, dry mycelium caused a dose-dependent reduction in root galling index (GI) and promotion of plant growth of cucumber and tomato plants. In *in vitro* studies, the water extract of dry mycelium immobilized nematode juveniles and reduced the egg hatching rate, but these effects were partly reversible after a rinse in water. Soil-drenching of cucumber and tomato seedlings with water extract of dry mycelium did not reduce GI or number of root-invading juveniles. The results show that dry mycelium promotes plant growth and protects plants against nematode infection. Protection, however, does not operate *via* induced resistance.

KEY WORDS: *Meloidogyne javanica*; *Penicillium chrysogenum*; root-knot nematode; soil amendment.

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