

Interaction between *Rhizoctonia solani* and *Meloidogyne incognita* on *Capsicum annuum* from Sequentially Infested Soil

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ABSTRACT

Meloidogyne incognita and *Rhizoctonia solani* have been isolated from chile fields in New Mexico. Our hypothesis investigated whether sequential inoculation of *R. solani* and *M. incognita* had a synergistic effect on chile injury in greenhouse experiments. *Meloidogyne incognita* was inoculated at a rate of 5,000 eggs per plant and *R. solani* was inoculated at a rate of five *R. solani* agar pellets (each 1-cm in diameter). Plant height, fruit number, and plant physiological measurements were recorded for chile two weeks before termination of each experiment. The frequency of recovery of *R. solani* and non-*Rhizoctonia* from tap roots and stem segments, *M. incognita* egg counts and reproduction factor and plant dry weight were measured for chile at the termination of each experiment. Generally, there were inconsistent effects of the interaction of *R. solani* and *M. incognita* for most measurements in the sequential inoculations.

Higher frequencies of *R. solani* were observed when *R. solani* preceded *M. incognita* than when *M. incognita* preceded *R. solani* in one experiment. The effect of the sequential inoculation on several measured parameters was often significant. Consequently, results suggest that sequential inoculation of *R. solani* and *M. incognita* had a minor effect on chile growth and *R. solani*.

Keywords: *Capsicum annuum*, chile, *Rhizoctonia*, *Meloidogyne*, *R. solani*, *M. incognita*, root-knot nematode(s), simultaneous interaction, sequential interaction, inoculation.