

## **Studies on the effect of interaction of variable inoculum levels of *Meloidogyne incognita* and *Rhizoctonia solani* on *Pseuderanthemum atropurpureum***

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**ABSTRACT:** The present study was carried to find out the minimum inoculum level of *M. incognita* and *R. solani* required to cause the disease complex and also its impact on plant growth and physiological parameters. The combined inoculation of *M. incognita* Race-3 at and above 2000 J<sub>2</sub>/kg soil and *R. solani* at and above 3 g mycelial mat/kg soil on *P. atropurpureum* caused significant reduction in various plant growth as well as physiological parameters. At higher inoculum levels of both the test pathogens mortality of plants in addition to collar-rot symptoms, girdling and cracking at the base of stem was also observed, which led to toppling down of the plants. The duration of survival of plants also decreased with the increase in inoculum level of fungus. The population of root-knot nematode, number of galls and egg-masses/ root system increased with the increase in inoculum level of *M. incognita* Race-3. Whereas, the reproduction factor decreased with the increase in inoculum levels. The combined inoculation of *M. incognita* Race-3 and *R. solani* not only increased the reduction in growth and physiological parameters but also induced the appearance of collar-rot and crown-rot symptoms. It was further observed that in concomitant inoculation, the number of days required for the expression of collar-rot and crown-rot symptoms in *P. atropurpureum* were reduced with an increase in the inoculum levels of either *M. incognita* Race-3 or *R. solani*.

**Key Words:** *M. incognita*, *R. solani*, varying inoculum levels, mortality, symptoms.