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Full Length Research Paper

The role of eggs inoculum level of *Meloidogyne incognita* on their reproduction and host reaction

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Abstract

Two pot experiments were separately conducted to determine the influence of four or three inoculum levels (0, 250, 500 and 1000 or 0, 1000 and 2000 nematode eggs/ 850 g soil/pot) of *Meloidogyne incognita* on population density of the nematode and host reaction of two solanaceous plants viz tomato cv. Castle rock or pepper cv. Anaheim under partly controlled greenhouse at $23 \pm 4^{\circ}\text{C}$. Nematode reproduction and host damage were both affected by the initial inoculum levels and revealed a reduction in total the fresh weight of the plants as the inoculum level increased from 250 to 1000 eggs/ tomato plant with values of 18.6 and 43.9%. The rate of build up of *M. incognita* on tomato increased from 1.14 to 1.48, respectively. When the initial inoculum (P_i) level was increased up to 2000 eggs per pepper plant, the percentage reduction of whole plant fresh weight (73.2%) and shoot dry weight (55.3%) as well as rate of nematode build-up (1.49) also obviously increased. Galls and egg masses/root system increased as P_i was increased on both host plants. Regression analysis of P_i vs rate of nematode build-up either on tomato or pepper plants gave values of R^2 amounted to 0.6904 or 0.8149, respectively. This means the susceptibility of tomato cv. Castle Rock to *M. incognita* infection was more than did pepper cv. Anaheim under greenhouse condition.

Key words: Population density, pepper, tomato, inoculum level, *Meloidogyne incognita*.

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