VARIABILITY IN REPRODUCTION AND DEVELOPMENT OF *MELOIDOGYNE INCOGNITA* ON SOME TOBACCO CULTIVARS AND CELLULAR ALTERATIONS OF THE INFECTED PLANTS

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Abstract

Six cultivars of tobacco viz., White Barley, Rustica, Xanthi, Tarkish, Glutinosa and Clevelandii were tested against *Meloidogyne incognita* infection under greenhouse conditions. Cvs. Xanthi, Tarkish, Glutinosa and Clevelandii were categorized as highly susceptible to *M. incognita* depending on root damage index (DI). White Barley and Rustica were categorized as susceptible cultivars. Based on the percentage reduction of fresh weight of shoots, cv. Tarkish was the most affected by the root-knot nematode followed by cv. Glutinosa. Cellular alterations of tobacco roots infected with root-knot nematode, *M. incognita* revealed that this pest penetrated the roots and reproduced inside them. Nematode migration into the cortex, endodermis and stele regions caused severe damage. Hypertrophy led to the formation of the giant cells in the stele region. Females were found in the cortex and endodermis of the infected roots.