

Studies On The Interaction Between *Ralstonia solanacearum* (Smith) And *Meloidogyne* Spp. In Potato

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Abstract

A survey was undertaken to determine population density of *Meloidogyne* juveniles (J2) in 90 fields randomly selected from three potato-producing districts in Kenya namely Nyeri, Meru and Nyandarua. Mean nematode densities were highest (45) in samples collected from Nyeri and Nyandarua and lowest (31) in soil samples collected from Meru. The reaction of 15 potato cultivars to *Meloidogyne incognita* was determined under greenhouse conditions. Plants were inoculated with 6000 eggs and second-stage juveniles each. Highly significant ($P=0.01$) differences were observed between the cultivars. Gall index was highest (5.5) in cv. KP93739.26 and lowest (1.9) in cv. Nyayo. All cultivars supported nematode reproduction with the highest (5.0) egg mass index being recorded in cultivars KP93739.26, Kerr's Pink, Desiree CIP-800048, KP92633.26 and B53. No cultivar exhibited immunity. The relationship between infection by root-knot nematodes and severity of bacterial wilt in three potato cultivars with varying levels of resistance to bacterial wilt namely Asante CIP 381381.20 (susceptible), B53 (moderately susceptible), and Kenya Dhamana (resistant), was investigated in a greenhouse experiment. Bacterial wilt was more severe in plants infected with both pathogens as compared to plants infected with *Ralstonia solanacearum* alone.