Host Status of 22 Weed Species to five Meloidogyne spp.

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Abstract

Root-knot nematodes (Meloidogyne spp.) cause significant crop losses worldwide. The host range of root-knot nematodes in agriculturally important plants is broad and well-defined, but of the hundreds of problematic weeds known worldwide, only about 97 have been identified as hosts of various Meloidogyne spp. Host suitability studies of 22 weed species commonly found in Florida, USA to five root-knot nematode species (Meloidogyne arenaria race 1, M. floridensis, M. incognita race 4, M. javanica race 1and M. mayaguensis) were conducted under greenhouse conditions. Number of eggs/g root were recorded at plant harvest, and a reproduction factor (Rf = final population/initial population) was calculated to determine the host status for each plant species. Nine weed species (Abutilon theophrasti, Amaranthus retroflexus, A. spinosus, Cnidoscolus stimulosus, Cucumis anguria, Dichondra repens, Ipomoea triloba, Leonotis nepetaefolia, and Phytolacca americana) were good hosts (Rf ¡Ý 1) to the five root-knot nematode species evaluated. Non-hosts of the five Meloidogyne spp. were Cassia occidentalis, Crotolaria spectabilis, Dactyloctenium aegyptium, Desmodium purpureum, Digitaria sanguinalis, Panicum dichotomiflorum, Oenothera biennis, Setaria pumila, and Sorghum halepense. Current studies indicate that 12 out of 22 weed species tested are good hosts of at least one of the five root-knot nematode species evaluated.

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