



Research article

Survey and Identification of Phytonematodes and Their Fungal Antagonists Associated with Soybean in Different Ecological Locations of Egypt

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Abstract

Survey and identification of plant-parasitic nematodes and their fungal antagonists associated with soybean in six locations at four governorates of Egypt i.e. Beni-Suef, Menia, Beheira and Alexandria were conducted during the summer growing season of 2020 year. Results indicated the presence of ten phytonematodes, these were *Helicotylenchus*, *Heterodera*, *Hoplolaimus*, *Longidorus*, *Meloidogyne*, *Pratylenchus*, *Rotylenchulus*, *Trichodorus*, *Tylenchorhynchus* and *Xiphinema*. The stunt nematodes (*Tylenchorhynchus* spp.) was the most frequent (50.4%) followed by the root-knot nematodes (*Meloidogyne* spp.) with 15.6% frequency, the root-lesion nematodes (*Pratylenchus* spp.) with 12.0% and the spiral nematodes (*Helicotylenchus* spp.) with 8.4% frequency. Other nematodes were less frequent. Results also revealed the occurrence of three root-knot nematode species infecting soybean; *Meloidogyne incognita*, *M. javanica* and *M. arenaria*. *M. incognita* was the most prevalent species with 48.8% frequency followed by *M. javanica* (37.5%) and *M. arenaria* (13.7%). Also four nematophagous fungi were isolated from the rhizosphere of soybean, three of them are predacious fungi; *Arthrobotrys conoides*, *Dactelaria brochopaga*, *Monacrosporium* sp. and one is endoparasitic, *Verticillium* sp. *A. conoides* and *D. brochopaga* were more frequent with 80% and 60% frequency, respectively followed by *Verticillium* sp. (40%) and *Monacrosporium* sp. (20%).