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Plant-parasitic nematodes associated with grain crops and associated weeds in South Africa, with emphasis on the phylogenetic position of *Meloidogyne* species

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Nematode surveys in South African grain crop production areas were conducted in maize and soybean fields, and weeds associated with the crops. The abundance, occurrence and identity of the economically most important nematode pests of such hosts were hence determined. Results indicated that *Meloidogyne* spp. and *Pratylenchus* spp. were generally the most abundant plant-parasitic nematode crops infecting these crops and weeds. However, *Meloidogyne* spp. is the most destructive and distributed nematodes in these cultivated areas. Morphological studies based on perineal pattern morphology of *Meloidogyne* species revealed that *M. incognita* and *M. javanica* were the two predominant species in the grain production areas South Africa. Molecular studies of *Meloidogyne* based on the *COI* and *NADH5* genes of the mtDNA and the D2-D3 segments of 28S rDNA indicated that the populations studied belonged to those species. However, the phylogenetic position of these species is still unresolved. Identification of the species based on the SCAR-PCR also showed M. *javanica* and M. *incognita* as the most dominant species. In conclusion, this study represents an extensive initiative to get a better understanding of the *Meloidogyne* spp. as well as other plant parasitic nematodes that currently hamper local grain seed production.

Biography

Ebrahim Shokoohi is an Iranian Plant Pathologist, Nematologist, and Assistant Professor at Iranian University and Post-doctoral Fellow at North-West University of South Africa. His research focuses on plant-parasitic and beneficial nematodes. He has written several papers and book chapters after years of experience in research and teaching at university level. The main focusing of his research is on molecular and morphological taxonomy of nematodes.

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