

1. Record Nr.	UNINA9910502976403321
Autore	Reddy Parvatha P.
Titolo	Nematode diseases of crops and their management // Parvatha P. Reddy
Pubbl/distr/stampa	Singapore : , : Springer, , [2021] ©2021
ISBN	981-16-3242-1
Descrizione fisica	1 online resource (515 pages)
Disciplina	571.999
Soggetti	Nematode diseases of plants Nematodes fitoparàsits Patologia vegetal Agricoltura sostenibile Llibres electrònics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Intro -- Preface -- About the Book -- Contents -- About the Author -- Part I: Introduction -- 1: Nematode Diseases of Crop Plants: An Overview -- 1.1 Introduction -- 1.2 Historical Importance -- 1.2.1 International Scenario -- 1.2.2 Indian Scenario -- 1.3 Economic Importance -- 1.3.1 International Scenario -- 1.3.2 Indian Scenario -- 1.4 Emerging Nematode Problems -- 1.4.1 Root-Knot and Foliar Nematodes on Rice -- 1.4.2 Root-Knot Nematode on Groundnut -- 1.4.3 Root-Knot Nematode on Acid Lime -- 1.4.4 Root-Knot Nematode on Pomegranate -- 1.4.5 Root-Knot Nematode on Guava -- 1.4.6 Root-Knot Nematode on Mulberry -- 1.4.7 Cyst Nematodes on Potato -- 1.4.8 Floral Malady on Tuberose -- 1.4.9 Nematode Problems on Polyhouse Crops -- 1.5 Interaction with Other Pathogens -- 1.5.1 Fungi -- 1.5.2 Bacteria -- 1.5.3 Viruses -- 1.6 Nematode Management -- 1.6.1 Regulatory Methods -- 1.6.1.1 Plant Quarantine -- 1.6.1.2 Seed Certification -- 1.6.2 Physical Methods -- 1.6.2.1 Hot Water Treatment of Planting Material -- 1.6.2.2 Solarization -- 1.6.3 Cultural Methods -- 1.6.3.1 Crop Rotation -- 1.6.3.2 Trap Cropping -- 1.6.3.3 Cover Crops -- 1.6.4 Chemical Methods -- 1.6.4.1 Halogenated

Hydrocarbons -- 1.6.4.2 Organophosphates -- 1.6.4.3
Dithiocarbamates -- 1.6.5 Host Resistance -- 1.6.6 Biological Methods
-- 1.6.6.1 Bacteria -- 1.6.6.2 Fungi -- 1.6.7 Integrated Nematode
Management -- 1.6.8 Biointensive Integrated Nematode Management
-- 1.6.8.1 Proactive Options -- 1.6.8.2 Reactive Options -- 1.7
Conclusion -- References -- Part II: Cereal Crops -- 2: Cereal Crops --
2.1 Rice, *Oryza sativa* -- 2.1.1 Root-Knot Nematode, *Meloidogyne*
graminicola -- 2.1.1.1 Crop Losses -- 2.1.1.2 Distribution -- 2.1.1.3
Symptoms -- 2.1.1.4 Biology and Life Cycle -- 2.1.1.5 Survival and
Spread -- 2.1.1.6 Management -- 2.1.1.6.1 Physical Methods --
2.1.1.6.2 Cultural Methods.
Crop Rotation -- Fallowing -- Flooding -- Organic Amendments --
2.1.1.6.3 Chemical Methods -- 2.1.1.6.4 Biological Methods --
2.1.1.6.5 Host Resistance -- 2.1.1.6.6 Integrated Methods -- Nursery
Bed Treatment -- Main Field Treatment -- 2.1.2 White Tip Nematode,
Aphelenchoides besseyi -- 2.1.2.1 Crop Losses -- 2.1.2.2 Symptoms
-- 2.1.2.3 Biology and Life Cycle -- 2.1.2.4 Host Range -- 2.1.2.5
Survival and Spread -- 2.1.2.6 Management -- 2.1.2.6.1 Regulatory
Methods -- 2.1.2.6.2 Physical Methods -- 2.1.2.6.3 Cultural Methods
-- 2.1.2.6.4 Chemical Methods -- 2.1.2.6.5 Host Resistance -- 2.1.3
Rice Stem Nematode, *Ditylenchus angustus* -- 2.1.3.1 Symptoms --
2.1.3.2 Life Cycle -- 2.1.3.3 Host Range -- 2.1.3.4 Survival and Spread
-- 2.1.3.5 Management -- 2.1.3.5.1 Cultural Methods -- 2.1.3.5.2
Chemical Methods -- 2.1.3.5.3 Host Resistance -- 2.1.3.5.4 Integrated
Methods -- 2.1.4 Rice Root Nematodes, *Hirschmanniella* spp. --
2.1.4.1 Distribution -- 2.1.4.2 Crop Losses -- 2.1.4.3 Symptoms --
2.1.4.4 Biology and Life Cycle -- 2.1.4.5 Dissemination -- 2.1.4.6
Management -- 2.1.4.6.1 Physical Methods -- 2.1.4.6.2 Cultural
Methods -- 2.1.4.6.3 Chemical Methods -- 2.1.4.6.4 Host Resistance
-- 2.1.4.6.5 Integrated Methods -- 2.1.5 Cyst Nematode, *Heterodera*
oryzicola -- 2.1.5.1 Distribution -- 2.1.5.2 Yield Losses -- 2.1.5.3
Symptoms -- 2.1.5.4 Life Cycle -- 2.1.5.5 Host Range -- 2.1.5.6
Interaction with Other Organisms -- 2.1.5.7 Management -- 2.1.5.7.1
Cultural Methods -- 2.1.5.7.2 Chemical Methods -- 2.1.5.7.3 Host
Resistance -- 2.2 Wheat, *Triticum* spp. and Barley, *Hordeum vulgare* --
2.2.1 Cereal Cyst Nematode, *Heterodera avenae* -- 2.2.1.1 Distribution
-- 2.2.1.2 Symptoms -- 2.2.1.3 Life Cycle -- 2.2.1.4 Host Range --
2.2.1.5 Ecology -- 2.2.1.6 Survival and Spread -- 2.2.1.7 Biotypes --
2.2.1.8 Management -- 2.2.1.8.1 Cultural Methods -- Early Sowing.
Crop Rotation -- Intercropping -- 2.2.1.8.2 Chemical Methods --
2.2.1.8.3 Biological Methods -- 2.2.1.8.4 Host Resistance -- 2.2.1.8.5
Integrated Methods -- 2.2.2 Seed Gall Nematode, *Anguina tritici* --
2.2.2.1 Crop Losses -- 2.2.2.2 Symptoms -- 2.2.2.3 Life Cycle --
2.2.2.4 Host Range -- 2.2.2.5 Survival and Spread -- 2.2.2.6
Management -- 2.2.2.6.1 Regulatory Methods -- Dry Cleaning of Seeds
or Brine Flotation -- Seed Certification -- 2.2.2.6.2 Physical Methods
-- 2.2.2.6.3 Cultural Methods -- Crop Rotation -- Rogueing --
2.2.2.6.4 Host Resistance -- 2.3 Maize, *Zea mays* -- 2.3.1 Cyst
Nematode, *Heterodera zeae* -- 2.3.1.1 Distribution -- 2.3.1.2 Crop
Losses -- 2.3.1.3 Symptoms -- 2.3.1.4 Host Range -- 2.3.1.5 Biology
and Life Cycle -- 2.3.1.6 Survival and Spread -- 2.3.1.7 Management
-- 2.3.2 Root-Knot Nematodes, *Meloidogyne incognita* and *M. javanica*
-- 2.3.2.1 Symptoms -- 2.3.2.2 Management -- 2.3.3 Lesion
Nematode, *Pratylenchus zeae* -- 2.3.3.1 Symptoms -- 2.3.3.2
Management -- 2.4 Sorghum, *Sorghum bicolor* -- 2.4.1 Root-Knot
Nematode, *Meloidogyne incognita* -- 2.4.1.1 Crop Losses -- 2.4.1.2
Symptoms -- 2.4.1.3 Management -- 2.4.2 Lesion Nematode,
Pratylenchus neglectus -- 2.4.2.1 Symptoms -- 2.4.2.2 Management

-- 2.4.3 Cyst Nematode, *Heterodera sorghi* -- 2.4.3.1 Symptoms -- 2.4.3.2 Life Cycle -- 2.4.3.3 Survival -- 2.4.3.4 Management -- 2.5 Conclusion -- References -- Part III: Pulse and Oil Seed Crops -- 3: Pulse Crops -- 3.1 Chickpea, *Cicer arietinum* -- 3.1.1 Root-Knot Nematodes, *Meloidogyne incognita* and *M. javanica* -- 3.1.1.1 Crop Losses -- 3.1.1.2 Symptoms -- 3.1.1.3 Life Cycle -- 3.1.1.4 Interaction with Other Pathogens -- 3.1.1.5 Management -- 3.1.1.5.1 Cultural Methods -- 3.1.1.5.2 Chemical Methods -- 3.1.1.5.3 Biological Methods -- 3.1.1.5.4 Host Resistance -- 3.1.1.5.5 Integrated Methods -- 3.1.2 Lesion Nematode, *Pratylenchus thornei*. 3.1.2.1 Distribution -- 3.1.2.2 Crop Losses -- 3.1.2.3 Symptoms -- 3.1.2.4 Biology and Life Cycle -- 3.1.2.5 Host Range -- 3.1.2.6 Interaction with Other Pathogens -- 3.1.2.7 Survival and Spread -- 3.1.2.8 Management -- 3.1.2.8.1 Cultural Methods -- 3.1.2.8.2 Chemical Methods -- 3.1.2.8.3 Biological Methods -- 3.1.2.8.4 Host Resistance -- 3.1.2.8.5 Integrated Methods -- 3.1.3 Reniform Nematode, *Rotylenchulus reniformis* -- 3.1.3.1 Crop Losses -- 3.1.3.2 Symptoms -- 3.1.3.3 Biology and Life Cycle -- 3.1.3.4 Interaction with Other Pathogens -- 3.1.3.5 Management -- 3.1.3.5.1 Physical Methods -- 3.1.3.5.2 Cultural Methods -- 3.1.3.5.3 Biological Methods -- 3.1.3.5.4 Chemical Methods -- 3.1.3.5.5 Integrated Methods -- 3.2 Pigeon Pea, *Cajanus cajan* -- 3.2.1 Cyst Nematode, *Heterodera cajani* -- 3.2.1.1 Distribution -- 3.2.1.2 Crop Losses -- 3.2.1.3 Symptoms -- 3.2.1.4 Host Range -- 3.2.1.5 Life Cycle -- 3.2.1.6 Spread and Survival -- 3.2.1.7 Biotypes -- 3.2.1.8 Interaction with Other Microorganisms -- 3.2.1.9 Management -- 3.2.1.9.1 Cultural Methods -- 3.2.1.9.2 Chemical Methods -- 3.2.1.9.3 Biological Methods -- 3.2.1.9.4 Host Resistance -- 3.2.1.9.5 Integrated Methods -- 3.2.1.10 Success Story -- 3.2.2 Interaction of Cyst Nematode with Fusarium Wilt -- 3.2.2.1 Symptoms -- 3.2.2.2 Management -- 3.2.2.2.1 Chemical Methods -- 3.2.2.2.2 Biological Methods -- 3.2.2.2.3 Integrated Methods -- 3.2.3 Root-Knot Nematodes, *Meloidogyne incognita* and *M. javanica* -- 3.2.3.1 Crop Losses -- 3.2.3.2 Symptoms -- 3.2.3.3 Biology and Life Cycle -- 3.2.3.4 Interaction with Other Pathogens -- 3.2.3.5 Management -- 3.2.3.5.1 Cultural Methods -- 3.2.3.5.2 Chemical Methods -- 3.2.3.5.3 Biological Methods -- 3.2.3.5.4 Host Resistance -- 3.2.3.5.5 Integrated Methods -- 3.2.4 Interaction of Root-Knot Nematode with Fusarium Wilt -- 3.2.4.1 Symptoms -- 3.2.4.2 Management. 3.2.4.2.1 Biological Methods -- 3.2.4.2.2 Host Resistance -- 3.2.4.2.3 Integrated Methods -- 3.2.5 Reniform Nematode, *Rotylenchulus reniformis* -- 3.2.5.1 Crop Losses -- 3.2.5.2 Symptoms -- 3.2.5.3 Survival -- 3.2.5.4 Interaction with Other Pathogens -- 3.2.5.5 Management -- 3.2.5.5.1 Cultural Methods -- 3.2.5.5.2 Biological Methods -- 3.2.5.5.3 Host Resistance -- 3.2.5.5.4 Integrated Methods -- 3.3 Green Gram, *Vigna radiata* -- 3.3.1 Root-Knot Nematode, *Meloidogyne incognita* -- 3.3.1.1 Crop Losses -- 3.3.1.2 Symptoms -- 3.3.1.3 Management -- 3.3.1.3.1 Cultural Methods -- 3.3.1.3.2 Chemical Methods -- 3.3.1.3.3 Biological Methods -- 3.3.1.3.4 Host Resistance -- 3.3.1.3.5 Integrated Methods -- 3.3.2 Interaction of Root-Knot Nematode with Fusarium Wilt -- 3.3.2.1 Interaction -- 3.3.2.2 Management -- 3.3.3 Reniform Nematode, *Rotylenchulus reniformis* -- 3.3.3.1 Crop Losses -- 3.3.3.2 Management -- 3.3.3.2.1 Host Resistance -- 3.3.3.2.2 Integrated Methods -- 3.4 Black Gram, *Vigna mungo* -- 3.4.1 Root-Knot Nematode, *Meloidogyne incognita* -- 3.4.1.1 Crop Losses -- 3.4.1.2 Symptoms -- 3.4.1.3 Management -- 3.4.1.3.1 Cultural Methods -- 3.4.1.3.2 Chemical Methods -- 3.4.1.3.3 Biological Methods -- 3.4.1.3.4 Host Resistance -- 3.4.1.3.5 Integrated

Methods -- 3.4.2 Reniform Nematode, *Rotylenchulus reniformis* --
3.4.2.1 Life Cycle -- 3.4.2.2 Management -- 3.4.2.2.1 Chemical
Methods -- 3.4.2.2.2 Host Resistance -- 3.5 Conclusion -- References
-- 4: Oilseed Crops -- 4.1 Groundnut, *Arachis hypogea* -- 4.1.1 Root-
Knot Nematodes, *Meloidogyne arenaria* and *M. javanica* -- 4.1.1.1
Distribution -- 4.1.1.2 Crop Losses -- 4.1.1.3 Symptoms -- 4.1.1.4
Biology and Life Cycle -- 4.1.1.5 Interaction with Other Microorganisms
-- 4.1.1.6 Dissemination -- 4.1.1.7 Management -- 4.1.1.7.1 Cultural
Methods -- Crop Rotation -- Cover Crops -- Organic Amendments --
Early Maturing Varieties.
4.1.1.7.2 Chemical Methods.
