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management by novel biological and genetic engineering technologies -- Chapter 16. Stem and bulb nematodes in agricultural crops and their management by biological and biotechnological methods -- Chapter 17. Leaf and bud nematodes in agricultural crops and their management by biotechnological approaches -- Chapter 18. Dagger and stubby nematodes in agricultural crops and their bio-management -- Chapter 19. Burrowing nematode in spice and fruit crops and their management by novel biocontrol strategies -- Chapter 20. Reniform nematode in agricultural crops and their management by novel biocontrol technologies -- Chapter 21. Citrus nematode in fruit crops and their management by biological and biotechnological interventions -- Chapter 22. Spiral and other minor ectoparasitic nematodes in agricultural crops and their bio- management -- Chapter 23. Pine wood nematode in coniferous forests and their management by novel biological and biotechnological interventions.

Sommario/riassunto

The volume focuses on novel and effective biological and biotechnological methods for managing major plant parasitic nematodes in economically important agricultural crops. Nematodes develop a wide variety of interactions with soil microbes and host plants, and cause enormous losses in crop yields equivalent to around USD 173 billion annually. In view of growing concern for pesticide contamination in crops, coupled with ban on several efficacious pesticides, and increasing demand for organic foods, the biological and biotechnological approaches offer a good alternative to chemicals for managing nematode infestations in agricultural crops. The book embodies twenty-two chapters which are arranged in two groups. The first group covers different novel methods of nematode management such as biotechnological, biopesticides, microbial consortia, host resistance, omics technology, transgenics, nano-nematicides, nano-diagnosis, etc. The second groups of chapters describe important nematode problems in major crops such as cereals, vegetables, pulses, spices, wood yielding conifers, etc. Overall, the book collates the latest information on above topics and offers practical solutions to the limitations and challenges in the existing management technologies. This book is of interest and serves up-to-date and elaborated information to agriculture researchers, teachers, scientists, under-graduates, post-graduates, plant nematologists, plant pathologists, plant protectionists, agronomists, horticulturalists, helminthologists, extension workers, and NGOs. .