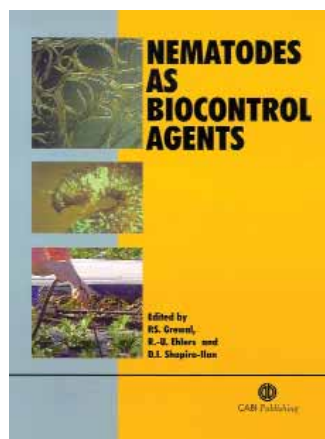


— BOOK REVIEW —



NEMATODES AS BIOCONTROL AGENTS

Grewal P.S., Ehlers R.-U. and Shapiro-Ilan D.I. (Eds.) CABI Publishing, Wallingford, UK, ISBN: 978-1-845-93454-5 (528 pp.) (2005)

It is easy to recommend this book that contains much of interest to applied biologists seeking natural enemies of economic pests and also to general biologists interested in nematodes and their associations with other invertebrates including insects, plant parasitic nematodes and even soil fungi. The editors have a reputation for their expertise in the use of nematodes as biological control agents. Contemporary developments in the use of the entomopathogenic nematodes *Steinernema* spp. and *Heterorhabditis* spp. and the slug killing *Phasmarhabditis hermaphrodita* are highlighted. These nematodes are now familiar as products available to professional and amateur growers and the major part of the book is devoted to the biology, formulation and the many crops and situations where they are now established in pest management systems. Their use is generally directed at pests that live on or in the soil and they have provided welcome substitutes for some of the more toxic and persistent soil insecticides which are being withdrawn from registration. Entomopathogenic nematodes are particularly effective for control of root-feeding pests on citrus, strawberries, cranberries, turfgrass and on the many crops grown in nurseries and glasshouses. Nematodes will not survive in a dry atmosphere and to some extent this is a limitation to their use against

foliar pests. In the final chapter of this book the editors highlight the factors that limit the use of entomopathogenic nematodes and discuss the future needs if their use is to be expanded. Cost is the most serious drawback: although spared the high expenses of registration, the production, formulation, transport and storage costs are higher than for standard chemical products. For this reason entomopathogenic nematodes are not widely available on retail markets and their use in regions outside Europe, North America and Japan is limited. Biologists will also appreciate that using nematodes as biological control agents requires an understanding of the behaviour of both the nematode and the target pest and the conditions under which they thrive. The authors do not disguise the fact that taking the biological control option can be a risk if users do not have the knowledge and experience of working with live biological control agents.

It is possible that readers will have as much interest in the other insect infecting nematodes and the predatory nematodes which are for different reasons not available as mass-produced products but nonetheless have fascinating relationships with their hosts. The best example is *Beddingia siricidicola* used for control of the pine wood wasp *Sirex noctilio*; this nematode is used as a classical biological control agent and repeat applications are generally unnecessary. There are also chapters on *Thripinema* spp. and the mermithid species, parasites of thrips and mosquitoes respectively. Species of the different orders of nematodes that predate on other nematodes have long been of interest to nematologists but the likelihood of their practical use is remote at least until a better understanding of their biology has been achieved.

This book is intended for those involved in developing biological control strategies. It also provides an excellent background to the many beneficial nematodes about which little is known and in this respect provides insights and ideas for some curiosity-driven research for the future.

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