

BIOLOGICAL CONTROL OF PLANT PARASITIC NEMATODES : PROGRESS PROBLEMS AND PROSPECTS. Edited by GRAHAM R. STIRLING, C.A.B. INTERNATIONAL, WALLING FORD, OXON, OX 108 DE, U.K., 1991. 282 pp. £ 38.5.

The 'Nematicide crisis' which manifested subsequent to the discovery that DBCP was carcinogenic and that ground water in different parts of U.S.A. was contaminated with nematicides including DBCP, EDB, aldicarb, carbofuran, etc., has created an urgency for developing ecologically sound management strategies like Biological Control. Despite the stunning revelation of the ecocidal effects of chemical nematicides, biological control of nematode pests of crops is yet to be developed as a farmer - oriented strategy. Dr. Graham Stirling, one of the first Nematologists to demonstrate the effectiveness of biological control agents in the field has at the right time brought out this comprehensive treatise on Biological Control of Plant Parasitic Nematodes. As rightly pointed out by Brian Kerry in his foreword, even after several years of research resulting in the identification of a wide range of organisms that feed on nematodes, no biological control agent is yet routinely used for the management of nematode pests on any crop. Biological control has failed to progress to the same extent in nematology as it has in other disciplines. The author has thoroughly reviewed the progress, problems and prospects of biological control of plant parasitic nematodes.

The plant parasitic nematode is described as a diverse and difficult target for biological control. Biocontrol agents have to contend with factors like the resistant egg shell and cuticle, greater ability of the nematodes to survive under adverse condition, presence of a number of developmental stages including ensheathed juveniles in certain cases, and high reproductive capacity. The need for a thorough understanding of these as well as the soil environment including the soil-root interface, the biotic components, the influence of physical environment as well as the rhizosphere effect

on soil organism and their implication for biological control has been very clearly brought out. The chapter on antagonists of nematodes under the various categories of fungi, bacteria, viruses, nematodes, insects and mites and miscellaneous invertebrates is quite exhaustive and upto date.

Naturally occurring biocontrol systems often can bring about substantial suppression of target pest species. However, based on the evidences available, the author suggests that in the fore-seeable future, any nematode control that is achieved through the development of natural suppressiveness will occur fortuitously rather than through the deliberate actions of scientists, pest management consultants or farmers. However, while developing integrated nematode management strategies, the possibility of exploitation of suppressive soils should be borne in mind and very appropriately a chapter on conservation and enhancement of naturally occurring antagonists and the role of organic matter is included. Mass production and release of biocontrol agents are very comprehensively reviewed and summarised in tables which are quite informative. The chapter on design and conduct of biological control experiments presented in a detailed manner will be very useful for beginners interested in taking up research on biocontrol of nematodes.

This book is based on well conceived ideas and practical experience. Dr. Graham Stirling has made an impressive contribution on the fungal and bacterial parasites of nematodes and it is all the more fitting that he has written this book which every student and researcher interested in nematode biocontrol should possess.

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