BOOK REVIEW

Integrated Pest Management in the Tropics

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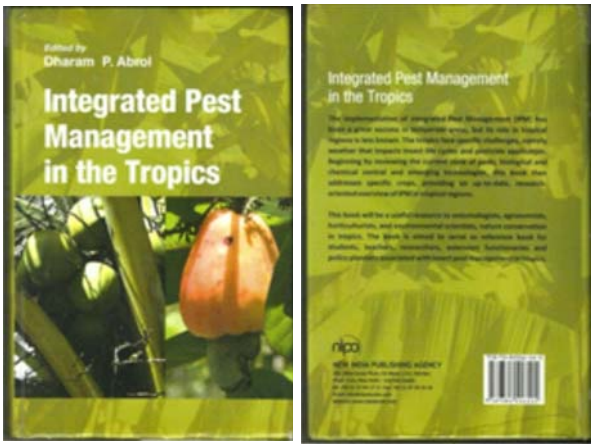

The increase in human population in the coming decades calls for the imperative need to produce more food. However this is beset with a host of problems including the ravages of both insect and non insect pests. Pests cannot be contained by any one method but require integrated pest management strategies. Ecofriendly and sustainable IPM technologies have to be developed, disseminated and implemented on a large scale especially in the tropics. The traditional indigenous technical knowledge on pest control has also to be validated and included in the strategies.

The present book "Integrated Pest Management in the Tropics" in two volumes edited by Dr. Dharam P. Abrol addresses the above issues in a comprehensive manner. It contains 26 diverse chapters written by authors with considerable expertise in their areas of interest. In chapter 1 of volume 1, the editor reviews the pest problems and losses caused by them in the tropics. The emerging pest problems in the tropics with important examples especially in fruit and field crops are explained in chapter 2. Chapter 3 deals with the methods in biological control of crop pests and the bio agents deployed. Biological control will be the cornerstone of IPM programmes in the years to come. The use of chemical pesticides for control of insect pests has been discussed in chapter 4. The authors have explained the use of chemicals for control of major insect pests, proper use of insecticides, insecticide resistance, resistance management, resurgence of pests *etc*. We cannot completely exclude chemicals from IPM as they might have to be applied in pest outbreak situations. The importance of cropping systems and crop diversity as a component of IPM is overviewed with examples in chapter 5. The impact of climate change on crop pests and disease scenario is discussed with examples in chapter 6 whereas in chapter 7, the future components of IPM involving biotechnology and other emerging technologies are briefly overviewed. Chapter 8 contains compilations of affordable technologies for IPM in selected tropical vegetables whereas IPM strategies developed in the tropics for cereals are dealt in chapter 9. The pest problems, various tools of IPM developed for legumes, roots and tubers, banana, citrus, sugarcane, cocoa, tea and coffee are comprehensively covered in chapters 10 to 15 by the respective authors. However IPM technologies in crops like mango have been omitted.

In volume 2, chapter 16 deals with the major pest problems of palms and the IPM measures undertaken in the palm growing countries. Cotton, a fibre crop grown in temperate as well as tropical regions is infested by a number of pest species. The pest problems, IPM technologies, their adoption and related issues like use of Bt cotton have been highlighted in chapter 17. The major pests and IPM methodologies in two important plantation crops *viz;* cashew and rubber have been in chapter18. The role of insect sex pheromones in IPM have been discussed with case studies in chapter 19. Chapter 20 also relates to the application of chemical ecology in IPM. The different types of semiochemicals, its source and function have been listed. Pheromones will have a major role in IPM of economically important crops in the future. More research and development has to be undertaken in this line. Plant chemicals mostly volatiles are important in insect behaviour and insect plant interactions and this aspect finds place in chapter 21. The problems of chemical pesticide abuse are dealt in chapter 22 and the need for alternative and sustainable ecological IPM is promoted by the authors. Chapter 23 exposes the reader to examples of cultural and physical methods in IPM in the tropics.

The role of taxonomy and systematics in providing an essential scientific fool proof basis for IPM especially biological control is stressed in chapter 24. The importance of accurate identification of insect pests and bio control agents in IPM is paramount. The collection of data, methods adopted and statistical analysis to obtain tangible results in IPM experiments are invaluable

and discussed in chapter 25. A brief analysis of the future of IPM in the tropics, the constraints and suggestions to alleviate them is the theme of the last chapter.

The book in two volumes with the foreword of Prof Marcos Kogan, Director Emeritus, Integrated Plant Protection Center, Oregon State University, USA, reiterates the need for IPM to be multidisciplinary, to integrate all tools and practices and to involve all concerned stakeholders. The authors have taken tremendous effort in compiling the information on pests, their management and presenting the same in a lucid manner. The references listed will be useful for deeper insight into the realm of IPM. This book will serve as an invaluable resource to students, researchers, scientists and extension specialists associated with entomology and IPM in agriculture and will be an asset to the Libraries of all the Universities.

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