BOOK REVIEW

Dharam P. Abrol and Uma Shankar (Ed.). 2012.
Integrated Pest Management – Principles and Practice.
CAB International, Wallingford, UK
ISBN 978 1 84593 8086
(36 figures, 18 tables , 1121 references, 502 pp.)

As indicated by the Editors in the "Preface" (p. IX–X) this book is an endeavour to cover Integrated Pest Management (IPM) from multidisciplinary, multicountry and multifaceted components in terms of holistic and unified IPM systems in various fields concerned with pest management. Indeed, this book will serve as an excellent reference book for academic teachers, students, researchers, extension functionaries and policy planners associated with IPM. In order to achieve the above goal the editors invited thirty one specialists from various countries and continents and thanks to that the book contains and provides information useful worldwide.

Chapter 1 "History, overview and principles of ecologically-based pest management" (p.1–26) by D. P. Abrol and U. Shankar provides readers very useful calendarium and history of pest management during the period from 8000 BC to 2010 AC. Of special value are tables listing IPM initiatives in the USA, Europe, Asia and other regions.

Chapter 2 "Integrated pest management for sustainable agriculture" (p. 27–40) by G. Fitt and L. Wilson provides information on use of genetically modified cotton and other crops in various continents and countries.

Chapter 3 "Pest monitoring and forecasting" (p. 41–57) by Y.G. Pasad and M. Prabhakar provides many useful information on pest monitoring techniques through light and sex pheromone traps, insect phenology models and decision support systems.

Chapter 4 "Augmentation and conservation of natural enemies" (p. 58–91) by D. Orr and A. Fox (p. 58–91) provides useful information on approaches to IPM and use of programmes of cotton protection particularly in Australia with habitat manipulation.

Chapter 5 "Biotechnological and molecular approaches in the management of pests and diseases of crop plants" (p. 92–118) by S. Mohankumar *et al.* contains very interesting information on use of lectins and their effective host range towards various noxious insects.

Chapter 6 "Botanicals in pest management" (p. 119–132) by C. Regnault-Roger contains interesting and very useful information on ecological advantages of botanicals as a result of co-evolution of insects and plants.

Chapter 7 "Biopesticides in ecologically-based integrated pest management" by Rizvi P.Q., Ahmad S.K., Houdhury R.A. and Muslim A. (p. 133–161) contains detailed information on various types of biopesticides produced using various genera of entomopatoghenic viruses, bacteria, fungi and protozoans and their practical use in pest management. The interested readers will find particularly broad information on entomopathogenic viruses belonging *to Baculoviridae*, *Iridoviridae*, *Polydnaviridae*, *Nodaviridae* and others.

Chapter 8 "Entomopathogenic nematodes as tools in integrated pest management" by Grewal P.S. (p.162–236) contains particularly voluminous information and literature on ecological effect of insect pathogenic nematodes which infect and kill phytophagous insects and other arthropods, and are broadly used in protection of glasshouse crops.

Chapter 9 "Microbial control of crop pests using entomopathogenic fungi" by H. Liu (p. 237–280) presents taxonomic and biological characteristic of fungi which are used in biological control of insects and other arthropods causing losses in crops.

Chapter 10 "Microbial control of crop pests using insect viruses" (p. 281–298) by Eberle K.E., Jehle J.A. and Huber J. (p. 281–298) provides virus characteristics and list of commercial virus biopesticides registered and used for control of various arthropods.

Chapter 11. "Biological control of weeds with plant pathogens: four decades on" (p. 299–350) by Barreto R.W., Ellison C.A. Seier M.K. and Evans H.C. provides voluminous information on classical biological control of weeds and summarizes advantages and disadvantages of weed biocontrol provided by permanent introduction, inundative release or bioherbicide technologies. A table concerning registered or being developed bioherbicides which have been developed and reached use in field is provided.

Chapter 12 "Virus- and bacteria-transmitting arthropod vectors and their management" (p. 351–369) by P.G. Weintraub contains a table of arthropod taxa in order of number of plant pathogens known to be transmitted.

Chapter 13 "Effect of pesticides on non-target sites with reference to soil ecosystems" by Bhat A.K. (p. 370–385) refers to binding and persistence of pesticides in soil.

Chapter 14 "Integrated pest management in stored grains" by Shankar U. and Abral P.D. discuss various factors preventing infestation or eliminating present stored product arthropods" (p. 386–407).

Chapter 15 "Role of integrated pest management in food and nutritional security" (p. 408–432) by Shankar U. and Abrol D.P. (. 408–432) provides information on estimated losses for eight crops such as rice, maize, wheat, barley, cotton and soybean caused by pest and pathogens.

Chapter 16 "Role of information and communication technology in integrated pest management" (p. 433–449) by Zuo-Rui Shen, Deng Fa-Cheng, Yun –Hui Zang and Ling-Wang Gao provides information on the following topics: (1) IPM as an agricultural system of intensive information; (2) personalized information services in IPM practice, (3) applications of ICT for pest forecasting and distance diagnostics and others.

Chapter 17 "From integrated pest management to ecosystem management: the case of urban lawn" (p. 450–488). by P.S. Grewal provides detailed information on major insect, mite and nematode pests of lawns in cool-season turf and promising biological control options compiled from literature and the author's unpublished data.

It is clearly obvious that this book must be considered as an excellent treatise and an extraordinary source of lit-

erature – more than one thousand references that relate to Integrated Pest Management.

"Detailed index" (p. 489–502) greatly facilitates the use of this excellent book, which I strongly recommend for all libraries and for attention of specialists conducting research in the area of biological plant protection and Integrated Pest Management (IPM).

The authors and publishers merit great thanks for producing such good and useful treatise, which I strongly recommend to the attention of plant protection specialists and to all life sciences and agricultural libraries.

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BOOK REVIEW

Gordh G. and Headrick D.H. 2011.
A Dictionary of Entomology. Second Edition Published by CABI and Marston Book Services Ltd. Abingdon, Oxfordshire, UK, 1536 pp. ISBN 978 1845935429

"A Dictionary of Entomology" was first published by CABI in 2004. Its second edition was significantly updated by hundreds of new entries and published jointly with the Marston Book Services Ltd.

The second edition lures great attention of entomologists and other naturalists. This book contains numerous cross-reference citation of terms and names that incorporate over 43,000 phrases used in entomology referring to insect anatomy, behavior, histology, ecology, molecular biology, morphology, pest management, taxonomy and systematics.

Similarly as in the first edition the origin of etymology of each term is provided including the language meaning or root of each term and constituent parts. If meanings were changed or terms were borrowed from other disciplines the authors indicated the most current usage.

Several names of deceased entomologists or scientists from other fields who significantly contributed to entomology, insect pest management and related disciplines were included with the citation of their biography or obituary.

It must be emphasized that in the second edition the authors and publishers significantly increased the number of biograms, obituaries with references to the countries from which the honored entomologists originated.

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