BOOK REVIEW

BIOTECHNOLOGY AND INTEGRATED PEST MANAGEMENT

Edited by Gabrielle J. Persley, London, UK, CAB International, 1996, 475 pp., Price : £ 60

This book highlights the need to exploit the full potential of modern biotechnological approaches in IPM so as to reduce over reliance on chemical pesticides. The potential for integration of biotechnology with IPM, the current trends in biotechnology for pest management, their implications and future prospects are neatly analysed with particular reference to genetic engineering of natural enemies and transgenic plants for IPM, particularly in developing countries. Biotechnology in biosystematics, improved natural enemy culture and production, and improved evaluation of natural enemies have been discussed as propositions for sound IPM programmes.

The book presents a review on novel arthropod biological control agents and highlights the current status of transformation systems and genes available. The book also covers current topics like marker assisted plant breeding, development of insect and virus resistant transgenic plants, and resistance management strategies. The chapter on 'New Diagnostics' presents the recent developments in the use of molecular tools for monitoring insects and biotechnological diagnostics. Potentially useful biotechnological ideas have been proposed for management of plant virus vectors and insect vectors of human diseases. The industrial view point of biotechnology in IPM is aptly presented.

Case studies like IPM in rice, soybean, cassava and cowpea have been impressively presented. A fairly good overview of IPM in India is presented, where it has been erroneously mentioned that NPV was used with *Trichogramma* for the control of early shoot borer of sugarcane in Tamil Nadu, while it is actually a GV.

Exploring the scope for 'high tech' pest management techniques, the book cautions against the neglect of traditional technology options for IPM such as traditional biocontrol approaches, improved pesticide application technology, physical methods of pest management and behavioural methods using pheromones. Discussing the new technology options, it rightly cautions against the euphoria generated by *B.t.* plants and emphasises the need to explore novel options beyond transgenesis, like development of endophytic and epiphytic bacteria, nematodes and fungi for predicted pests, which can be held in reserve to cope with the occasional outbreak of pests.

The book is a good treatise which every pest management specialist should read.

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