The book encompasses a wide range of topics such as classic morphogenesis, haploid production, *in vitro* mutagenesis, cryopreservation to somatic hybridization, utility of cell cultures for desirable traits, source and significance of somaclonal variation. It also discusses *in vitro* micrografting, tuberization, flowering and molecular markers from the applied perspective.

The interdisciplinary nature of the book makes it especially appealing to the student community and introduces the specialists to the wide array of applications of *in vitro* techniques in plants. This compilation of techniques will thus serve as a handy reference book devoid of the usual series of recipes. It does not attempt to provide a comprehensive review of the subject. Rather, it focuses on the basic principles and is uncluttered with individualistic references.

The book is informative, well-written and offers a fine compilation of useful practical information. In short, it is a simple, straightforward yet elegant way of introducing the basic concepts of *in vitro* techniques and highlights their applications in the field of modern plant breeding. A handy reference book for the beginner and a ready reckoner for the professional plant breeder!

PARAMJIT KHURANA

Department of Plant Molecular Biology, University of Delhi South Campus, New Delhi 110 021, India
e-mail: Param@genomeindia.org

Biological Control of Insect Pests. Ignacimuthu, S. and Jayaraj, S. (eds) Phoenix Publishing House Pvt Ltd, 21 Prakash Apartments, 5 Ansari Road, Daryaganj, New Delhi 110 002. 2003. 363 pp. Price not mentioned.

Although insects are in an integral part of the ecological web, insect pests are responsible for 25–30% loss of the world's food production every year. The legendary method for their control is the use of insecticides. This is discouraged due to environmental and health risks. Biological control on the other hand, involves the manipulation of biological systems by deliberate intervention to achieve control of noxious organisms. The reason for over-population of a particular species is due to ecological disturbance caused by mass cultivation practices. At this point of time, it becomes inevitable to control them by various methods for the sake of human welfare. Constraints on the use of chemical pesticides may benefit the development of biological control options and their implementation in an integrated pest management (IPM) programme. Practically, all insect pests have one or more natural enemies. Conservation of these natural enemies will decrease the pest population. Use of insecticides will worsen the situation, as they cover a broad spectrum as well as affect genetic diversity; thus usage of insecticides with selective range is recommended. Further, identification of biological control organisms needs a thorough knowledge of pest biology and its natural enemies. Demand for biological control of insect pests is increasing in India. This approach is assumed to be legal and environmentally safe. However, large-scale on-farm trials are a prerequisite.

The book under review provides up-to-date information on the current status of basic and advanced aspects of insect pest control (IPC) in India. A national symposium on 'Biological control of insect pests' was organized at the Entomology Research Institute, Loyola College, Chennai during 7–8 February 2002. Crop losses due to insect pests and possibility of their control by microbial and botanical pesticide usage, pest management, natural pest control, availability of biocontrol agents, insect pheromones and role of taxonomy in biological control, and problems encountered in insect identification were discussed. The outcome of the symposium is the book under review. It contains research articles regarding management of various insect pests on commercial and forest plants, by well-known scientists from India. The book has 54 articles covering mostly the major crop pests. Each article reflects on an alternative remedy in the form of eco-friendly bioagent identification for IPC. The editors have authored seven papers. There are also useful review articles and new research results. The most important aspect is the finding on compatibility of insecticides with bioagents as an IPM package. A solution for major plant pests of paddy, sugarcane, cotton, mulberry, tobacco, coconut, vegetables and forest inhabitants has been presented. The article regarding the role of taxonomy in pest control is interesting. There are also investigations involving more than one pest of the same crop, effectiveness of bioagent release on pest population and varietal resistance. Findings on transfer of technology demonstrate the beneficial effects of biological agents and ultimately provide light on cost-benefit returns to Indian farmers.

Among several books available on biological control of insect pests, this book gains special attention due to its latest updates on insect pests and their control. Limitations in the form of covering success stories of all Indian major/minor crops under field conditions and constraints regarding adaptation of biological control of insect pests could have enhanced the value of the book. Photographs of pests and their natural enemies would have helped in their identification.

The title should have been in the context of IPC in India, since the book concentrates on research in this direction, with selected plant pests under Indian conditions. However, the scenario at the international level has been presented in almost all articles and is well-illustrated with graphical representation. Only a few typographical errors can be found. The edited book contains an author index and also a pest, biocontrol agent and crop index, which have added to its value. The book may be useful to teachers, students and young researchers working on IPC. The editors have done an excellent job by compiling these scientifically impressive articles into a publication.

H. SHEKAR SHETTY

Department of Studies in Applied Botany and Biotechnology, University of Mysore, Manasagangotri, Mysore 570 006, India
e-mail: hss_uom@hotmail.com