

## Book Reviews

**Plant molecular biology—a practical approach.** C. H. Shaw (ed.). IRL Press, Oxford, Washington DC. 1988. Pp. xx+313. Price £29 HB, £19 PB. ISBN 1 85221 0575 HB, ISBN 1 85221 0567 PB.

*Plant molecular biology—a practical approach* is the latest addition to the Practical Approach Series, edited by D. Rickwood and B. D. Hames, which includes nearly forty volumes which cover many diverse subjects such as steroid hormones, neurochemistry, electrophoresis and DNA cloning. The beauty of the series is that each volume covers a very specific area and presents the reader with the necessary background information and laboratory protocols to perform research in the area concerned. However, in taking a narrow subject area the reader must refer to less specialized and ubiquitous laboratory manuals for the more common techniques.

*Plant molecular biology* comprises eleven chapters: Analysis of plant gene expression (by K. H. Cox and R. B. Goldberg), Analysis of plant gene structure (by K. D. Jofuku and R. B. Goldberg), Isolation and analysis of chloroplasts (by C. Robinson and L. K. Barnett) Isolation and analysis of plant mitochondria and their genomes (by W. Schuster, R. Heisel, B. Wissinger, W. Schobel and A. Brennicke), Subcellular localisation of macromolecules using microscopy (by C. Hawes), Foreign gene expression in plants (by L. Herrera-Estrella and J. Simpson), Protoplast isolation and transformation (by R. D. Shillito and M. W. Saul), Transposable elements and gene-tagging (by N. S. Shepherd), Molecular plant virology (by R. H. A. Coutts, P. J. Wise and S. A. MacDowell), Molecular biology of chlamydomonas (by J-D. Rochaix, S. Mayfield, M. Goldschmidt-Clermont and J. Erickson) and the Molecular biology of cyanobacteria (by V. A. Dzelzkalns, M. Szekeres and B. J. Mulligan).

The chapters are, in the main, well written with clear protocols to follow and useful notes provided. Sufficient introduction to each protocol is given to provide the reader with the necessary background theory. The precise protocols given very much reflect the personal preferences of the individual authors. For example, in the opening chapter, the guanidinium isothiocyanate method is given for total RNA isolation, with little mention of alternative protocols which may be more suitable for some plant species. Alternative protocols are invaluable to a newcomer to a new subject area/plant species. This limitation is, however, not universal in the book. In chapter 6, on foreign gene expression, for example, several different reporter gene systems are described, with the  $\beta$ -glucuronidase assay detailed in an appendix.

My main criticism of the book is not concerned with the contents of each of the individual chapters them-

selves, but with the original conception of the book and the choice of subjects to be covered. My feeling is that many people who work in the area of plant molecular biology and who buy the book without having a detailed look at it will be disappointed. The preface states the purpose of the book as "to provide the newcomer and the practitioner with clear and sensible protocols to enable them to perform meaningful experiments in plant molecular biology . . . It does not aim to supplant the many excellent practical texts dealing with molecular biology . . . but merely to supplement them, providing plant-specific protocols". This it does, but the various chapters are not consistent on which techniques, which are not specific to plants, are included or excluded. For example, DNA and RNA isolation is covered well, but Southern hybridization is only found in the chapter on cyanobacteria and Northern hybridization is not mentioned.

Who then should buy this book? Established workers researching in a particular area which is covered by the book are unlikely to buy it for a single chapter. An example is the transposon-tagging chapter: anyone embarking on this line of research, in one of the small number of species where it is possible, is likely to be working in an established research group with previous experience. It is not a field for the newcomer on his own. This book is not ideally suited to the novice and in this respect the title is somewhat misleading. Despite these criticisms, the individual chapters provide valuable material on specific subjects and the book would be a welcome addition to University or Department libraries.

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**Oxford surveys of plant molecular and cell biology.** B. J. Mifflin (ed.). Oxford University Press, Oxford. 1988. Pp. 365. £24.00. ISBN 0 19 854233.

This is the fourth volume in the series Oxford Surveys of Plant Molecular and Cell Biology. In common with its predecessors it contains up to date reviews of a number of areas of contemporary interest in this field. As is usually the case with such publications it covers a diverse range of topics, including resistance to plant viruses, physiology and molecular biology of membrane ATPases and virulence of *Agrobacterium* to name but three from a total of eight reviews. Each is a detailed account of the particular subject in question and as such appears to be very much targeted at the postgraduate