

BOOK REVIEWS

Primary and Secondary Metabolism of Plant Cell Cultures: edited by K. H. NEUMANN, W. BARZ and E. REINHARD. Springer, Berlin, 1985. 377 pp. DM 188.

The study of metabolic processes in plant tissue culture is a highly popular research area today—part of the biotechnological boom—but one must question whether there is room for yet another book on the subject. This one stems from a symposium held in Germany in the autumn of 1984 and contains six papers on primary metabolism, 27 on secondary metabolism, a historical introduction by F. C. Steward, the doyen of plant tissue culture, and a consideration of future perspectives by M. W. Fowler. It suffers, as do many proceedings that are published, in that most of the papers are research articles rather than reviews, and they tend to be of variable quality and interest. Most of the contributions cover familiar

ground and deal with such well known systems as alkaloid production in *Catharanthus*, *Cinchona* and *Papaver* cultures, cardenolide formation in *Digitalis* organ cultures, anthocyanin induction in carrot cells and enzymology of phytoalexin synthesis in soyabean cells. Attention is also given to the large scale production of secondary metabolites, to biotransformations in cell cultures and to herbicide-resistant plant cells.

On the credit side, one must admit that the book is well edited and nicely produced with many illustrations and diagrams. Anyone seeking information on current trends in the plant cell culture field will certainly benefit from a perusal of this volume.

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Techniques in Bioproductivity and Photosynthesis, Second Edition: edited by J. COOMBS, D. O. HALL, S. P. LONG and J. M. O. SCURLOCK. Pergamon Press, Oxford, 1985. 298 pp. £22.00; £9.00 flexicover.

This book has its roots in a training course developed for the United Nations Environmental Programme and other agencies. As such its approach is basically from the bottom up, dealing with virtually every aspect from biomass production to chlorophyll fluorescence. The various chapters are without exception well written by authors of experience both in the laboratory and in the field. Some of the more biochemical aspects are of a level of sophistication that some European departments might find economically prohibitive, and developing countries

impossibly so. However the detail is there, even the not normally included tips which can very often take so long to find out.

I like the construction and style of the work which is more than just a recipe book. It has good background and theoretical discussion. To the student an excellent text both for study and use as a manual. To the practising academic the appendices of equipment, experimental design and biomass production data are an invaluable aid. The first edition was good; this new extended edition is better.

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