

*Photosynthesis II**Encyclopaedia of Plant Physiology; volume 6 (new series)*

Edited by M. Gibbs and E. Latzko
Springer-Verlag; Berlin, Heidelberg, New York, 1979
xx + 578 pages. DM 198.00, \$108.90

Photosynthesis is badly dealt with in standard textbooks of Biochemistry. For students of Biochemistry or Plant Science at honours level this defect can be partially remedied by a study of Gregory (*Biochemistry of Photosynthesis*, 2nd ed (1977) Wiley, London, New York). This book provides an excellent account of the light reactions but its coverage of the Calvin cycle and its associated metabolic pathways in chloroplasts is rather thin. Also, since its publication, our knowledge of these subjects has increased enormously. A book dealing with such processes would be a valuable edition.

The present volume is such a book. It examines in detail the enzyme of the Calvin cycle and their regulation, C_4 and CAM metabolism, photorespiration, synthesis of starch and sucrose and the role of chloroplasts in assimilation of nitrogen and sulphur. Each chapter is authoritatively written by active workers in the field.

Multi-author works often suffer from repetition and a lack of co-ordination between chapters. The extensive cross-referencing between chapters in the present book and the apparent uniformity of style says a great deal for the effects of the editors. This

book is well-worth reading by honours students and also by research workers in the field. It has excellent subject and author indexes. The only criticism one can level is that it is difficult to gain an overall view of such problems as the regulation of the Calvin cycle in illuminated leaves. How can one balance, for example, the relative importance of light-generated thiol compounds (chapter 22), activation of ribulose diphosphate carboxylase (chapter 17) and the effects of changes in stromal pH and Mg^{2+} concentration (chapter 19)? The editors wrote an excellent introduction to the book!; perhaps on conclusion a summary would have been a valuable addition.

Some of the processes discussed in this book were also covered in volume one of the excellent series *Topics in Photosynthesis* (edited by J. Barber, (1976) Elsevier/North-Holland, Amsterdam, New York). The present volume scores, however, in that all the necessary information about chloroplast carbon, nitrogen and sulphur metabolism is gathered together in one place.

B. Halliwell

*Cell Populations**Methodological Surveys(B): Biochemistry, volume 8*

Edited by Eric Reid
Ellis Horwood; Chichester, 1979
viii + 240 pages. £18.50

This volume, which is described as 'desk guide', contains papers presented at a meeting in Guildford

in 1978. Many of the contributions are concerned with the isolation and fractionation of cells from liver,