

Lea, P.J., Leegood, R.C. (ed.): **Plant Biochemistry and Molecular Biology**. - John Wiley & Sons, Chichester - New York - Brisbane - Toronto - Singapore 1993. 312 pp. £ 60.00. ISBN 0 471 93313 9.

The research in plant biochemistry, physiology as well as molecular biology has made a great progress recently and their mutual relationships are now evident (one example is the attempts to use the techniques of molecular biology to manipulate selected enzymes in transgenic plants and so determine the control of plant metabolism). Therefore it becomes essential for plant scientists to have an overview of all these disciplines and this a timely and comprehensive textbook could help them. It is designed to give an overview of plant metabolism and molecular biology to undergraduates, but will also be useful to postgraduate students. The book begins with the mechanisms by which energy is generated both within the chloroplasts and mitochondria, using either the photosynthetic light reactions or the metabolism of saccharides via glycolysis and the Krebs cycle. The second and third chapters are devoted to photosynthetic carbon metabolism: CO<sub>2</sub> assimilation in the Calvin cycle and CO<sub>2</sub> concentrating mechanism in C<sub>4</sub> and CAM plants. Further the ways in which the carbon is utilised in the synthesis of saccharides are considered. The fifth chapter deals with metabolism and function of lipids. The objects of following two chapters are nitrogen fixation and nitrogen metabolism. In the eighth chapter the survey of plant pigments and their synthesis is presented. The latter part of the book deals with the structure of the genome in nucleus, chloroplasts and mitochondria (chapter 9) and the regulation of gene expression (chapter 10). Molecular controls of plant development, fertilisation and seed development are the main items in chapter 11. Finally, cell culture, transformation and gene technology are described. The book is well arranged and produced. The readable text is accompanied by many illustrative figures.

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