Dey, P.M., Harborne, J.B. (ed.): **Plant Biochemistry.** - Academic Press, San Diego - London - Boston - New York - Sydney - Tokyo - Toronto 1997. ISBN 0-12-214674-3. 554 pp., USD 74.95.

This book is addressed to students as well as to researchers in plant sciences but it supposes background biochemical knowledge of a reader. The content of the book consists of four major sections: The plant cell, Primary metabolism, Secondary metabolism, and Plant-environment relationship. They contain altogether 15 chapters.

The part on primary metabolism begins with photosynthesis. Here, all aspects of photosynthesis from molecular events through regulation mechanisms are described. It is appreciable that also hot topics such as photoinhibition and related phenomena are involved. Saccharide metabolism is divided into three chapters: Primary metabolism of monosaccharides, Storage carbohydrates, and Structural carbohydrates. All pathways general for living organisms and those specific just for plants are dealt with. Chapter on plant lipid metabolism contains all necessary aspects of their chemistry, biogenesis, and catabolism. Special classes of surface lipid coverings like waxes, cutin, and suberin that are unique for plants are described. Next chapter copes with primary nitrogen metabolism: nitrogen fixation, nitrate reduction, ammonia assimilation, and metabolism of amino acids. Next two chapters deal with molecular genetics. First of them describes basic macromolecules involved, *i.e.*, nucleic acids, proteins, their processing and turnover. Regulation of gene expression is covered in the other chapter. This is complicated in plants by the presence of plastidic genome and by the fact that the regulation is mediated by external factors as stress, pests, and pathogens. Recent advances in this area are described, including investigations using transgenic plants. Phenolic metabolism is the content of further chapter: in addition to their role in cell wall structures, they participate in plant defence as components of repellents against pests or as antioxidants as response to stress. The next chapter, on isoprenoid metabolism, deals with biosynthesis, metabolism, and functions of abscisic acid, gibberellins, carotenoids, *etc.*

The following section continues with nitrogen metabolism, but it covers secondary products which serve also as chemical defence or compounds attracting insects and animals. Biochemistry and function of non protein amino acids, different amines, alkaloids, growth regulators auxins, cytokinins, nitrogen bases and cofactors are the topics of this part. In chapter on biochemical plant pathology, recent advances in this area are outlined. This means host-pathogen interactions and the mechanisms of plant resistance, either constitutive or induced. This includes particular components as hypersensitive reaction, phytoalexins, pathogen-related proteins, acquired resistance, which belong to the frequently studied topics.

Plant responses to the environment are described in chapter Biochemical plant ecology. The effects of climatic factors and animals, mainly herbivorous, are presented. The very last chapter briefly deals plant cell biotechnology: it contains mainly methodological approaches (plant cell culture preparation and maintenance, *etc.*). Commercial exploitation of plant biotechnology is the final part.

The textbook represents a modern account of plant biochemistry. Individual components are divided according to their chemistry instead of their physiological effects. Each section contains also functional and regulatory aspects of particular processes. This connection enables understanding of plant processes in their complexity. This book can be highly recommended to specialists in plant sciences.

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