

Bowsher, C., Steer, M., Tobin, A.: **Plant Biochemistry**. - Garland Science, Taylor and Francis Group, New York - Abingdon 2008. 446 pp. ISBN-0-8153-4121-0.

This book was written by experienced university teachers for everyone studying plant biochemistry at an advanced undergraduate or graduate level. As authors claimed in the Preface, the aim was setting biochemistry firmly within the context of the whole plant and its surrounding environment, so that a biochemical pathway is not simply learned for its own sake but is placed within the framework of what it does, and why it is needed.

After short "Introduction to plant biochemistry", the second chapter is devoted to "Approaches to understanding metabolic pathways". This chapter incorporates a wide range of techniques from chromatography, electrophoresis, use of radioisotopes, mutant and transgenic plants to proteomics, metabolomics, transcriptomics and metabolic control analysis. The third chapter "Plant cell structure" serves as a reminder of the significant contribution that compartmentation makes to the regulation and control of biochemical pathways. The autotrophy is the exceptional feature of plants, which distinguishes plant biochemistry from that of other organisms. There are two photosynthetic chapters in this book. The fourth chapter "Light reactions of photosynthesis" concentrates on photochemical processes involved in photosynthesis and their evolutionary origin, while the fifth chapter "Photosynthetic carbon assimilation" deals with the subsequent chemical events involved in carbon fixation from atmospheric CO<sub>2</sub>. This chapter also illustrated the environmental influences leading to the development of C<sub>4</sub> photosynthetic pathway

and Crassulacean acid metabolism. The sixth chapter "Respiration" covers its main components glycolysis, pentose phosphate pathway, the tricarboxylic acid cycle and mitochondrial electron transport chain with the emphasis that respiration serves both a catabolic and biosynthetic function. The importance of saccharides as the main respiratory substrates and important sources of carbon skeletons for the biosynthesis of many organic molecules is explained in seventh chapter "Synthesis and mobilization of storage and structural carbohydrates". Autotrophy involves the acquisition of other major minerals in addition to carbon and the eighth chapter "Nitrogen and sulphur metabolism" is devoted to these two. The ninth chapter "Lipid biosynthesis" not only survey fatty acid biosynthesis and lipid metabolism, but also emphasizes importance of lipids as structural components and as a source of energy. The last three chapters "Alkaloids", "Phenolics" and "Terpenoids" are devoted to secondary metabolites. These groups contain a vast array of diverse chemicals with specialized biosynthetic pathways and different biological functions. Plant growth regulators from terpenoid precursors are also briefly mentioned.

The book is well arranged and printed. Many illustrations and blue boxes highlighting an area that merits a particular attention make sophisticated text readable. This very useful textbook certainly find place on the shelves of many students as well as their teachers.

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Romano, A. (ed.): **Proceedings of the Third International Symposium on Acclimatization and Establishment of Micropropagated Plants (Acta Horticulturae 812)**. - International Society of Horticultural Science, Faro 2009. 564 pp. ISBN-978 90 6605 087 7.

The 3<sup>rd</sup> International Symposium on Acclimatization and Establishment of Micropropagated Plants was held in Faro, Portugal, from 12 to 15 September 2007. This was the third in a very successful series of symposia. During this conference 190 scientists from 40 countries presented the newest theoretical and practical achievements and the important contributions were reviewed by the Editorial board and published in the Proceedings. The scientific programme was focused on five topics: "Current advances in plant micropropagation - scale up and automation", "Dealing with stress in micropropagated plants", "Advances in root formation, field performance and mycorrhization of micropropagated plants",

"Micropropagation of specific crops" and "Plant biotechnology and biodiversity conservation". The opening lecture was given by Y. Desjardin (Université Laval, Canada) and demonstrated that tissue culture is perceived as a stress by the plantlets, which respond by activation a number of systemic defence mechanisms and developmental responses. In addition, key lectures were presented in all sessions. These chapters offer the reader excellent surveys about the above mentioned fields. Many interesting new results were presented either in short lectures or on beautiful posters. To participants this book reminds pleasant days in Faro and to others it offers good survey of up-to-date knowledge in respective fields.

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