

Strnad, M., Peč, P., Beck, E. (ed.): **Advances in Regulation of Plant Growth and Development**. Peres Publishers, Prague 1999. 258 pp. ISBN 80-86360-06-7.

This book contains 22 review articles written by some of invited speakers on the conference "8th Days of Plant Physiology" organized by the Palacký University and Institute of Experimental Botany of the Academy in Olomouc, Czech Republic. It presents advanced studies and discussions on selected topics rather than coverage of the whole field of plant physiology. Selection of topics was influenced by the progress in certain areas of plant physiology and molecular biology related to the research activities of plant physiologists in the Czech Republic. Most of articles are related to regulation of plant growth and development and the role of biologically active substances, namely of plant growth regulators, in these processes. The introductory article of Godde, Tretyn, Uhl and Palme describes the novel tools for elucidation of gene functions and their potentials in plant physiology. It discusses problems concerning tools for transcriptome and proteome analysis, monitoring genetic marker and reporter genes and microscopic fluorescence techniques including measurements of intracellular Ca^{2+} and pH. Articles dealing with certain developmental processes are devoted to Rab and Rho GTPases in yeast and higher plant cells (Žárský and Cvrčková), photoperiodism and rhythmicity with respect to the potential role of melatonin (Macháčková and Kolář), transcriptional control of cell cycle and gene expression (Tréhhin, Bergounioux and Inzé), mitogen-activated protein kinases (Bögre, Ligterink, Merskiene and Binarová), tumour and

neoplastic growth progression (Gaspar), control of tumour development (Strnad), programmed cell death (Havel and Durzan), somatic embryogenesis in legumes (Griga) and elicitors in plant defence reactions (Raňanský, Ziegler, Erdelský and Andel). Chapters devoted to certain classes of biologically active substances present up to date information about certain aspects of cytokinin metabolism (Vaňková and Galuszka *et al.*), cytokinin regulation of nitrate reductase (Gaudinová) and biomass allocation (Beck), cytokinin mutants and transgenic plants (Schmülling), ethylene-cytokinin interaction in signal transduction (Hall *et al.*), physiological role of certain cell wall-derived oligosaccharides (Lišková *et al.*) and role of phenolics in plant morphogenesis (Cvikrová and Hrubcová). Most of contributions are based on recent discoveries which are presented in context to current knowledge of molecular biology. The stimulating effect of rapid methodological progress on understanding of control of plant development is evident in most contributions especially in those dealing with cell cycle and role of plant hormones in plant development. This soft-cover and well edited book contains numerous illustrations and full references. A subject index which would be useful for fast spotting of special topics of reader's interest is unfortunately missing. The book can be recommended to advanced students and researchers in plant physiology and molecular biology.

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