Davidian, J.-C., Grill, D., De Kok, L.J., Stulen, I., Hawkesford, M.J., Schnug, E., Rennenberg, H. (ed.): **Sulfur Transport and Assimilation in Plants. Regulation, Interaction and Signaling. -** Backhuys Publishers, Leiden 2003. 393 pp. EUR 96.00. ISBN 90-5782-138-9.

The book is the Proceedings of the 5th Workshop on Sulfur Transport and Assimilation in Plants, a joined European Commission, COST Action 829 and OECD meeting, held at the Ecole Nationale Supérieure Agronomique in Montpellier, France, from April 11 to 14, 2002. The meeting was co-organized by the ENSA - Montpellier (France), the University of Graz (Austria), the University of Groningen (The Netherlands), Rothamsted Research (UK), Institute of Plant Nutrition and Soil Science, Braunschweig (Germany), Albert-Ludwigs-University Freiburg (Germany), Agricultural Biotechnical Center of Gődőllő (Hungary) and University of Chiba (Japan). Montpellier has been the quinquennial destination of many scientists working on sulfur metabolism of higher plants who have gradually developed into the "sulfur family". Hence, editors, topics, and many contributors to the proceedings will be familiar from the four previous volumes. Remarkably, this volume is dedicated to Prof. Dr. Christian Brunold, University of Bern and Dr. Yolande Surdin-Kerjan, CNRS, Gif-sur-Yvette, whose outstanding research have significantly contributed to advanced understanding of the physiological, biochemical and molecular regulation of the sulfur metabolism in higher plants and to the identification of most of the genes involved in the regulation of sulfur metabolism pathway of *Saccharomyces cerevisiae.*

This volume beside two forewords of Y. Surdin-Kerjan and C. Brunold in which they present their *curriculum vitae* in science, contains 13 invited papers, 64 short (2 pages long) contributions and author and subject indexes. While conference proceedings often seem to have rather an ephemeral value, it is a pleasure to report that many of the present contributions are quite substantial and repay careful study. For example, M.J. Hawkesford *et al*. centred their review on the sulfate transporter gene family, their composition, specialized functions and regulation of expression in relation to nutrient status. K. Saito provides a short survey of the history of sulfur metabolism research and outlines its perspective emphasising the post-genomics strategy through dynamic network of genes, transcripts proteins and metabolites using *Arabidopsis thaliana* as a model plant. Genetic, allosteric and metabolic control mechanisms of cysteine synthesis are reviewed by R. Hell. In this field, the dynamic model of the cysteine synthase complex in sensing of the sulfide status of a cell and triggering of the rate of sulfate uptake and reduction is certainly interesting. It is known that amino acid cysteine links metabolically three assimilatory pathways - sulfur, nitrogen and carbon assimilation. An important interactions between these pathways as possible strategies aimed at adapting sulfur and nitrogen to carbon assimilation and to changing needs of plants and changing resources available in the environment are discussed by C. Brunold *et al*. An importance and role of glutathione, phytochelatins and metallothioneins in phytoremediation as well as an importance of sulfur nutrition for plant yields and quality are also discussed.

In view of the quality of the publication, both in terms of book design, accuracy of printing, level of writing and editing, the present proceedings has much to commend it. The fact that it is the proceedings of such a well established series of workshops also qualifies it as a publication that documents not only progress reached by the research groups participating in a "sulfur" EU project, but generally, *state of art* in this field of research.

This stimulating book will be certainly enjoyed by all plant physiologists not only that working in physiology of mineral nutrition and stress physiology.

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