

- 242, 1984.
- Van Kooten, O., Snel, J.F.H.: The use of chlorophyll fluorescence nomenclature in plant stress physiology. – *Photosynth. Res.* **25**: 147-150, 1990.
- Wen, X., Gong, H., Lu, C.: Heat stress induces an inhibition of excitation energy transfer from phycobilisomes to photosystem II but not to photosystem I in a cyanobacterium *Spirulina platensis*. – *Plant Physiol. Biochem.* **43**: 389-395, 2005.
- Yamamoto, H., Miyake, C., Dietz, K.J., Tomizawa, K., Murata, T., Yokota, A.: Thioredoxin peroxidase in the cyanobacterium *Synechocystis* sp. PCC 6803. – *FEBS Lett.* **447**: 269-273, 1999.
- Yousef, N., Pistorius, E.K., Michel, K.P.: Comparative analysis of *idiA* and *isiA* transcription under iron starvation and oxidative stress in *Synechococcus elongatus* PCC 7942 wild-type and selected mutants. – *Arch. Microbiol.* **180**: 471-483, 2003.

Tuba, Z. (ed.): **Ecological Responses and Adaptation of Crops to Rising Atmospheric Carbon Dioxide**. – Food Products Press, an Imprint of the Haworth Press, Binghamton 2005. ISBN 13: 978-56022-121-0 (softbound), 13: 978-56022-120-3 (hardbound). 414 pp., USD 49.95 (softbound), 79.95 (hardbound).

The book was published simultaneously with volume 13 (2005) of the *Journal of Crop Improvement*. The volume Editor, a well-known Hungarian scientist, prepared a collection of 18 papers dealing with one of the most actual topics of the Nature in the 21<sup>st</sup> century. The effects of continuously rising atmospheric CO<sub>2</sub> concentration in atmosphere on plants are an interesting topic not only for science, but also for politicians and general public. The main questions are analysed in the introductory paper written by the Editor that precedes the other papers. About half of the papers, all peer-reviewed, of course, are review articles. The 50 authors of articles work in 14 countries (the USA 10, Italy 7, Ireland and Slovenia 5 each, Hungary and the UK 4 each, Finland, Germany, and Japan 3 each, Switzerland 2, Austria, Bulgaria, Denmark, and Sudan 1 each), hence the book is really internationally authored.

The papers deal with a wide plant material, mainly citrus, cotton, grain legumes, grapevine, green pepper, maize, pasture and cereal plants, poplar, potato, and rice. The basic questions are changes in climate (drought, floods, and extreme temperatures) and photosynthetic plant production introduced by changes in atmospheric concentration of CO<sub>2</sub>. These changes are reflected in soil formation and composition, quality of plant products, species composition in plant communities, vegetation dynamics *etc.* in most climatic regions of the Earth. The changes may be positive (some increase in plant production and quality of products) or negative (possible stress effects) and depend also on other factors that are important for plant growth and metabolism (water relations, temperature, respiration types and rates, necessary

supply of mineral nutrients, especially nitrogen). One has also to distinguish short- and long-term effects, acclimation to CO<sub>2</sub> treatment, reactions in wild type and genetically modified plants, changes in growth and development of individual plants and plant communities, *etc.* In addition, some specific topics are dealt with, *e.g.* developmental models, effects on quality of products (content of glycoalkaloids in potato tubers, *etc.*), comparison of CO<sub>2</sub> effects in plant monoculture and bi-species mixture (*Trifolium* and *Trisetum*), use of a FACE (Free Air CO<sub>2</sub> Enrichment) system in this kind of research, effects on contents of photosynthetic pigments or ribulose-1,5-bisphosphate carboxylase/oxygenase, *etc.* Some review papers contain tables with interesting comparison of results of various authors (*e.g.* papers on pp. 73-89, 91-111).

As this is primarily an issue of journal, it was probably not necessary to unify different styles of the authors, shapes of figures, *etc.* I would only recommend unify the form of references (always italics for journal titles). An author index would be welcome, but it would certainly increase the number of pages reserved for this volume.

There are many books dealing with this crucial problem (cf. the book of Nátr reviewed in *Photosynthetica* **44**: 547, 2006), but the reviewed volume is very specific from the point of view of both plant physiology and agriculture. I recommend the book to all students and researchers who do not find the *Journal of Crop Improvement* in a near library. The main conclusions are certainly interesting for those who call themselves “ecologists” or for people of opposite opinion.

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