Zamski, E., Schaffer, A.A. (ed.): **Photoassimilate Distribution in Plants and Crops. Source-Sink Relationships.** – Marcel Dekker, New York – Basel – Hong Kong 1996. ISBN 0-8247-9440-0. 905 pp., USD 275.00.

The book represents another valuable comprehensive publication in the series of Books in Soil, Plants, and the Environment. Almost 70 scientists contributed to the interdisciplinary field of assimilate synthesis, transport, and partitioning in vascular plants with the accent on crop plants. The book includes 37 contributions grouped into three parts. The first part deals with the individual components of the source-sink machinery, its metabolic, anatomical, and physiological aspects. Starting from production of primary assimilates, their partitioning, and the role of respiration, it continues with synthesis of secondary and species-specific assimilates – sucrose, starch, fructans, and sugar alcohols. Significant part is devoted to the phloem loading, short and long distance transport, and its controlling mechanisms. The second group integrates the function of the components, shows the effect of environmental factors (irradiance, temperature, and concentration of carbon dioxide) on the source-sink relationship, deals with genetics of saccharide metabolism and possibilities in manipulation of the source-sink relation offered by genetic engineering. Further, it summarizes the present state of knowledge on hormonal control of assimilate transport and partitioning and the way by which the sink-source relations are perturbed by parasitic plants and pathogens. The last almost 400 pages treat the source-sink relationships of 16 selected crop plants: wheat, rice, maize, soybean, pea, sugarcane, carrot, sugar beet, tomato, cucurbits, alfalfa, turfgrasses, citrus, prunus, grape, and rose. Editors completed the book with thoroughly arranged bilingual organism index and with the extensive subject index.

The book is a unique compendium of up-to-date knowledge on assimilate synthesis, transport, and partitioning, *i.e.* on one of the most important aspect of the whole-plant physiology, ecology, agriculture, and plant industry. It is an invaluable tool for postgraduate students, scientists in the interdisciplinary research of plant assimilates and related fields, ecologists, entomologists, agronomists, plant biotechnologists, and, of course, for teachers dealing with these topics.

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