Kozlowski, T.T., Pallardy, S.G.: **Physiology of Woody Plants.** Second Edition. - Academic Press, San Diego - London - Boston - New York - Sydney - Tokyo - Toronto 1997. 411 pp. US $ 69.95. ISBN 0-12-424162-X.

Perennial woody plants are enormously important and beneficial to mankind. They are sources of essential products including lumber, pulp, food, fuel, medicines, waxes, oils, gums, resins, and tannins. They ornament landscapes, ameliorate climate, abate harmful effect of pollution, flooding, and noise, protect land from erosion and wind and provide habitats for wildlife. As components of parks and forests, trees and shrubs contribute to our recreational needs. To achieve maximal benefits from woody plant communities we need to understand how their growth is influenced by heredity, environmental conditions and cultural practices. This book significantly contributes to solution of these tasks. The second edition expands and updates the major portions of "Physiology of Woody Plants" by P.J. Kramer and T.T. Kozlowski, published in 1979.

The Introduction emphasizes the importance of physiological processes through which heredity and environment interact. Knowledge of variations in the crown or stem form and the anatomy of leaves, stems, roots and reproductive organs, the overview of which is presented in the second chapter, is essential to understanding physiological processes that regulate plant growth. The third and fourth chapters describe patterns of vegetative and reproductive growth of angisperms and gymnosperms. The fifth chapter is devoted to photosynthesis (chloroplast structure and development, mechanism of light and dark reactions, uptake of carbon dioxide and variation of photosynthesis caused by environmental and plant factors). The respiration (enzymes and energy transfer in general terms, biochemistry of respiration, and affection by biotic and abiotic factors) is the main item of the sixth chapter. The seventh chapter deals with different kinds of carbohydrates, their transformation, use and storage, the eighth chapter with lipids, terpenoids and related substances. The metabolism of nitrogen and the importance of nitrogen compounds (especially amino acids, proteins and nucleic acids) are the items of the ninth chapter. The tenth chapter is addressed to mineral nutrition (soil mineral pools, absorption of minerals, function of individual elements in plants, effects of deficiencies). The following two chapters are devoted to water regime, where the differences between herbaceous and woody plants are probably most striking. The chapter eleven is focused on liquid water absorption and transport, the chapter twelve to transpiration, plant water balance and adaptation to drought. The last chapter concerns the structure, distribution and activity of the major groups of plant hormones and some other endogenous growth regulators.

The presented book is an excellent text for students and reference for a broad range of researchers and growers who need to understand woody plant physiology. A summary and a list of general references are added to the end of each chapter. The complete list of references, separate list of the common and Latin plant names, and subject index are given following the text.

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