

Pessarakli, M. (ed.): **Handbook of Plant and Crop Physiology (Books in Soil, Plants, and the Environment)**. - Marcel Dekker, New York - Basel - Hong Kong 1995. 1004 pp. USD 199.00. ISBN 0-8247-9250-5.

In the edition Books in Soil, Plants, and the Environment the voluminous "Handbook of Plant and Crop Physiology", edited by Mohammad Pessarakli from the College of Agriculture, The University of Arizona, Tucson, Arizona, has appeared. Sixty five contributors from 15 countries (Australia, Belgium, Canada, Colombia, Costa Rica, England, Guatemala, India, Israel, Pakistan, Puerto Rico, Scotland, Spain, Sweden, and U.S.A.) were engaged in writing the chapters for this Handbook. The 46 chapters are arranged into eight Sections. Section I Plants, Crops, and Growth Environment deals with nutrient uptake, plant-water relationships, water loss from plants and stomatal action, and the role of temperature in the physiology of crop plants. Section II Physiology of Plant/Crop Growth and Developmental Stages brings reviews on germination and emergence, cell cycle control, vegetative growth stages, mineral nutrition, photosynthesis, short and long-distance transport phenomena, fruit development, dormancy, senescence, abscission, *etc.* Section III is devoted to Plant Growth Regulators: The Natural Hormones (Growth Promoters and Inhibitors). Section IV Physiological Responses of Plants and Crops Under Stressful (Salt,

Drought, and Other Environmental Stress) Conditions covers different aspects of stress physiology. Sections V and VI are dealing with the Physiology of Lower-Plant and Higher-Plant/Crop Genetics and Development, and Section VII with Whole Plant vs. Reductive Research on Physiological Genetics of Crop Physiology. In this Section whole plant research, interaction effects of factors, genes, *etc.* and adequate statistical treatments are reviewed. The last Section VIII Physiological Aspects of Sustainable Plant/Crop Production summarizes the major aims of agriculture today, the problems of improving and stabilizing crop production with respect to the needs of the well developed and the developing countries.

Individual reviews are comprehensive but well arranged, *i.e.* subdivided into many subchapters, suitably illustrated and equipped with voluminous lists of references. Unfortunately, the references are not arranged in alphabetic order which makes finding out of a certain reference more difficult. A subject index is supplemented. The Volume got in my hands five years after its appearance but it is still a good source of information for experts and students in plant and crop physiology and related disciplines.

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