

Basra, A.S. (ed.): **Mechanisms of Plant Growth and Improved Productivity. Modern Approaches.** - Marcel Dekker, New York - Basel - Hong Kong 1994. X + 476 pp.

This monograph appeared in a series of "Books in Soils, Plants, and the Environment". It is concentrated on new knowledge how to improve crop productivity. In 12 chapters of the book, on the hand of biochemistry, biophysics and molecular biology, the mechanisms of plant growth and productivity, and possible improvements are elucidated. The mechanisms and factors influencing and controlling photoassimilate transport in plants, are discussed in the Chapter 1. Chapters 2 and 5 concern the importance of mineral nutrition in crop production and the effects of mineral deficiency on vegetative growth. In the Chapter 3 symbiotic nitrogen fixation, and in the Chapter 4 nitrate uptake, reduction and regulation are treated. Chapter 6 deals with various aspects of plant growth regulators. The second half of the book can be classified as the progress of research in plant resistance to abiotic and biotic stresses as, *e.g.*, the climatic changes and the "greenhouse effect", application of cell and tissue culture for plant improvement, isolation and characterization of plant genes and regulation of plant gene expression in response to pathogenic microbes and engineering stress-resistant plants through biotechnological approaches.

The book is written by 22 well-known contributors from Europe, America, Asia and Australia. The broadness of the very up-to-date topic is reflected also by more than 2500 literature references, but it is little confusing that they are not arranged alphabetically. The book is essential reading for plant and crop physiologists, ecologists, agronomists, horticulturists, *etc.*

I. TICHÁ (*Praha*)