

- SNOW, R.: An inhibitor of growth extracted from pea leaves. — *Nature* **144**: 106, 1939.
- STEWART, W., S., BERGREN, W., REDEMANN, C. E.: A plant growth inhibitor. — *Sciences* **89**: 185–186, 1939.
- THOMPSON, A. G., BRUINSMA, J.: Xanthoxin: a growth inhibitor in light-grown sunflower seedlings, *Helianthus annuus* L. — *J. exp. Bot.* **28**: 804–810, 1977.
- VAN OVERBEEK, J.: Growth hormone and mesocotyl growth. — *Rec. Trav. Bot. neerl.* **33**: 333 to 340, 1936.
- VAN OVERBEEK, J.: A quantitative study of auxin and its precursors in coleoptiles. — *Am. J. Bot.* **28**: 1–10, 1941.
- WENT, F. W.: Wuchsstoff und Wachstum. — *Rec. Trav. Bot. neerl.* **25**: 1–116, 1928.

BOOK REVIEW

BRIGGS, W. R., JONES, R. L., WALBOT, V. (ed.): ANNUAL REVIEW OF PLANT PHYSIOLOGY. VOL. 35, 1984. — Annual Reviews Inc., Palo Alto, Cal., U.S.A. 736 pp., U.S. \$ 27.00 (U.S.A.), 30.00 (elsewhere).

The yearly volumes containing review papers in various fields of plant physiology belong to the most popular literature at universities and in research institutes all-over the world. The rate of citation of these reviews is extremely high and thus they control the level of knowledge in plant physiology. Of course, the responsibility of their authors is high: any error in the text may be introduced into science as a respected fact.

The 35th volume brings 22 reviews written by 29 authors from the U.S.A. (17 authors), the F.R.G. (5), Australia (4), Israel (2), and Japan (1). In addition, a prefatory chapter was prepared this time by C.R. Stocking of the University of California. It deals with the life experience of this outstanding plant physiologist in the field of research (chloroplast-cytoplasmic interactions, food chemistry), research planning (on duplication of projects), publishing, and developing a botany department, as well as his thoughts on the past and future research in photosynthesis.

According to the Editors of the volume, the reviews may be divided according to the level of organization of the objects. The range "Molecules and Metabolism" contains eight reviews: on immunoassays of plant growth regulators, on structure, synthesis, function, and regulation of chloroplast ATPase, excess sulphur, ethylene, and seed proteins (four reviews), on leghemoglobin and *Rhizobium* respiration, and on photorespiration and photosynthetic electron transport pathways and mechanisms (two reviews). The range "Organelles and Cells" contains the topics: transport of sugars, amino acids and further compounds (two reviews), biogenesis of glyoxysomes, use of NMR spectroscopy for metabolic studies, and expansion of plant cells. Five reviews in the range "Tissues, Organs, and Whole Plants" deal with: root development regulation, role of phytoalexins and their elicitors in defense against microbes, osmoregulation and water stress, cell division patterns, and quantitative description of development. The last range "Population and Environment" contains four topics: photoinhibition of photosynthesis, crown galls, isolation and characterization of mutants in cell cultures, and freezing injury and cold acclimation.

The sequence of reviews in the volume is different: I was not able to find the logic. Of course, all the mentioned topics also contain related secondary problems, e.g., photoinhibition of photosynthesis also includes the interaction of light and (high or low) temperature stresses or herbicide and water stresses; water relations of plants are also dealt with in reviews on the description of development, isolation of mutants, freezing injury, plant cell expansion, and photoinhibition of photosynthesis.

The reviews are traditionally accompanied by no or only a few figures — in this volume the most richly illustrated (10 figures) is the review on quantitative descriptions of development. I do not know what the reason is — to spare space, the copyright problems? In some of the present reviews figures would help in understanding the rather complicated text. The supplemented Author Index shows the places in the text where the author is cited only by a number: addition of this number in italics in the Index would much help in its use. The Subject Index is very good.

In general, the reviewed volume belongs to those which must be in every plant physiological library.

Z. ŠESTÁK (Prahá)