
 Book reviews

Denffer, D. van; Ziegler, H.; Ehrendorfer, F.; Bresinsky, A.: Lehrbuch der Botanik für Hochschulen. 32. Aufl. Stuttgart, New York: Fischer 1983. 1164 pp., 1088 figs., 50 tabs, 1 vegetation map in color. Hard bound DM 80,-.

This classical textbook of botany, the last (9th) English edition of which came out 1971, has been completely renewed and extended into a German edition. Each of the four original sections – morphology, physiology, evolution and systematics, as well as geobotany – have been thoroughly revised and brought up-to-date. The systematics of lower plants is differently arranged, but classical, old-fashioned terms have been maintained as “organisation types” or “organisation levels”. Illustrations became two-colored and extended in number. The textbook as a whole has been modernized and remains a backbone of plant science teaching.

Genetics does not receive special treatment, but is integrated in morphology, so far it concerns structure and function of the nucleus, plastidom and chondriom. Functional aspects of gene regulation and gene expression can be found in the section on physiology. The regulation of cell metabolism provides an excellent opportunity to treat transcription, translation and repression.

In the section on evolution and systematics, a detailed discussion of variation and inheritance, mutation, recombination systems, selection, genetic drift and gene flow, hybridisation and ploidy, as well as general aspects of micro- en macro-evolution can be found. For botanists, this integration of heredity into structural and functional botany is very attractive. A revised English edition of this fine textbook is desirable.

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Janich, J. (ed.): Plant Breeding Reviews, Vol. 1. Kent: Croom Helm Ltd. 1983. 397 pp. Hard bound £ 30.00.

The American Society for Horticultural Science, the Crop Science Society of America, the Society of American Foresters, the National Council of Commercial Plant Breeders and the AVI Publishing Company have jointly initiated a new series “to consolidate all aspects related to crop improvements”. This series is an attempt to overcome the “fragmentation of the plant breeding literature”. The reason for why this series was started is described by the fact that “the relationship of plant breeding progress to advances in genetics has become closely entwined”. So far so good: most of the contributions of the first volume could have been published just as well in the Annual Reviews of Genetics for example. There is, however, one important improvement: all mentioned references are cited with full title, and each article is preceded by an outline.

The first volume is dedicated to Henry A. Jones (1889 to 1981), an eminent plant breeder, superb scholar, great horticulturist, well-known research scientist and former Director of the Desert Seed Company, El Centro, California. The volume contains nine reviews: on the genetics of *Petunia* (A. Cornu and D. Maizonnier) and storage protein in maize (C. Y. Tsai), on the breeding of the common bean for improved seed protein (F. A. Bliss and J. W. S. Brown), on pearl millet (G. W. Burton), soybean's resistance to disease (J. R. Wilcox), and on apple root stocks (J. N. Cummins and H. S. Aldwinckle). Other articles concern the use of endosperm genes for sweet corn improvement (C. D. Boyer and J. C. Shannon), the genetic improvement of black walnut for timber production (W. F. Beineke), and the genes of lettuce and its closely related species (R. W. Robinson, J. D. McCreight and E. J. Ryder). This enumeration demonstrates the wide spectrum this new series wants to cover. It can be hoped that the edition fills a need and a niche in the market.

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