

The very idea of such a book should excite teachers the country over who need locally produced guides to the plants of their region. While the present volume covers only ornamental woody plants and is useful chiefly in the northeastern United States, it is a remarkable though simple tool—one that should bridge the chasm of knowledge between the specialist and the gardener. Furthermore, it is testimony to the remarkable specificity of the forms of leaves for plant identification.

Teachers frustrated by a lack of local identification-books that not only do the job but do it for little children should acquire this book. It is an example of what can be done through cooperation of the taxonomic specialist and the teacher. There is no reason why such guides, to all sorts of plants, cannot be developed in every region of our country; but the teacher should realize that he, not the specialist, must take the initiative in their production.

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RESEARCH METHODS IN PLANT SCIENCE, by Richard M. and Deana T. Klein. 1970. Natural History Press, Garden City, N.Y. 768 pp. \$20.00.

Biology teachers and students will find this book to be a useful one. It is unique in presenting a comprehensive, clearly written compilation of plant-research techniques, which are current, well documented, and logically arranged. The style is interesting and informal. Clarity of statement and well-chosen illustrations permit comprehension by the nonprofessional, yet the precision and accuracy should satisfy the demands of even the most critical of professional investigators.

Definitely not intended as a textbook, this reference work emphasizes the "how" of experiments, rather than the "why." The introduction includes an "inexpensive botanical library" of softback books in nearly every major field of botany. This should be of particular interest to teachers and students who are seeking to build a holding of quality books on the usually meagre budgets available to them. The bibliographies are current, the index extensive and specific, and the suggested sources of supplies extremely useful.

Every school library and everyone engaged in plant investigations should acquire this volume.

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MOLECULAR APPROACHES TO PLANT PHYSIOLOGY, by C. A. Price. 1970. McGraw-Hill Book Co., New York. 398 pp. Price not given.

This textbook is designed for upper-division undergraduate courses and for graduate courses. As the title indicates,

the approach to plant physiology is restricted. This approach and its treatment in this book are useful to teachers and students. There are only five chapters: on chemical transformations, photosynthesis, the movements of water and other fluids, inorganic nutrition, and growth and development. Each chapter has several case studies that emphasize the scientific approaches to gaining knowledge in plant physiology. The case studies are excellent teaching devices. The student who uses this book should have a background in general biology or botany; general physics, including light and waves; and chemistry, including organic chemistry and thermodynamics. The well-prepared student will benefit greatly from this book. It is a model of the *principles* approach (as opposed to the encyclopedic or the specific approach). It should be received well by plant physiologists and all biologists.

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PLANT FORM AND FUNCTION: AN INTRODUCTION TO PLANT SCIENCE, by Gerald J. Tortora, Donald R. Cicero, and Howard I. Parish. 1970. Macmillan Co., New York. 576 pp. \$10.95.

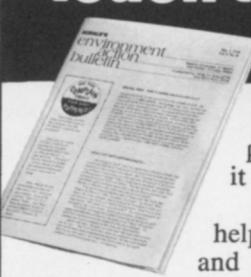
This textbook, designed for an introductory college botany course, is one in

the Macmillan "Biology" series. It is organized around the theme of form-and-function. Form is presented as a unifying concept, and the functional activities of plants are analyzed in relation to form. A survey of the plant kingdom is appended.

In keeping with advances in molecular biology and cellular physiology, the authors have chosen to examine the structure of plants at the molecular, cellular, and organismic levels. The importance of biochemical and physical contributions to studies of plant structure is made evident. Basic principles of chemistry are given for those students who wish or need this background. The contributions of the transmission electron microscope to studies of cell structure are presented; however, the textbook omits any reference to the scanning electron microscope. The Danielli-Davson model is presented as the only model for membrane structure—a more serious lapse.

Considerable chemical detail—too much, in fact—is given in the discussion of respiration. The models for the light reaction of photosynthesis might be somewhat misleading to a beginning student. The chapters on plant growth and development and on plant heredity are not brought into clear relationship, as they might have been if presented under the theme of plant morphogenesis. It is interesting to note the liberal

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