



THE NEW YORK BOTANICAL GARDEN



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grains, legumes, and "vegetables." Chapters 9–11 treat various exudates. The most distinctive topic included here is "hydrogels," defined as products that "alter the behavior of water": gums, pectins, and starch.

The next several chapters (12–15) discuss "bioactive substances," with separate chapters on medicinal; psychoactive and poisonous plants; caffeine-containing plants; and alcoholic beverages. A particular strength of Chapter 12 (Medicinal Plants) is the clear separation of plants of mainly historical or ethnobotanical significance from those of current utilization.

Following are two somewhat abbreviated (each fewer than 30 pages) chapters (16, 17): fibers, dyes and tannins; and wood, cork and bamboo. The chapter (18) on Ornamental Plants combines information on gardens and floral symbolism with modern commercial uses. The concluding chapter (19) deals with recent attempts to improve plants: "Green Revolution," germplasm centers, and genetic engineering. Also discussed are promising new crops for food and energy.

The book is liberally illustrated with a tasteful mixture of historical engravings, recent photographs, and line drawings beautifully executed by Molly Conner-Ogorzaly. These drawings portray with sufficient detail the principal plants treated in the text, and also the commercial processing of products such as coffee, tea, wine, beer, vegetable oils, and paper. The absence of color (except for the attractive cover) should not be considered a deficiency, as most instructors illustrate their lectures with color transparencies.

To avoid cluttering the text, certain details such as chromosome numbers, world production data, and other pertinent information are helpfully presented in tables found throughout the book. Annotated references at the end of each chapter are adequate but not comprehensive.

Some instructors of economic botany may be disappointed with the cursory treatment given certain topics such as amber, cork, cranberries, dyes, insecticides, tannins, and turpentine. Of more concern to many may be the almost total omission of these categories: algae, fungi, and nonflowering plants; also, forests. Some would undoubtedly prefer the inclusion of these topics, even, if necessary, at the expense of the first two chapters and/or the chapters on fruits and vegetables (1½ pages are devoted to "asparagus"). Perhaps a more accurate title for the book would be "Economic Flowering Plants."

No one reviewer can easily evaluate the total accuracy of a book which covers such diverse areas as botany, history, economics, chemistry, medicine, and technology. The impressive list of pre-publication reviewers convinces one that expert counsel has been sought. On the contrary, the pages that treat tobacco and bourbon suggest that Simpson, the principal writer, may have never been in a Southern tobacco field (no distinction is made between the major types grown in the U.S.: Virginia and burley; a "hogshead" is not a stack of tobacco), nor taken a tour of Jack Daniel's distillery!

Despite the few negative aspects, the overall quality of this handsome text is very high. It is far more than a systematic compilation of facts concerning useful plants and their derived products. Economic botany is presented with an undergirding of basic biology, chemistry, and ecology. I am looking forward to using this text for my 1986 class in economic botany. My prediction is that it will be well received by my students and others.

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**Essential Oil and Aromatic Plants.** A. Baerheim Svendsen and J. J. C. Scheffer (eds.). Martinus Nijhoff/Dr. W. Junk Publishers, Box 163, 3300 Alt Dordrecht, The Netherlands. 1985. 246 pp. \$31.50.

In view of the growing importance in economic botany of spices and perfumes and the comparative difficulty of study of the chemistry of the complex essential oils and other aromatic compounds, this volume offers a welcome addition to phytochemistry. It represents the proceedings of the 15th International Symposium on Essential Oils held in

Holland in July 1984. This symposium was attended by about 80 specialists from 15 countries. The main topic of the symposium dealt with chromatographic techniques—"headspace analysis of essential oils and aromatic plants." The subjects treated in the 27 published lectures cover methods and techniques of analysis, chemical constituents, propagation, and cultivation of plants. The symposium was opened by a unique and novel lecture entitled "The medicinal plants in the mirror of Dutch painting."

The contents may be conveniently divided into several parts: the first 106 pages are devoted to topics involving mainly chromatography; the following 72 pages treat primarily more general chemical topics and the composition of various families and species of plants; then follows sundry contributions considering for the most part problems of composition and concentration of volatile oils from the point of view of physiological and cultivation aspects.

Each lecture is provided with a detailed abstract and a full and up-to-date bibliography.

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**Frontier Expansion in Amazonia.** M. Schminck and C. H. Wood (eds.). University Press of Florida, 15 NW 15th St., Gainesville, FL 32603. 1984. 502 pp. \$12.00 (paper).

In view of the extraordinary importance of the Amazon from many points of view to the broad field of economic botany, this welcome volume should be carefully studied by all specialists working or intending to work in the hylea or, for that matter, in other parts of the humid neotropics. This book offers a wealth of data and new interpretations by 21 experts who presented their papers in the 31st Latin American Conference at the University of Florida in 1982.

The contents of most of the contributions stress environmental, historical and demographic problems, and consider the policies in all of the Amazonian countries from the viewpoint of how "development" of this last great frontier will proceed. As Wagley points out in his introduction: "It can almost be said that scientists and scholars have 'rediscovered' the Amazon region in the last ten years and are now creating a tropical zone science."

The contributions are divided into four parts: 1) Indians and Indian policy; 2) Colonization and spontaneous settlement; 3) Ecology and developmental potential; and 4) State and private capital.

While the papers lean heavily on sociological and other human factors that will operate in future expansion of the Amazon and how to direct or control them for the benefit of man and the region, considerations of agronomic and forestry problems—which will be even more important with the inflow of new populations—are scattered throughout the book. It is this characteristic that makes *Frontier Expansion in Amazonia* so pertinent to economic botanists and others dedicated to the use of natural resources in the humid tropics.

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**Le Genre *Inga* (Légumineuses, Mimosoideae) en Guyane Française. Systématique, Morphologie des Formes Juveniles, Ecologie.** Odile Poncy. Muséum National d'Histoire Naturelle, Paris, France. Mémoires, Série B. Botanique, Volume 31. 1985. 153 pp. fFr 218.40.

The genus *Inga* of the mimosoid legumes has long been a taxonomist's nightmare. There are somewhere between 200 and 400 species dispersed throughout lowland tropical America. *Inga* species are conspicuous elements of primary and secondary tropical forests, particularly along river courses. Some species such as *I. edulis* Mart., the so-called "ice cream bean," are widely cultivated for the edible, sweet, pulpy aril around the seeds. In