



THE NEW YORK BOTANICAL GARDEN



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N-fixation in North American forestry; (10) biological N-fixation in European silviculture; (11) N-fixation in southeast Asian forestry; and (12) biological N-fixation in Australia and New Zealand. Each chapter ends with a bibliography varying, according to the topic discussed, from 37 to 280 items. Several chapters include lists of research workers with their addresses, a most helpful aspect to researchers in general.

The book is oriented toward use by foresters and land managers, but its utility far transcends these limited specialists. Because of its summary type of presentation of broad topics, the book may be recommended to students in biochemistry and physiology and to agricultural researchers.

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Paleoethnobotany of the Kameda Peninsula Jomon. Gary W. Crawford. 200 pp. illus. Anthropological Papers No. 73, Museum of Anthropology, University of Michigan, Ann Arbor, 1983. Price not given.

This comprehensive book, a revised version of a doctoral dissertation prepared at the University of North Carolina, comprises an investigation of prehistoric resource utilization. Its aims are to collect, report, and interpret archaeological data on plant utilization by the Jomon people of southwestern Hokkaido, Japan; to study the adaptations from 8000 B.P. to 4000 B.P. in the context of human and plant interrelationships; to test problems derived from a study of recent plant remains; and to make inferences on the general success of Jomon adaptation in northwestern Japan.

The monograph has seven major sections: (1) introduction, (2) identification of plant remains and ecological data, (3) methodology, (4, 5, and 6) plant remains from several sites, and (7) interpretation and conclusions. There are four appendices: (1) vegetation of Minamikayabe, (2 and 3) flotation samples from two sites, and (4) plant remains from the Seizan site. The bibliography comprises 200 items. An abstract of this study, in Japanese, is at the beginning of the book.

This contribution is truly a major addition to the growing wealth of archaeoethnobotanical literature. The author is to be congratulated on his furtherance of analytical research in this field.

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New Frontiers in Food Microstructure. Edited by D. B. Bechtel. 400 pp. illus. American Association of Cereal Chemists, St. Paul, Minnesota, 1983. \$42.00 (members); \$48.00 (non-members).

A valuable volume containing much hard-to-obtain information, this book consists of papers presented at the 67th Annual Meeting of the American Association of Cereal Chemists and two invited papers. It comprises primarily procedures and techniques in great variety from the simplest to the most highly sophisticated, emphasizing how the use of microscopic techniques in studying food structure can lead to understanding of end-use properties, especially in recently developed techniques.

There are 12 chapters. The range will be clear from the titles: (1) "Historic Perspective of Food Structure," (2) "Microspectrophotometric Applications in Plant Science Research," (3) "Polarization Microscopy," (4) "Fluorescence Microscopy in Identification of Cereal Carbohydrates," (5) "Scanning Electron Microscopy and Histochemistry of Oil Seeds," (6) "Scanning Electron Microscopy of Cereal Grains," (7) "Freeze-fracture, Freeze-etch Tech-

niques," (8) "Transmission Electron Microscope Account of Cereal Structure and End-rise Properties," (9) "High Voltages and Quick Sections in Electron Microscopy," (10) "Microanalysis of Seed Tissue," (11) "Starch Ultrastructure," and (12) "Quantitative Image Analysis." Each paper has an excellent selected list of literature cited. There is an adequate index.

This up-to-date book will be of interest and can be recommended to many economic botanists and other plant scientists as well as to nutrition specialists.

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The Arecanut Palm. Edited by K. V. A. Bavappa, M. K. Nair, and T. Prem Kumar. 340 pp. illus. Central Plantation Crops Research Institute, Kasaragod, Kerala, India, 1982. \$40.00.

Publication of this book marks the fiftieth year of Indian arecanut research. Cultivation of arecanut palm is an important agricultural activity in that country, covering about 184,000 hectares and resulting in the production of about 191,400 metric tons of nuts per year. Many Indian farmers depend on this crop as a major source of income, particularly in the states of Karnataka, Kerala, and Assam. Thirteen chapters cover a wide variety of topics from basic information on botany and cytogenetics to applied aspects of crop management and agronomy, multiple cropping, pests, and diseases. The section on pharmacological properties of arecanuts includes a number of interesting activities such as antimicrobial, antifertility, carcinogenic, hypoglycemic, and other metabolic effects. There is an excellent section on alternative uses of arecanut palm, including its use as a source of fat, fiber, plastic, pulp and paper, veneer panels and other wood products, sandals and, interestingly enough, disposable cups and plates molded from the leaf sheaths—designed to take the place of similar paper products. A great deal of information has been published on the arecanut palm in a diverse array of sources, some of which are difficult to obtain. This book is an excellent, up-to-date, and interesting compendium on the palm and its use by people.

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Medicinal Plants and Traditional Medicine in Africa. Abayomi Sofowora. 256 pp. illus. John Wiley and Sons, New York, 1982. \$31.95.

As described by the author, the intended users are undergraduate students in disciplines such as science and agriculture, particularly those studying in West Africa. For this audience there are succinct summaries of traditional medical history, methodology, screening, standardization, relationship with modern medicine, and research trends. In addition, one chapter focuses on common medicinal plants of Africa: 85 species are selected. Of these, most are illustrated and 10 are discussed in some detail—including synonymy, vernacular names, description, medicinal uses, constituents, and pharmacology. It is unfortunate that details are given for so few.

Even though the pre-professional community is well served by this text, assuming that sufficient African undergraduates can afford the English-version price (which is doubtful), the professional interested in African medicinal plants must be cautioned. For example, in the discussion of chewing sticks used for cleaning teeth the recent epidemiological study involving hundreds of users, 12 tribes, and 49 different chewing-stick species in Ghana is not mentioned. As long as the potential audience realizes such shortcomings, the text will be of qualified value for all those interested in traditional medicine.

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