

Book Reviews

Palm Trees: A Story in Photographs.

David Leaser. 2005. Westwood Pacific Publishing, 12021 Wilshire Blvd., Ste. 200, Los Angeles, CA 90025. 144 p., incl. index., illus., \$39.95, hardcover. ISBN 1-595588-010-0.

This is a very attractive, large-format (coffee table) book filled with many excellent photographs of palm trees growing in their native surroundings and in cultivated plantings. The first text includes a brief, two-column introduction to palms followed by 20 pages of photographs of various palm trees growing in places as diverse as Hawaii and Morocco. Some of the photographs are close-ups that show morphological features such as leaf bases or spines on petioles. Other photographs show palms in native plantings or in combinations with architectural features or buildings. Some of photographs, like the two-page spread of the date palms at Versailles, are very dramatic. There are six other one- or two-page discussions scattered throughout the book, also followed by numerous photographs that relate in some way to the preceding text. These chapter-like texts briefly discuss the importance of palms, the coconut palm specifically, and then present assorted palms by geographic distribution. There is also a list of botanical gardens with palm collections, a list of resources that pertain to palms, and an index to the photographs by common name and by scientific name. The sparse text is mostly a scattering of information about specific palms and their uses. The annotations to the photographs are also quite thorough, so that no photograph is provided without substantial explanation. In fact, there is more specific information in the photograph annotations than in the brief texts. The author, a long-time member of the International Palm Society, has intended this book to be an "inspiration book" that can transport the reader to a tropical beach or a desert oasis—and it certainly succeeds in doing that. Almost anyone who is attracted to or interested in palm trees will thoroughly enjoy this book. It may also make some new converts among the casual readers who happen to thumb through the photographs when they see this handsome volume on the rack. The book is highly recommended for anybody interested in well-photographed palms.

JOHN L. GRIFFIS, JR.
University of Hawai'i – Manoa
Tropical Plant & Soil Science
Department
Honolulu

Handbook of Seed Science and Technology.

Amarjit S. Basra. 2006. Food Products Press (An imprint of the Haworth Press, Inc.), 10 Alice Street, Binghamton, N.Y. 796 p. including index, illustrated with photographs. \$124.95, hardcover. ISBN - 13: 978-1-56022-314-6/ISBN-10: 1-56022-314-6, and, \$94.95, softcover. ISBN - 13: 978-1-56022-315-3/ISBN-10: 1-56022-315-4.

Several excellent reference books have come out in recent years related to seed science. Dr. Basra's new book *Handbook of Seed Science and Technology* is one that gives a good overview of the whole area of seed development, dormancy and germination, including hormonal regulation of seed germination as well as seed quality aspects such as testing, seed vigor, seed-borne pathogens, and seed quality. This book goes one step further, as it has information related to seed predation and natural defense mechanisms of seeds, information on the eco-physiological basis of weed seed longevity in soil, seeds and soil seed banks, as well as hybrid seed production and plant germplasm conservation. The reader has an opportunity to get information, packed into 796 pages, in almost any area related to seeds.

The contributing authors to Dr. Basra's book are excellent and well known for their work in the area of seeds. Each chapter appears to be complete with regard to the subject matter. More importantly, the authors give a long list of references at the end of each chapter for additional reading and for information that is more detailed. Some of the chapters have good illustrations, and information and data related to specific areas of subject matter. This type of information is extremely important for someone who may want to adopt this book for a course on seeds.

In order to bring subject matter together, Dr. Basra has broken the book up into four sections. Section 1 is on seed development, cell biology and biotechnology, and it gives good information on certain crops related to carbon partitioning, grain number determination in grain crops, metabolic engineering of carbohydrate supply, and enhancing nutritional value of seeds. There is a division at the end on synthetic seed technology. Section 2 covers seed dormancy and germination with the various aspects affecting seed dormancy and germination. These very important areas of seed science are somewhat brief, covering fewer than 90 pages in three chapters. Section 3 covers seed ecology where there is good background information on various areas of subject matter. Finally, Section 4 covers seed technology that covers quality testing, seed vigor, seed-borne pathogens, seed quality, and seed production.

As I teach a course in Seed Physiology to graduate students, I continually look for good background information to be presented in class. Dr. Basra's book, *Handbook of Seed Science and Technology*, is a good supportive text for the course. However, I cannot use it as an assigned text because it lacks depth in various areas that we need to cover in class in detail, including seed germination and dormancy factors. The cost of this book is also somewhat prohibitive for students in that the soft-cover printing is about \$95, which is a bit too high for today's graduate students. The text is outstanding for someone who wants a good background related to all areas of seed science in general and for such I recommend it highly.

DANIEL J. CANTLIFFE
University of Florida
Horticultural Sciences Department
Gainesville

Handbook of Plant Nutrition. 2007. Allen V. Barker and David J. Pilbeam (eds.). CRC Press, 600 Broken Sound Parkway NW, Suite 300, Boca Raton, FL 33487. 613 p., \$139.95 hardcover. ISBN 0-8247-5904-4.

For almost half a century Chapman's *Diagnostic Criteria for Plants and Soils* has been the reference of choice for those needing concise, reliable information on plant nutrition. Over time, however, much new data have been developed by horticulturists, agronomists, and soil scientists. Accordingly, a 21st century reference was sorely needed and that need is fulfilled with publication of *Handbook of Plant Nutrition*.

Thirty-four world-wide plant nutrition authorities have prepared the 22 chapters in this treatise. Six chapters devoted to the essential macronutrients, eight chapters to the essential micronutrients, six chapters to beneficial elements are sandwiched between the introduction and conclusion chapters.

Information is exceptionally well documented. For example, the phosphorus chapter lists 226 citations and the magnesium chapter has 230 citations. Citations are arranged in the order presented in the text or table so it is difficult to locate the work of a particular scientist.

Each chapter follows a similar, but not identical, format that includes determination of essentiality, plant metabolism, diagnosis of plant status, soil forms, fertilizers, and references.

A valuable table of deficient, low, sufficient, and high elemental concentration in various plant parts for few to many plant species is included in each chapter. The tables vary widely in format making them

a bit more difficult to use than necessary. Some are arranged by botanical name others by common name and some are listed alphabetically while others are grouped as vegetables, fruits, etc. Tomato is listed as *Lycopersicon lycopersicum* and the more commonly used *Lycopersicon esculentum*, both nomenclatures are found in taxonomies. Elemental concentrations are expressed using different units, e.g., N and P concentrations in plant material are shown as % dry mass, whereas K concentration is shown as mg K/g dry mass.

Symptoms of elemental deficiency and toxicity are shown in black and white images in the text. Fortunately, each volume comes

with a CD-ROM of the entire text plus more useful color images of nutrient imbalance. The book is attractively and sturdily bound to withstand the decades of use it will undoubtedly serve as a reference.

Despite some very minor irritations, *Handbook of Plant Nutrition* will serve horticulturists well for perhaps another half century. The editors are to be commended for tackling a treatise of this magnitude and producing such a valuable product.

DONALD N. MAYNARD
University of Florida