

Book Reviews

THE PEPPER LADY'S POCKET PEPPER PRIMER. Jean Andrews, 1998. University of Texas Press, Box 7819, Austin, TX 78713-7819. 84 color photographs, line drawings. \$17.95, softcover. ISBN 0-292-70483-6.

This fun and lively handbook is the answer to many of your pepper identification questions. As the author of the famous reference *Peppers: The Domesticated Capsicums* and considered by many to be the queen of chile aficionados, Jean Andrews comes uniquely qualified to write this book.

The pocket primer is intended for pepper hobbyists to horticulturists to the most devoted chile head. This book is mostly about identifying the different domesticated peppers and covers in some detail many issues involving peppers.

The book is not a cookbook and contains no recipes. However it would also be of great value to the capsicum-cooking enthusiast. Clear information on proper identification, suitable cooking substitutes and seed sources for their favorite recipes are presented.

The book is structured into ten chapters, two glossaries and information on seed sources. Initial chapters contain brief but thorough discussions on nomenclature, history, morphology and a capsicum species identification key. Additional chapters offer practical advice about the main reason we love peppers—to eat them! She gives clear and concise advice on storing, drying, growing, and harvesting peppers.

The largest chapter and truly the *raison d'être* for this book is the thorough pictorial and written description of 45 different pepper types within 5 different species of capsicums. Andrews has drawn from her extensive experience and love of capsicums to pro-

vided detailed and insightful information for each of the 45 types.

Sorted in alphabetical order by common name, each pepper type includes a rich color photograph in the fresh and/or dried state depending on how the pepper is consumed. Each description includes information on size, color, fruit shape, flesh type, pungency, substitutes (for cooking), other names, sources, uses, and remarks.

In addition to the wonderful photographs of the different pepper types, there is an illustrated glossary with sharp line drawings that are helpful in more clearly defining the names and parts of the pepper fruit.

As a reasonably priced paperback, this book is a must buy or a nice gift for people who work with or worship the multitude of different pepper types used domestically.

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REFLECTING NATURE: GARDEN DESIGNS FROM WILD LANDSCAPES. Jerome Malitz and Seth Malitz. 1998. Timber Press, Inc., 133 S.W. Second Avenue, Suite 450, Portland, OR 97204. 267 p. 135 color photographs. \$39.95, hardcover. ISBN 0-88192-455-5.

If you are in need of a coffee-table book filled with pictures of yard-sized natural landscapes almost equally divided between northeastern seaboard and west-southwestern states, this is a satisfying, potential candidate. If you actually want to try to recreate one of these landscapes or another of your choosing in your own backyard, then this book is for you.

In a tour-de-force of stand-alone photographs and text the father and

son authors, both mathematicians by trade and training, call for a transformation of conventional landscape design to one which emulates the Master Designer and soothes the soul.

Through numerous examples we are tempted and persuaded to define and decipher exactly what makes a natural landscape so compelling to our senses. Whether your favorite be forest, meadow, alpine, pond, waterfall, wetland, dryland, desert, or tropics, you will find it photographed and discussed. Seemingly all natural landscape types are covered from seas to shining sea and from the highest elevations to one actually below sea level. Leaving no turn unstoned and adding several new gardening styles in the process, the authors cover even lichen and moss gardens.

There is no major emphasis on using strictly native plants to achieve the desired effect, since it is understood that attempts to grow moss and lichens in a dry climate or dogwoods and rhododendrons in alkaline soils is destined for failure. Offered instead are alternative plants such as *Sedum* and *Sagina* for moss and *Artemisia*, *Thymus*, and *Cerastium* for lichens.

Rock, stone and boulder in nature and in the home landscape figure prominently and are likened to the best that the sculptors Brancusi, Hepworth, and Moore have to offer. Alternatives are here too offered as the real thing can be quite costly. Several examples of faux-rock are presented, one with a tree growing out of an all-too-obvious premolded hole.

In Redwood National Park, a giant landscape filled with giant plants, the authors choose to highlight a cameo scene where *Sedum spathulifolium* takes center stage. In other Zen-like scenes, elderberry blossoms fallen on red sandstone and bright fall-colored leaves softly embracing autumn's muted finale are celebrated as much as crashing waterfalls and stark, cactus-filled desert scenes.

Scattered throughout are scenes of a variety of public and private gardens that best emulate the book's theme, culminating with a chapter on Japanese gardens—the supreme example of being able to evoke large moods in a small space.

Only a plantsman would find details out of place. Some of the dwarf conifers pictured are merely young; the limber pines described appear as

lodgepole pines in the accompanying plate; there is only one species of *Yucca* in Montana, not several and the planting of *Mahonia haematocarpa* is outlawed in many states in an effort to control *Puccinia graminis*.

The call for walking more softly on the earth in all things is met quite admirably with this treatment of gardening. If hard-edged, linear-thinking mathematicians can do it, then so can horticulturists.

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THE CATTLEYS AND THEIR RELATIVES. VOLUME V: BRASSAVOLA, ENCYCLIA, AND OTHER GENERA OF MEXICO AND CENTRAL AMERICA. Carl L. Withner. 1998. Timber Press, 133 S.W. Second Ave., Suite 450, Portland, OR 97225. 198 p. \$42.95, hardcover. ISBN 0-88192-456-3.

This is Volume V of a six-part series that describes the species within the subtribe Laeliinae of the Orchidaceae family. These orchids are commonly referred to as in the *Cattleya* alliance. Volume I of this series describes the *Cattleya* species; Volume II the *Laelia* species; Volume III the *Schomburgkia*, *Sophronitis*, and other South American Genera; and Volume IV the Bahamian and Caribbean species. This volume covers the *Brassavola*, *Encyclia*, *Alamania*, *Arpophyllum*, *Artorima*, *Barkeria*, *Caularthron*, *Dimeranda*, *Euchile*, *Hagsatera*, *Hexisea*, *Homalopetalum*, *Meiracyllium*, *Nageliella*, and *Rhyncholaelia* species from Central America and Mexico.

The book is formatted such that each genus is introduced with a short historical perspective that is followed by a key to the species. After the species key, a detailed description of each species is given. The description of each species is titled by its common name followed by the country of origin, scientific name with reference to the original description and a list of synonyms. The text is not written using complex botanical terms but in a less obtuse manner still giving the diagnostic features of the species, as well as, interesting anecdotal accounts and cultural information. Another important feature is that several of the species descriptions have a reference

to an American Orchid Society (AOS) award. This reference is very valuable, for each AOS award has a description that is published and is widely available. These descriptions are botanical in nature and have complete floral measurements and photographs. It would have been nice to have AOS award references for more species.

There are 95 color photographs that cover all the genera. The photographs are of very high quality and in most cases show the diagnostic features of the species. The photographs of all the *Barkeria* species are most enlightening. These very showy species are seldom seen and this is the first time I have seen pictures of all the species in one place.

Nearly all of the species descriptions are adequate for distinguishing them within the genera. The only exceptions are the *Encyclia* species. The genus *Encyclia* has always confused me. Many of the species look very similar and are distinguished by subtle differences in the structure of the lip. In this volume, a large figure showing the flattened lip configurations is provided. This figure is helpful; however, the few *Encyclias* I tried to match to the figure were intermediate and could not be matched to a single species. The only other comprehensive treatment of *Encyclia* is an out-of-print book by Dressler and Pollard published in 1976 by the Asociacion Mexicana de Orquideologia. This book was also not of much help to me in the identification of my *Encyclia* species.

In this volume, Withner proposes a new genus—*Euchile* (Dressler and Pollard) Withner—fortwo species (*E. mariae* and *E. citrina*) previously placed in the genus *Encyclia*. These species were previously placed within the section *Euchile* (Dressler and Pollard) of the subgenus *Osmophytum* (Lindley) of the genus *Encyclia*. These species have the same unique leaf and column structures and are clearly different from the typical *Encyclia*.

My only criticism of the book is that the common name is used as the title for each species description and the scientific name is placed in smaller print within the text. This makes it difficult to use the species key, which does not list common names. The author addressed this criticism in the preface of this volume. He wrote: "In reading reviews of this set of volumes

a recurrent theme has been the question of why I have bothered with a common name for all the species. It is a practice in the nineteenth century and before, and if nothing more, often acquaints the reader with the meaning of the Latin or Greek species epithet."

Despite this criticism, I highly recommend this book. Unlike most taxonomic treatises, I enjoyed reading this book. This series of volumes has already made an important impact in orchid taxonomy and I look forward to reading the last volume in the series.

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THE TROPICAL LOOK: AN ENCYCLOPEDIA OF DRAMATIC LANDSCAPE PLANTS. Robert Lee Riffle. 1998. Timber Press, Inc., The Haseltine Building, 133 S.W. Second Ave., Suite 450, Portland, OR 97204. 428 p. 409 color photos. \$49.95, hardcover. ISBN 0-88192-422-9.

To paraphrase from the introduction: "The lure of the beauty of tropical landscapes is the stuff that dreams are made of." While Robert Riffle may wax poetic about plants with a tropical look, it soon becomes obvious that he is truly enamored with his subject. Formerly a manager of a nursery specializing in tropical plants, Riffle has served as a consultant on various on-line gardening forums, and briefly pursued studies in botany at the University of Texas, Austin. His book is compelling because of his almost contagious enthusiasm for dramatic, exotic tropical plants. Focusing on plants that are conspicuous, generally evergreen, and "definitely including palms," he keys in on plants with exceptional foliage characteristics. Flowering is a secondary concern, because the year round beauty of the plants is his primary interest and often flowering is too ephemeral. The driving force behind the book is his conviction that the tropical look is not taken advantage of even in tropical climates. He stresses that selected plants should be considered not only in tropical areas but also for northern climates in conservatories, greenhouses and interiorscapes.

Riffle describes in some detail his criteria for the plants he classifies as having a tropical look. He explains that while the tropics are confined to the latitude 23 degrees 27 minutes north and south of the equator, this doesn't account for temperatures at higher altitudes which clearly will not support plants which cannot withstand a freeze. Hence his basic definition of a tropical plant is that they will not survive a freeze. However, his definition of the tropical look excludes many true tropical plants from his book. For example, he rationalizes that orchids are only of exceptional beauty when in flower and are rather uninspiring the rest of the time. So orchids, and several other tropical plants, do not make an appearance in his tropical look encyclopedia.

The main body of Riffle's book is the encyclopedic listing of nearly 2000 exotic plants. Headers for each species contain scientific name, common names, plant family, and requirements for light, water, soil and propagation. This is followed by excellent descriptions of plant dimensions and form, textural qualities of foliage and bark, anatomical details on leaf shape and flower form, branching attributes, special cultural considerations, as well as triggering mechanisms for flowering and deciduousness. The strength of the encyclopedia is the inclusion of Riffle's editorials and personal experiences with each species. His colorful, detailed and often flamboyant descriptions make reading his book a charming experience. Additionally, 409 superb color plates reinforce plants that he paints in the mind's eye.

The crowning touch are the 22 landscape lists that provide guidance in using the tropical look plants found in the encyclopedia. Nearly 30 pages of lists include topics such as: invasives; hedge and screening plants; bamboo and large grasses; fast-growing plants; fragrant plants; poisonous plants; shade-tolerant plants; salt-tolerant plants; succulent and cactus-looking plants; aquatic, bog and marsh plants; and erosion-controlling plants.

Although written for the layman, this book is of value to the professional horticulturist as well. It would enhance any horticulturist's library shelf.

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A PLANTFINDER'S GUIDE TO TENDER PERENNIALS. Ian Cooke. 1998. Timber Press, 133 S.W. Second Avenue, Suite 450, Portland, Oregon 97204-3527. 192 p. 122 color photos. 13 color diagrams. 13 line drawings. 1 map. \$34.95, hardcover. ISBN 0-88192-450-4.

According to the jacket, Ian Cooke is from Great Britain and has written for the Royal Horticultural Society's journal, *The Garden*, and has worked professionally in horticulture for 28 years. Much of the book is based on his experiences gardening and working in the British Isles. In the first chapter, he defines tender perennials as "... 'any perennial plant that will grow outside successfully in temperate climates during the summer months, but requires some winter protection.' The latter is normally a frost-protected glasshouse, but the ingenious gardener will undoubtedly find other ways of overwintering those plants on the borderlines of hardiness." A few pages later, he provides more detailed information that quickly lets the reader know that he will be covering perennials hardy in USDA hardiness zones 7 through 11. This book definitely covers truly tender plants, many are considered annuals in zone 6 and further north. For example, he includes plants such as coleus, cosmos, heliotrope, and the pelargoniums.

Cooke divides *A Plantfinder's Guide to Tender Perennials* into four parts: Introducing Tender Perennials (two chapters), A Selection of the Best (one chapter), Planting Schemes (five chapters) and Propagation and Cultivation (two chapters). There are three appendices (Where to See Tender Perennials, Where to Buy Tender Perennials, Origins of Tender Perennials).

Chapter 3, A to Z of Tender Perennials, is a dictionary of tender perennials. Entries will include general plant information, descriptive information, history, propagation, cultivation and a list of related species and cultivars. Not all genera are treated equally; the amount of information provided will vary. This chapter does include some of the more recent introductions to the U.S. bedding plant industry (e.g., *Diascia*, *Sutera*, *Tibouchina*) and is a source of good information for these plants. The photographs and plates included throughout the book are extremely high quality.

The third part of the book, *Planting Schemes*, contains a wealth of information about using tender perennials in the landscape and the interior garden whether a conservatory or sun room. He covers bed design, carpet bedding, dot plants (plants that "give height and accent to the display"), plant associations and useful combinations, mixed planters and hanging baskets, Mediterranean gardens and exotic designs that incorporate many tropical plants normally considered house plants such as croton, cordyline, and dracena.

The last part of the book covers propagation, general care, insect pests and diseases. The information regarding potting mixes will not be easily applied by an inexperienced gardener in the U.S. mainly because of reference to composts and potting mixes common to the U.K. Cooke includes some information about training some of the tender perennials as standards or making living sculptures. The discussion of both chemical and non-chemical control of insect and disease problems is brief. Appendices include mostly U.K. sites to see or obtain tender perennials.

A Plantfinder's Guide to Tender Perennials would be a useful addition to the public, Master Gardener, or home library. The quality of the photographs, the information on garden design and planting schemes, and the coverage of some of the newer plant species being introduced to the American bedding plant market, all make it a worthwhile book to have.

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HERBS IN BLOOM: A GUIDE TO GROWING HERBS AS ORNAMENTAL PLANTS. Jo Ann Gardner. 1998. Timber Press, Inc., 133 S.W. Second Avenue, Suite 450, Portland, OR 97204-3527. 394 p., 117 color photos, 10 line drawings. \$34.95, hardcover. ISBN 0-88192-454-7.

For centuries herbs have been used as condiments, fragrances, and home remedies, but have usually been neglected as ornamentals. There is no

question that besides their traditional culinary and/or medicinal properties a large number of herbs also have excellent ornamental qualities. The recognition and promotion of herbs as valuable ornamentals by a few pioneering herb growers is then well deserved.

The objective of this book is precisely to demonstrate gardeners and landscapers that most herbs are not only good as foliage plants but also as ornamental plants with beautiful flowers and excellent decorative attributes, which can be exploited to advantage in landscaping. The plant descriptions presented in this book show that the author is an experienced herb grower. As she herself puts it: "Over a period of more than twenty-five years, my garden, indeed much of the farm landscape, became a laboratory for testing flowering herbs of all types for their ornamental value." Her motivation to write this book then comes from many years of observing, studying and testing herbs not only for their traditional culinary/medicinal value but also for their potential as ornamental plants.

Herbs in Bloom is divided into three chapters. The first chapter, Growing Flowering Herbs, is a very brief chapter on how to sow, propagate, transplant, and maintain the plants. The second chapter, Landscaping with Flowering Herbs, is also a very brief chapter on the different landscape possibilities for ornamental herbs, such as accent, bed or border, container, edge and hedge, ground cover, naturalized herb, and rock work. The author describes these terms and gives the common and scientific name of herbs that would accommodate best to these landscape uses. The third and last chapter, Plant Portraits from A to Z, takes about 80% of the book. This chapter is comprised of brief descriptions of 82 herb species (2 to 5 pages each) with ornamental value, which were selected as all time favorites after the thorough review of classic herbal literature and consultation of leading nurseries and professional herb growers. Each plant portrait starts with a brief quote from observations made on the plant by one of many past and present herb growers/writers. Then, in a recipe format, it gives the scientific name, family, common name(s), growing cycle, site and soil requirements, hardiness, landscape use, height, flower characteristics, and

blooming season of the ornamental herb being described. The main part of the portrait is a condensed description of the herb where only the most essential is discussed. In the words of the author: "Each portrait includes the most vital information about each plant to show at a glance its characteristics and uses as an ornamental herb." These characteristics and uses may include origin, morphological description, environmental requirements, industrial uses, curative properties, recipes, landscape applications, description of new cultivars, etc. Some of the portraits have at the end very brief descriptions of related plants of interest; that is, plants of the same genus but different species that have also good potential as ornamentals. The book has three appendices. Appendix I cross-refers the common name with the scientific name of the herbs. Appendix II groups the plants by season, according to the time of full bloom. And appendix III gives the name and address of retail seed and plant companies.

A major accomplishment of this book is its photographs. They are abundant, of excellent quality and well placed throughout the book. The photographs are also a perfect and essential complement to the narrative. What cannot be described with words is said through the photographs. The pictures allow the reader to grasp the whole beauty of the ornamental herbs portrayed. The listing of the plants in the index by scientific name and in the appendix I by common name is a plus because it facilitates the finding in the body of the book of a specific herb known only by its common name. While it is arguable whether a few of the plants included in the book are truly herbs (for example roses and carnations), most in the list were well selected and are among the most promising as ornamentals. The most valuable part in the plant portraits is the short paragraph on the qualities and possibilities of the herbs as ornamentals. In these paragraphs the author explains the best ways to exploit the ornamental qualities of the herbs in the arrangement of a garden. These brief paragraphs are a condensation of many years of observation, testing, and study. This book will be valuable to herb growers, gardeners and ornamental horticulturists interested in exploring new possibilities in the de-

signing and arrangement of gardens. It will be also very informative to landscapers looking for novelty and diversity.

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ARBORICULTURE: INTEGRATED MANAGEMENT OF LANDSCAPE TREES, SHRUBS, AND VINES. 3rd ed. Richard W. Harris, James R. Clark, and Nelda P. Matheny. 1999. Prentice-Hall Career & Technology, A Division of Simon & Schuster, Upper Saddle River, NJ 07458. 704 p. \$89.00, cloth. ISBN 0-13-386665-3.

Considering the breadth of information incorporated within *Arboriculture: Integrated Management of Landscape Trees, Shrubs, and Vines*, the volume is a bargain at the suggested list price. As a comprehensive overview of arboriculture, the book successfully integrates cultural aspects of tree establishment, maintenance, and management. Substantially reformatting and updated, the third edition of Harris' text includes sections of additional detail in the treatment of topics such as hazard tree management, plant health care, special planting situations and water quality issues, using the expertise of new coauthors Nelda Matheny and James Clark.

The text is well organized. The chapters follow a logical format that can be easily tailored to various curricula. Each chapter is clearly organized for the reader with a structured hierarchy of headings and subheadings. Boldface print highlights important points within sections making the book amenable to student reading needs. Graphics are positioned to clearly demonstrate points of practice as discussed in the text.

Arboriculture... is an excellent core text to be used in concert with other course-specific books. Many topics are objectively presented, often pointing up contradictory opinions and explaining the information in a logical conceptual framework. The book does rely on tree species references to illustrate points, so knowledge of plant material is a distinct advantage and necessary to fully appreciate the text. Texts on specific topics such as climbing, rigging, or

canopy training may be necessary to flesh out areas of emphasis within a given course format. *Arboriculture...* addresses basic concepts and techniques to provide background for beginning students while providing detailed documentation and sources of information for more advanced students and practitioners.

As a practitioner reference, the text organization is a major strength. The table of contents is very direct in locating specific topics. The index is a pleasure, with boldface type cross-referencing the extensive glossary and graphics within the text. The comprehensive bibliographic format is unchanged. Given that text citations are extensive, the bibliographic format certainly works if one is flipping back and forth from the text; however, further organization in terms of subject headings might be useful.

The expense to update the older volume is easily justified. Even with changes, such as the consolidation of four pest and disease chapters into one chapter and comprehensive table, familiar illustrations are recognizable from the many dog-eared copies which have established this text as a must for any practitioner's library. West Coast readers will appreciate the change to the Sunset climate zone system from the USDA hardiness map. It is important to appreciate the Sunset system, given retail labeling and interstate commerce of west coast nursery producers. However, the map on the inside cover is too small for usage and may not be as practical as other systems for practitioners in other parts of the country. Foldouts of both systems might be better.

The book is a solid volume and the new formatting is certainly a positive change. Any reader who will be dealing with trees in the landscape should seriously consider this text. Some graphics, such as the integration of growth over time or radiation conditions for frost might need to be revised for improved clarity. The next printing may wish to correct the few miscues in the text, such as the fragment on p. 274. This new volume is center left on my high usage bookshelf with good reason.

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FLORICULTURE: PRINCIPLES AND SPECIES.
John M. Dole and Harold F. Wilkins.
1999. Prentice-Hall, Inc., Upper Saddle River, New Jersey 07458. 613 p. \$88.00, hardcover. ISBN 0-13-374703-4.

This book is a new, up-to-date textbook for classroom or reference use. It covers more than 90 floricultural crops in an easy-to-read format. The book is divided into three sections plus an index. There are 32 small color plates inside the front and back covers and more than 400 figures (black and white photographs, graphs, tables, and line drawings).

Part I covers 11 subjects, divided as chapters, of importance to floricultural crop producers. The subjects covered include propagation, temperature, light, water, nutrition, media, plant growth regulation, pest management, postharvest, greenhouse construction and operations, marketing, and business management. This is an important section as the fundamentals of growing any crop are discussed here. The text for each topic is documented by graphs and extensive tables and each chapter brings a lot of important information together in one area. All chapters contain good breadth of subject material though some have more depth than others. The authors' overall goal of providing general production information, however, is achieved.

Part II consists of specific floricultural crops, which include cut flower, potted, annual, perennial, foliage, and carnivorous plants, alphabetized by genus. Though all available crops are not covered in each genus, the authors have made timely choices for the species mentioned.

Consistency of presentation of material is a key component for a good student text or reference book. In this book, each crop is treated the same as 19 topics are consistently covered. These topics are introduction, cultivars, propagation, flowering control and dormancy, temperature, light, water, carbon dioxide, nutrition, media, height control, spacing, pinching and disbudding, support, schedule and timing, insects, diseases, physiological disorders, and postharvest. Each topic is still listed even if there is little available information or it is not a cultural requirement for that crop. The material presented under each topic is clear

and concise. Thanks to the Uses and Current Status subheading in each introduction an international flavor, as well as a historical perspective, is often presented. For each crop, there is enough information for students to create crop growth and production schedules. However, as the authors note, there are multiple ways of growing plants and those cited may be only one example of cultural methods that work.

A bibliography concludes each crop section. The breadth of years of literature cited, 1930s on, in some of the bibliographies was impressive as well as important historically. Literature was cited from trade magazines, specific crop manuals, and books as well as scientific articles. However, it is unclear how citations were selected for inclusion as some reference books which the authors consulted and then cited for one crop, are not cited for a similar crop also covered in that book.

If for some reason a student is not aware that *Chrysanthemum* is no longer the genus for mums, this is easily resolved by using the index. This index is very complete as it includes key phrases as well as key words, common names and scientific names for diseases as well as plants. Indices are very important for soon after a course is over a book is only as good or useful as its index!

This is currently the most comprehensive book available on floricultural crops and their production and an obvious choice for those teaching floriculture crop production and physiology course(s). However, the cost (\$88) may cause a problem for students at schools which teach combination courses such as greenhouse management and crop production as the general information sections in Part I are not detailed enough to supplant another textbook. Additionally, using a portion of this book for such courses may be a limited option, but one to be explored, as there is a hearty warning by the publisher that "No part of this book may be reproduced, in any form or by any means, without permission in writing from the publisher."

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POSTHARVEST: AN INTRODUCTION TO THE PHYSIOLOGY AND HANDLING OF FRUIT, VEGETABLES AND ORNAMENTALS. R. Wills, B. McGlasson, D. Graham, and D. Joyce. 1998. CAB International, 198 Madison Ave., New York 10016-4314. 262 p. \$35, softcover. ISBN 0-85199-264-1.

This book provides an overview of postharvest physiology and technology of horticultural perishables in a clear and succinct style. The fourth edition has been expanded to include ornamentals (cut flowers and foliage) and updated information on fruits and vegetables since the third edition was published in 1989. An eight-page section of colored photographs (examples of physiological disorders, postharvest diseases, and banana and tomato ripeness stages) has been added and many illustrations have been redrawn. The clarity of the black and white photographs and charts need improvement in future printings.

The book is organized into 13 chapters followed by 4 appendices (abbreviations, plant names, temperature and humidity measurement, and gas analysis) and a subject index. Each chapter has a list of references for further reading (with emphasis on the Australian literature). The introduction (Chapter 1) includes a discussion of the importance of fruits and vegetables as food, horticultural production statistics, need for postharvest technology, and extent of postharvest losses. Structure, chemical composition, and nutritional value of fruit and vegetables are covered in Chapter 2. The third chapter provides a comprehensive but succinct synopsis of postharvest physiology and biochemistry of horticultural crops.

Chapter 4 is focused on the effects of temperature and methods of cooling and other temperature management procedures. Basic principles of water loss and humidity along with factors affecting water loss and control strategies are presented in Chapter 5. The effects of atmospheric modification (carbon dioxide, oxygen, and ethylene concentrations) on post harvest life of horticultural perishables are summarized in Chapter 6. Chapter 7 on storage technology includes methods of storage, design and construction of cool and CA stores, and management of produce storage.

Chapter 8 deals with physiological disorders with emphasis on chilling in-

jury and mineral deficiency disorders. Microorganisms causing postharvest wastage and control methods are discussed in Chapter 9 (Pathology). Chapter 10 on evaluation and management of quality covers quality criteria, postharvest factors influencing quality, determination of maturity, and management of quality.

Chapter 11 on preparation for market presents a brief overview of all the operations involved, including harvesting, postharvest treatments, irradiation, and disinfestation. Packaging methods and their impact on mechanical damage of produce are discussed in Chapter 12. Chapter 13 includes several tables summarizing storage recommendations for various fruits and vegetables and ornamentals.

This book is suitable for use as a textbook for an introductory course on postharvest biology and technology of horticultural perishables for students of food, horticultural, and plant sciences. We also recommend it to all those involved in the fresh produce industry worldwide.

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TOMATO PLANT CULTURE. IN THE FIELD, GREENHOUSE, AND HOME GARDEN. J. Benton Jones, Jr. 1999. CRC Press, 2000 Corporate Blvd. N.W., Boca Raton, FL 33431. 199 p. illus. \$59.95 + \$7.95. S&H, hardcover. ISBN 0-8493-2025-9.

This handy-sized book has chapters that focus on general information on tomato, plant characteristics and physiology, fruit characteristics, plant nutrition, field production in soil, greenhouse production, seed and seedling production, and pest identification and control. The information presented is well documented with an extensive reference section and an additional list of books and videos that contain tomato information. There is also a glossary of some terms used in the text, a summary of essential inorganic elements as they apply to tomato culture, and a summary of tomato plant physiological and production characteristics. Finally, all of this information is referenced in a useful index.

Tomato Plant Culture focuses on

significant advances made since 1986 when the last major book on tomato was published. According to the cover description this book provides comprehensive information about tomato plant culture and fruit production that is beneficial to plant scientists and commercial field and greenhouse growers as well as the home gardener. As one might suspect, it is a formidable task to combine all of the features necessary to satisfy the informational needs of this diverse audience in one small volume.

There is a profusion of information on some topics. For example, three tables are provided on the nutritional composition of tomatoes as reported from as many sources. The values, except for an error in the Vitamin A content in one of the tables, are similar enough so it would have been sufficient to include only one of the three tables. Another case in point is found in the chapter on greenhouse tomato production where results of three surveys report area devoted to greenhouse tomato cultivation to be either 8, 30, or 20 acres in California; 0, 0, or 70 acres in Arkansas; and 69, 94, or 150 acres in Colorado. Which is correct? Or, even close to the actual area?

The author chose to use the units in the original research rather than convert to English units (best for the grower and home gardener) or to SI units (best for the scientist). So, the following situation arises, "According to Papadopoulos (1991), the optimum space per plant is 0.35 to 0.40 m² planted in double rows at 80-cm spacings with 1.2 m between the double rows. Snyder (1997a) suggests 4 ft² per plant for a population of 10,000 plants per acre. The arrangement is double rows ≈4 ft apart with 14 to 16 inches between plants in the row." Fortunately, my metric conversion calculator came to the rescue so I could determine that 0.4 m² is ≈4 ft² and that 1.2 m is ≈4 ft, but 80 cm is ≈31 inches, not 14 to 16 inches. This situation again suggests the difficulty of writing for a very broad audience.

Certainly, *Tomato Plant Culture* will be a useful addition to the libraries of those interested in this universally important vegetable. But one should not expect it to fulfill all of the informational requirements of the scientist, the practitioner, or the hobbyist.

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