**Book Reviews**


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**, Andrews has drawn from her extensive experience with different species of capsicums. Andrews has organized her book around the identification of 45 different pepper types within 5 different domesticated peppers. The book is mostly about identifying the multitude of different pepper types used domestically.

**William H. McCarthy**

Sakata Seed America, Inc.
Fort Myers, Fla.

---


If you are in need of a coffeetable book filled with pictures of yard-sized natural landscapes almost equally divided between northeastern seaboard and west-southwestern states, this is 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 natural 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 seashore to shining seashore 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, with one attempt growing our 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 follow 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 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 the limber pines described appear as stark, cactus-filled desert scenes. Whether your favorite be forest, meadow, alpine, pond, waterfall, wetland, dryland, desert, or tropics, you will find it photographed and discussed.
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.

Jim Borland
Denver, Colo.


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 the Cattleya alliance. Volume of this series describes the Cattleya species; Volume II the Laelia species; Volume III the Schomburgkia, Sophronitis, and other South AmericanGenera; and Volume IV the Bahamian and Caribbean species. This volume covers the genus Brassavola, Encyclia, Alamania, Arpophyllum, Artorima, Barkeria, Caularthron, Dimeranda, Euchile, Hagenata, H oxinea, H malopetalum, Miracyllium, Nagelia, 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 followed by its common name followed by the country of origin, scientific name with reference to the original description and 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, an algae figure showing the flattened lip configuration is provided. This figure is helpful; however, the few Encyclia 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 by Drexler and Pollard published in 1976 by the Asociacion Mexicana de Orquidea. 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 (Drexler and Pollard) Withner—forty-two species (E. mariae and E. citrina) previously placed in the genus Encyclia. These species were previously placed within the section Euchile (Drexler and Pollard) of the subgenus Osmophyllum (Lindley) of the genus Encyclia. These species have the same unique leaf and column structures and are easily 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 are current, this has been the question of why I have bothered with a common name for all the species. I am a practitioner in the nineteenth century and before, and if nothing more, often acquainting the reader with the meaning of the Latin or Greek specific epithet."

Despite this criticism, I highly recommend this book. Unlike most taxonomic treatments, 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.

R. J. Griesbach
Floral and Nursery Plant Research
U.S. National Arboretum
USDA-ARS
Beltsville, Md.


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. He enunciates his definition of tropical plants 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 the horticultural encyclopedia. The main body of Riffle’s book is the encyclopedia listing of nearly 2000 exotic plants. He describes each species in a scientific name, common names, plant family, and requiring foliage, 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, perennials, and deciduousness. The strength of the book 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 third part of the book, Plant Finder's Guide to Tender Perennials, is a dictionary of tender perennials. It contains a wealth of information about using tender perennials in the landscape and the interior garden. Whether a conservatory or sunroom, it 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 houseplants such as arctron, 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 UK. 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 UK 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, 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 worthwhile book to have.

Mary Lewnes Albrecht
Department of Ornamental Horticulture and Landscape Design
University of Tennessee, Knoxville


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 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 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 and 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 rockwork. 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 favorite herbs after 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 can not 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 Appendix I by common name is also because it facilitates finding in the body of the book of an 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 of the list were well selected and are among the most promising 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 designing and arrangement of gardens. It will be also very informative to landscapers looking for novelty and diversity.

Mario R. Morales
Purdue University
West Lafayette, Ind.


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 reformatted 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 textbook 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 a 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.

Jason Grabosky
Dept. of Floriculture Ornamental Horticulture
Cornell University
Ithaca, N.Y.


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 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 19 topics are consistently covered. The topics are introduction, cultivation, propagation, flowering control and dormancy, temperature, light, water, carbon dioxide, nutrition, media, height control, spacing, pinching and disbudding, support, scheduling 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 useful current status subheading in each introduction an international flavor, as well as a historical perspective, is often presented. For each crop, there is a reference 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 an example of cultural methods.

A bibliography concludes each crop section. The breadth of years of literature cited, 1930s on, in some of the bibliographies is 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. For some reason a student is not aware that Chrysanthemum is longer the genus for mums, this is easily resolved by using the index. This index is very complete and includes key phrases as well as keywords, common names and scientific names for diseases as well as pests. Indices are very important for soon after a course is over book is only as good or useful as its index.

This currently the most comprehensive book available on floricultural crops and their production and an obvious choice for those teaching floriculture crops and production and physiology courses. 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 an option, but one to be explored, as there is a hearty warning by the publishers that "No part of this book may be reproduced, in any form or by any means, without permission in writing from the publisher."

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 injury 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 disinfection. 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.

Adel A. Kader and Deidre M. Holcroft
University of California
Davis


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.

TomatoPlantCulture 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 somaticos. 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 ≈ 4 ft² and that 1.2 m = 4 ft, but 80 cm = 31 inches, not 14 to 16 inches. This situation again suggests the difficulty of writing for a very broad audience.

Certainly, TomatoPlantCulture 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.

Donald N. Maynard
University of Florida
Bradenton
Effective postharvest handling is critical in maintaining the quality and freshness of crops from the time when they are harvested to when they are sold to the consumer. Presented in a new larger format with an expanded colour section, this broad-based introductory level textbook covers the key concepts and practical technologies to slow the inevitable deterioration of harvested produce, including handling, packaging, transport, temperature management and the control of pests and diseases. "I can never remember a time when this book was not on my shelf! It serves as wonderful resource for the practitioner, whether in industry or academia, as well as for students, providing great core information about postharvest science. I am therefore delighted to see this complete revision and sixth edition. Several key updates make this book an even better resource for anyone wanting a thorough understanding of postharvest basics and application." (Christopher Watkins, Professor of Postharvest Science, Cornell University).

Read more. About the Author. Ron Wills is an Emeritus Professor of Postharvest technology and the marketing of fruit and vegetables have changed markedly since Postharvest was first published in 1981. The growth in international trade and its counter-seasonal effect has resulted in many types of produce being available for 12 months of the year. In 1981, postharvest technology was only emerging as a distinct scientific discipline to support a more efficient handling of horticultural produce from the farm gate to the consumer. Over the years it has matured into a vibrant research community that works closely with fruit and vegetable industries and supply chains to provide integrated and cost-effective systems and technologies to meet market requirements.