
This book hit my desk just as I began to think about the spring gardening season. The Foliage Garden: Tapestries of Color, Shape, and Texture is definitely a feast for winter-weary eyes. It is richly illustrated with full-color photographs of the brilliance and subtleties found in landscape plant materials. It challenges the imagination. While we are accustomed to looking at woody plants with their fall color in mind, Davis reminds us that many of the herbaceous plants used in gardens provide texture, color, and shape. She reminds us of the leaf and plant form, the ornamental value of bark and berries, and the winter interest of many plants. She challenges the reader to look beyond flower color and form. This is a book for those gardeners and practitioners who are looking for concepts beyond the mass of flower color.

The book is divided into nine chapters: A close-up look at leaves (basic leaf morphology), Bud break: The leaves of spring (an examination of the texture and appearance of new young growth and how to take advantage of it), Stars of summer (contrasts of texture and color in herbaceous and woody ornamental plants including ornamental grasses and bulbs), Foliage in autumn (the contrasts of autumn colors with bark and evergreens), A winter wonderland (a lesson in bark, berries and other persistent fruits, winter flowers and garden hardscape elements), Conifers as ornaments (blues, gold-tones and structure), Variegated foliage (reds, pinks, yellows, creams, greens and the play of sunlight on foliage), Foliage plants with a purpose (co-mingling of culinary herbs and ornate vegetables in the landscape, use of fragrance from flowers and foliage, and foliage plants in the water garden), and Weird and wonderful (succulents, carnivorous plants, ferns and topiaries). In each chapter, Davis provides plant lists appropriate to the topic and some simple garden plans (complete with planting lists).

Typical of many gardening books, there are recommendations on plant selection that are not appropriate to different regions of the North American Continent. While the author’s gardening experience is limited to colder northern climates (Chicago and Cincinnati), the horticultural practitioner and/ or advanced gardener can easily adapt the concepts and plant lists for other regions of the United States. While she might make a recommendation of placing a plant under full sun conditions in Chicago, the experienced gardener would need to put their experience to work and place that plant in afternoon shade in Atlanta. But then, that’s fairly common when using other books and resources.

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Weeds of the United States and Canada. 1998. Southern Weed Science Society, 1508 West University Ave., Champaign, IL 61821-3313. $120, CD-ROM for Windows 95, Windows 98, and Windows NT or higher.

Weeds of the United States and Canada is an excellent reference and weed identification guide. It offers several features such as an interesting taxonomy tutorial and a presentation feature that are not readily available in other CD-ROMs or books. The CD-ROM is easy to start—just place it in your CD drive. It does not have to be installed on your hard drive. Even through it is running from a CD drive, its response is still very fast. The only limitation was that the CD-ROM requires specific monitor settings, which eliminates using some monitors or cause the picture not to fill the screen of others.

Weeds of the United States and Canada is logically organized and easy to follow. It provides a brief overview and a tutorial if your knowledge of taxonomy needs to be improved. The other choices of the CD-ROM’s menu include a glossary, species listings, and a presentation section. The species covered are extensive, including most common weeds found in North America. The species listings can be searched using characteristics of an unknown weed, or by plant family, scientific and common names. The glossary and articles from the Intriguing World of Weeds provide interesting information about many of the weeds.

The tutorial is fun and interesting, although it is probably most useful for undergraduate students, horticulturists, crop consultants, and extension advisors without an extensive background in weed science. Parts of the tutorial are good reviews of common vegetative and reproductive structures important in identifying unknown plants. I only had a few minor complaints with the tutorial. The information on weed habitats (urban, aquatic, desert, etc.) is too simplistic. It should include information on niches and species adaptation to specific environments. Why are the same species not found throughout a particular habitat? There should be multiple examples of weeds within each habitat and more pictures (instead of drawings) of plants that have particular structures important for identification. All pictures used in the tutorial or glossary need labeling and arrows pointing out the structure. The tutorial contains quizzes and exams, which are excellent learning tools but should be linked to areas where the answer to the question was discussed.

The heart of the Weeds of the United States and Canada is the sec-
Weeds of the Northeast over competing books such as the save time and are a definite advantage parts of the CD-ROM to the glossary within the glossary and from other the definitions are clear and easy to information is the glossary. Overall second important source of additional pictures of the specific weeds. The CD-ROM emphasizes emerging and seeding stages which are important for identification of annual weeds in agricultural settings. For the perennial weeds more pictures of plants emerging from underground structures should be shown. The descriptions of individual species are good but standard. The maps indicating species range are much too general. They should indicate where the weed is most commonly found not just where it might occur.

I was happy that this CD-ROM included a glossary and Larry Mitch’s Intriguing World of Weeds series of articles from Weed Technology. You can go directly to the Intriguing World of Weeds articles or access them from the page of an individual species. There also should be a link from an Intriguing World of Weeds article to pictures of the specific weeds. The second important source of additional information is the glossary. Overall the definitions are clear and easy to understand. The links between terms within the glossary and from other parts of the CD-ROM to the glossary save time and are a definite advantage over competing books such as the Weeds of the Northeast or Weeds of the West.

Weeds of the United States and Canada is a welcome addition to the libraries or reference shelves of many horticulturists, especially those with an interest in botany or weed science. Its price, requirement for licenses for each computer it is used on, and emphasis on weed identification might limit its use as a textbook. But we have come a long way from the line drawings of the USDA’s Selected Weeds of the United States.

If you are seeking a quality and specialized book packed with information about Japanese flowering cherries, this may be the one. The price is reasonable for a book with so much information. I like the book because it is comprehensive; including the natural and cultural history, and the cultivation, propagation, observation, and classification of the Japanese flowering cherries. In addition, there are extensive and detailed chapters on the Japanese Wild Cherries and the Garden Cherries. The information is arranged in a logical manner for me; that of general to specific.

The Preface addresses the complex and sometimes confusing cherry nomenclature; an issue which rears its ugly head in other sections of the book. The author provides resource tools in the appendices including a metric system table with conversions, cherry names in Japanese showing the Roman, Phonetic, and Japanese Characters; a glossary of standard terms and a bibliography. Most species and cultivars are illustrated with high quality color photographs which, when used with the observation characters and the classification key, help an individual identify one of the cherries. Although the key is not exhaustive, many of the more common species and cultivars are included. Interesting and helpful illustrations from woodblock prints, drawings, catalog offerings, and maps of Japan showing plant distribution are sprinkled throughout the book.

I enjoyed the author’s occasional different (than I would choose) choice of words to describe a situation. For example, in discussing cherries in the hot and humid Japanese summers, the author writes, “Infestations of plant lice, caterpillars, and bugs have many cherry trees in this season.”

This specialized book should be most useful to horticulturists focusing on woody plants, small flowering trees, and landscape design. I think college faculty who teach plant identification and the use of woody plants should place this book on supplemental reading or resource lists for their students. The book is a must for anyone with a collection of cherries and especially for libraries of arboreta and other public horticultural institutions. The one thing which I would like to have seen in the book is a list of public gardens which have special collections of Japanese flowering cherries.

I am pleased to have this high quality book in my library. I recommend you take a look at it.

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This handy little guide covers the different aspects of capturing gardens on film. The authors have many useful suggestions for creating stunning photos. The text is written in active and nontechnical voice, making it an easy-to-read how-to book for students, growers, and scientists. This inexpensive book has many breathtaking photographs, offers some very creative ways of looking at ornamentals, and is small enough to tuck into a camera bag.

The book is divided into sections on equipment, lighting, composition, and color. The photos illustrate several famous gardens, including many of international fame. Situations encountered by tourists or weekend photographers, from catching the dramatic flair of Holland’s Keukenhof Garden to capturing the essence of individual garden flowers. The authors’ coverage of composition is particularly excellent and provides simple and clear instruction on how and what was accomplished in the photos. Additionally, all photos are labeled with geographic location, camera, lens, and exposure used. This book most likely will appeal to the ornamental horticulturist, although all camera enthusi-
M ost of the photos are created with single-lens reflex cameras. Hav- ing personally evolved over the years to using a highly portable point-and-shoot camera, I wish there had been more photos created with this type of camera. Although experience has shown me that point-and-shoot cameras just can’t achieve the same quality as larger-format types, I would have appreciated some photos showing what could be done with this equipment.

I found the text was in a print so small as to make reading a challenge, especially in low-light conditions like planes and autos. The authors also spend little time on capturing fall colors, much to my disappointment. Who has not thought that the brilliant reds and oranges of New England foliage were captured on film only to find the photos a muted disappointment?

All in all, this inexpensive paperback provides an excellent value and should be used as a technical resource for amateur photographers.

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I wish that The Garden Plants of China was available before my visit there last year as part of the ASHS People-to-People Horticultural Study Tour. It would have helped to understand the role of plants in everyday life, the history and symbolism of plant use, the conflict that sometimes exists between culture of edible and ornamental plants, and the richness and diversity of plants native to China.

The importance of plants originating in China to worldwide ornamental horticulture is immense. Consider the universal appeal of such plants as the tree and herbaceous peonies, camellia, wisteria, flowering peach, crabapple, lilac, azalea, gardenia, and a host of others. Of these, chrysanthemum, is one of the leading cut flower and potted plants commercially grown in the world today. It was a particular favorite of the Confucian scholar, and together with the flowering plum, orchid, and bamboo, came to be known as one of the Four Gentlemen of Flowers.

The bulk of the book is devoted to chapters on individual plants, e.g., roses or groups of similar plants such as apricots, peaches, plums, and cherries. These 17 chapters are preceded by introductory chapters on Chinese horticulture, ornamental plants in Chinese culture, and introduction of Chinese garden plants to other countries. The arrangement of the plant chapters is unique beginning with the conifers and following with plants of the seasons based primarily on the order of blooming or use for ornament. Valdes believed that this approach would take into consideration Chinese sensibilities concerning the progression of the year.

Information that is provided for each plant includes family affiliation, binomial, Chinese characters, phonetic Chinese pronunciation and western name. This is followed by a brief or lengthy statement, depending on the plant, that encompasses the history, taxonomy, and its place in Chinese culture. Almost every plant is featured in lavish, full color in a typical garden scene.

Readers will expect the book to focus on ornamental plants—and it does. But edible horticulture is not ignored. For example, the chapter Wisteria and other Vines provides much useful and interesting information on kiwi fruit, watermelon, sweet potato, bottle gourd, and grape. A glossary of botanical terms enhances the value of the book for those who are unfamiliar with them or those who may have forgotten them. The book is well referenced with original literature sources and very well indexed, which makes it easy to find information on specific plants.

Many horticulturists, including those with a particular interest in Chinese horticulture and in the history of plants, will want to have a personal copy of this book. It comes highly recommended from this reviewer.

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The book has 10 chapters, most of which complement each other nicely. I found Chapter 1, Population Growth, Food Production and Nutrient Requirement, very informative. The authors (B.H. Byrnes and B.L. Bumb) did an excellent job showing the challenge we face over the next 20 years in producing enough food and fiber to keep pace with projected world population growth. These authors outline the unique opportunities and challenges for each region of the world. They make the case that declining soil fertility is an important reason for falling production in certain regions. The authors of this chapter also make the point that the use of fertilizer has actually contributed to resource preservation and biodiversity. By increasing production per unit area we have not had to bring as many forest and grasslands into production.

Chapter 2, Managing Soil FertilityDecline, authored by L.C. Campbell, nicely follows up on topics covered in Chapter 1. This chapter briefly summarizes principles of soil fertility. Along with Chapter 1, this chapter makes the case that much of the fertility decline is policy related and it is increasingly urgent that agricultural scientists weigh in on these policy decisions.

Chapter 3, Soil and Plant Testing Programs as a Tool for Optimizing Fertilizer Strategies, authored by P.J. Van Erp and M.L. Van Beusichem, summarizes the current state of the science of soil and plant testing and the possibilities of moving beyond our current empirical approach in the future. Although nearly all the information presented in this chapter has been covered before, it was a useful compliment to the other chapters in this book. In Chapter 4, Comparative Assessment of the Efficacy of Nitrogen Fertilizers, author F. Wiesler has compiled an excellent up-to-date review of N recoveries and mechanisms of N loss. This chapter could have included more discussion on technologies aimed at improved N fertilizer use efficiency such as nitrification inhibitors, urease inhibitors, and controlled release fertilizers. Chapter 5, The Role of Nitrogen Fixation in Crop Production, by G.W. O’...
Hara, summarizes current trends and future opportunities to more fully biological N contribution.

Chapter 6, The Chemistry and Agronomic Effectiveness of Phosphate Fertilizers, authored by M.D.A. Bolland and R.J. Gilkes, briefly reviews factors influencing the availability of P, including fertilizer formulation, soil reactions, and crop characteristics. This chapter had an excellent review on using phosphate rock as a P fertilizer. This section would be useful to those engaged in organic farming research where phosphate rock is one of the few options available. This chapter would have been more complete if it had included a brief review and discussion of P fertilizer placement issues. Chapter 7, Macronutrient Fertilizers, by L.M. Shuman, is a brief review of factors affecting micronutrient availability. Chapter 8, Delivering Fertilizers Through Seed Coatings, by J.M. Scott, covers limitations and opportunities to delivering fertilizer nutrients in seedcoats. This chapter had information I had not seen elsewhere.

Chapter 9, Nutrient Managemen, Cultivar Development, and Selection Strategies to Optimized Water Use Efficiency, by J.G. Davis and J.S. Quick, was a brief review of factors that interact to influence water use efficiency. Chapter 10, The Role of Nutrient Efficient Crops in Modern Agriculture, by J. Lynch, is outstanding. This chapter defines nutrient efficiency and discusses the varying implications of nutrient efficient crops in differing cropping systems. For example, in high-value cropping situations, yield increases would not be a likely outcome since factors other than nutrients are limiting production. In these scenarios, the goal would be a reducing of nutrient inputs while maintaining or yield and profitability of production. Conversely, in situations of subsistence farming the goal would be to develop genotypes with improved yield under nutrient limited conditions. The author concludes this chapter with brief discussions on opportunities and challenges for improving crop nutrient efficiency. The author makes the case that geneticists have done a outstanding job of exploiting insect and disease resistance in their breeding programs, but have been less aggressive in exploiting the opportunities for enhancing nutrient efficiency.

An important area that did not receive enough attention in this book was fertilizer application methods. For example, the application of nutrients with irrigation water (fertilization), particularly through pressurized irrigation systems, has proven to be an efficient means of delivering nutrients in many crop production systems. Foliar application of both macronutrients and micronutrients is another area that has been researched extensively and should have been addressed in greater detail in this book.

Near the beginning of the book is a note that Nutrient Use in Crop Production was published simultaneously as an issue in the Journal of Crop Production. I do not understand the reason for simultaneous publication.

I do not know what type of course this could be used as a text book. However, the book has a number of useful statistics and up to date literature reviews on a number of subjects related to soil fertility. The authors of the individual chapters come from around the globe giving the book a diverse array of international perspectives. I enjoyed reading the book and will find some of the statistics useful in my grant writing endeavors. The book would be a useful addition to every library, unless that library already has the same information in the Journal of Crop Production. The book is relatively inexpensive and may also be useful to those working in the area of soil fertility.

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The second edition of Pests of the Garden and Small Farm has been completely reviewed and substantially revised since the publication of the first edition in 1990. According to the author Mary Louise Flint, director of IPM Education and Publications, Statewide Integrated Pest Management Project, and Extension Entomologist, Department of Entomology, University of California, it is the goal of this publication to bring to home gardener, organic and very small diversified growers instructions on how to bring the integrated pest management (IPM) philosophy and IPM methods into their smaller scale and/or organic growing situations for use against specific problem pests. The book is designed to help gardeners and small farmers protect their vegetables and fruits from pests with minimum use of pesticides, especially the more toxic synthetic materials. Although the main focus of the book is on food producing plants, most methods can also be adapted to manage pests on ornamentals.

The book is divided into seven chapters, an appendix, references, glossary, and an index. The first chapter contains a brief introduction into what the reader can expect to find in the book. The second chapter, Designing a Pest Management Program, provides the reader with a broad understanding of the concepts of IPM. In this chapter one will find subjects such as crop development in relation to pest management, components of a successful pest management program, soils and nutrition, water management, sanitation, crop rotation, soil solarization, reflective mulches, plant cages, rowcovers and other pest barriers, intercropping, companion planting, cover crops, biological control and pesticides. Each subject is well covered and accompanied by either excellent photographs, illustrations or tables.

The third chapter, Common Insects, Mites, Other Arthropods, Snails and Slugs, will provide the reader with the crops attacked, the appearance of the damage, identification of the pest, where to look for the pest, other monitoring tips and discussion of different control strategies that can be employed. Some of the major insect pest groupings in this chapter are leaf- and fruit-feeding caterpillars, caterpillars affecting fruit and nut trees, common caterpillar pests in vegetable gardens, borers, leaf- and fruit feeding beetles, stink bugs, lygus bugs, and other true bugs, leafhoppers, aphids, scale insects, mealybugs, whiteflies, mites, other arthropods, and snails and slugs. The color photographs are excellent of the insects (also included are penciled drawings), parasites that may attack them,
and damage caused by the insects. These excellent photographs will be very helpful to the user in identifying the insect pest and the parasites that feed on them.

The fourth chapter, Diseases, discusses some major diseases that will be encountered by the home gardener and small grower. Some of the diseases included are damping-off, seed and seedling decay, powdery mildew, downy mildew, brown rot in stone fruit, phytophthora brown rot of citrus, gray mold and bunch rot, common smut of corn, bacterial soft rot of vegetables, shot hole, leaf curl, bacterial canker and blast, apple scab, pear scab, viruses, vascular wilts, phytophthora root and crown rot, armillaria root rot, and crown gall. As in the preceding chapter on insects, the diseases are divided into symptoms, biology, and management practices. There are also excellent color photographs of the diseases that will be a value tool to any gardener or grower in helping them make a positive identification of disease problems in their crops. The book can travel right to the garden or field.

In the fifth chapter, the reader is presented with excellent information on nematodes. The symptoms and damage, life cycle, and management for the root-knot nematodes and several less common root feeding nematodes are discussed. There are some excellent photographs, tables and line drawings that the reader will find very useful.

The sixth chapter is dedicated to the third major pest of the home garden and small-farm weeds. This chapter contains some general weed management strategies and then presents some of the more common weed pests with a description, color photograph and suggestions for management of that weed.

The seventh chapter contains the specific crop tables starting with artichokes and ending with walnuts for a total of 16 individual or family of vegetables and 18 fruit and nut crops. Each crop table contains three headings—what the problem looks like, probable cause and comments. Under comments it may refer the reader back to a specific page in the book or to another publication.

In the Appendix the reader will find Using Degree-Days for Predicting Growth and Development of Crops and Invertebrate Pests, which will be very useful since temperature is very important in controlling not only the rate of development of crop plants but many pests, especially insects.

The References are organized by chapters and in alphabetical order by author which provides the reader the opportunity to pursue a particular subject further if they have an interest or feel they need additional information to assist them in managing a pest in their garden or farm.

The Glossary includes the definitions of some common terms associated with IPM. The last section in the book is the index.

This is well written and organized book that is a must for the serious home gardener, organic and diversified small farmer. It will be an invaluable tool in helping to develop one's own integrated pest management program.

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Books in Brief

by Donald N. Maynard


Asters are particularly popular for their late-summer/fall bloom time, their bright colors in the white-pink-purple range, and their starlike shape. The vast majority of asters are native to North America, though some are natives of Europe and Asia with a few from South Africa and South America. There are more than 250 species worldwide, and most species in cultivation are herbaceous perennials, though a few species are annuals, biennials, and shrubs.

Picton begins by discussing their botany and the history of asters in cultivation. Then, focusing on the autumn-flowering herbaceous perennials, he moves to describing particular species. A significant portion of the book is devoted to the New York aster (Aster novi-belgii): its nomenclature and breeding history, availability, and cultivation tips. The same is done for the New England aster (Aster novi-angliae), small-flowered asters, Aster amellus, Aster ×frkartii, Aster laevis, and others.


Sunlight on the Lawn, the third book in the Merry Hall trilogy, ties together the finished product of house and garden at the author’s Georgian manor, Merry Hall. The well-established characters give their final appearances in Nichols’ delightful descriptions. The forward, provided by Nichols’ biographer, Bryan Connon, reveals the identities of many of the friends and neighbors on which the fictional characters are based.

Nichols’ unique mixture of fact, humor, and whimsical invention continues to charm readers on both sides of the Atlantic. In this, the last volume of the trilogy, readers can sit back and enjoy the fruits of Nichols’ labor while diving more deeply into the lives of the characters that pass through.


Succulents are those plants with thick and fleshy stems or leaves that are designed to retain water and minimize evaporation. They are primarily found in the arid and semiarid areas of the world, although some are even found in rainforests. Despite the similarities of construction that make them all succulents, families such as the Cactaceae include very diverse forms.

Grantham and Klaassen cover prehistoric fossil evidence, the history of succulents in cultivation, their worldwide origins, the adaptations that have developed to cope with arid climates, and propagation. The chapter on the proper care of succulents discusses light, temperature, watering, nutrition, and dealing with pests and diseases.
Lean more about micronutrients in crop production. Crop nutrient deficiency symptoms may be specific to a crop. Some deficiency symptoms can look similar between micronutrients. Management tools to help with decision-making. Pure oxide forms are less commonly used under western Canadian conditions and may be of residual value. Chelate. Therefore, development of production-linked nutrient norms using crop specific index plant parts, needs a thorough revisit at orchard level using conventional basin irrigation versus fertigation. Application of hyperspectral analysis as proximal sensing of nutrient stress has started imparting precision to nutrient constraint diagnosis. On the other hand, the biggest constraint in making soil test ratings more purposeful is the non-redressal of spatial variation in soil fertility in form of soil fertility analogues vis-a-vis fruit crops. Conjoint use of geoinformatics and nutrient experts as d Use of nutrients in crop production is influenced by climatic, soil, plant, and social-economical condition of the farmers. Overall, nutrient use efficiency by crop plants is lower than 50% under all agro-ecological conditions. Hence, large part of the applied nutrients is lost in the soil-plant system. The lower nutrient use efficiency is related to loss and/or unavailability due to many environmental factors. The low nutrient use efficiency is not only increase cost of crop production but also responsible for environmental pollution. Nutrient use efficiency in the literature is defined in s Hydroponic systems for crop production are nowadays essential to maximize yields. Sometimes, the benefits of hydroponics have been questioned by the researchers as compared to growing of crops in other soilless culture. The growers raised the crops through hydroponics system get yields more compared to conventional practices as hydroponically grown plants dip their roots directly into nutrient-rich solutions. Long Ashton nutrient solution was used in grapevine under hydroponics [3]. The nutrient solutions for some fruit crops such as peach and pear have not been disclosed. 3.1 Composition. cellulosic ethanol production using corn stover, annual crops such as sorghum, and perennial grass crops such as switchgrass and miscanthus. Removal of above ground biomass could viable nutrient management practices for biofuel crop production in Missouri soils. The effects of biofuel crop production on selected chemical, physical and biological soil properties will enhance the understanding of the long term effects on sustainability and soil health. In addition, it will improve the soil test-based fertilizer recommendations used for biofuel crop production in Missouri. This information will be incorporated into University of Missouri recommended soil.