Book Reviews

Encyclopedia of Seed Production of World Crops. A. Fenwick Kelly and Raymond A.T. George. 1998. John Wiley & Sons, 605 Third Ave., New York, NY 10158-0012. 403 p., incl. index. $250.00, hardback. ISBN 0-471-98202-4.

New books related to seed production of crops are long overdue, especially in regards to horticultural crop seed production. Most of the existing texts are out of print. R.A.T. George's book *Vegetable Seed Production* has recently been revised and will be published later this year as a second edition. The *Encyclopedia of Seed Production of World Crops* potentially covers most of the major crop species throughout the world, wherein the seed is produced and used for propagation of the crop. The editors used 19 contributors to write over 400 pages of text. The text is broken into three sections. The first section includes the principles of the seed industry, including discussion of the seed industry as it relates to the private sector, the government, and seed-saving by individual farmers. Specific reference is made to seed regulatory and seed industry activities in specific countries, especially African nations. This section overviews the technical aspects of quality control: genetic quality, cultivar identification, including new technologies of identifying cultivars, and genetic purity. A subsection on liability and physical purity is also included. Another chapter overviews the ecology of the crop, including the use of latitude and altitude to ensure fertilization of certain species. Additionally, field production practices are glossed over, including fertility, crop rotation, plant density, sowing procedures, fertilizer application, weed control, and pest control. A chapter is devoted to harvesting, processing, and storage of various seed crop species. The final chapter in Section 1 relates to plant breeders and cultivar maintenance, including germplasm protection, the use of gene banks, the protection of pure-stock seed, and F_1 hybrid seed production. There is also a short section on seed security.

In Section 2, many of the agricultural and vegetable crop seed production practices for various seed crop families are outlined. Most of this information appears to be too brief with little or no details for someone trying to learn more about specific seed-growing conditions or needs for individual species. For each crop there is an overview of the crop per se, its botanical and crop-use phenotypic traits to distinguish cultivars, and a brief environmental review of requirements for seed production. On many different crops there is some minor information related to harvesting, extraction, drying, and processing techniques that each seed crop is to receive. Information on seed production of each family is broken down into species considered agricultural crops, vegetable crops, forage legumes, cereal grain crops, or grasses.

Section 3 has various appendices, including information related to addresses of various organizations and seed groups around the world. It also includes a list of important vegetatively propagated species that are not listed in Section 2.

Throughout the book there are few graphics and figures and, in most instances, the photographs that are presented are poorly reproduced. References in many cases are few; many good references are missing and many seem to be out of date. At a cost of $250.00, the book is priced too high for its net worth and cannot be recommended, even as a reference source through library purchase.

DANIEL J. CANTLIFFE
Univ. of Florida
Horticultural Sciences Dept.
Gainesville

A Clearing in the Distance. Frederick Law Olmstead and America in the Nineteenth Century. 1999. Witold Rybczynski. Scribner, 1230 Avenue of the Americas, New York, NY 10020. 480 p., black and white photos. $28.00, hardcover. ISBN 0-684-82463-9.

Frederick Law Olmstead was a remarkable man whose creations continue to be enjoyed by millions of Americans today. Rybczynski weaves a tightly knit, fully documented biography of the father of landscape architecture.

I first became aware of Olmstead in a landscape art class I took as a freshman at the Univ. of Connecticut. The only fact that I remembered about him was that he was the designer of Central Park in New York City. After reading the book, I find that we share a common birthplace—Hartford, Conn.—but 110 years apart.

Olmstead was born into a socially involved family in comfortable, but not wealthy circumstances. This was fortunate since he relied on his father's generosity well into adulthood as he passed through a series of unsuccessful ventures. Experience and travel provided his advanced education. At various times he worked as a seaman, farmer, store clerk, surveyor, nurseryman, and writer. A series of newspaper articles and several books were produced based on his travels in Europe, the southeastern states, and Texas. They were received with a degree of literary acclaim but provided only modest financial return.

With the help of well-placed friends, he was appointed superintendent of operations at Central Park, which was already under construction. The original plan for the park was plagued by political dissent and finally construction was halted while new plans were solicited. Olmstead was approached by Calvert Vaux, a British architect, who proposed preparing a joint plan. This was the beginning of a 25-year partnership that led to many other commissions including Cornell Univ. and Riverside Park in New York City.

During the same time period, Olmstead had many commissions of his own in addition to those with Vaux. Some of the more notable plans developed were for Yale Univ., Arnold Arboretum, and the U.S. Capitol grounds. Superimposed on landscape architecture projects were stints as manager of the United States Sanitary Commission and as manager of Mariposa Estate in California. The Commission was a giant bureaucracy established to advise the Army Medical Bureau on health and sanitary conditions of soldiers in the Civil War. Mariposa Estate was a gold mining operation that offered Olmstead instant wealth to support his ever growing family. Unfortunately, that didn't occur because of mismanagement by the previous director.

Later, Olmstead established a firm with his stepson, John Charles Olmstead, and with his son Frederick Law Olmstead, Jr., with commissions continuing until 1950 on such famous sites as the Biltmore Estate, Brown Univ., and Morris Arboretum. Overall, the Olmstead family and their associates were involved in 5500 projects between 1857 and 1950.

Throughout his long career, Olmstead used the concept of natural landscape that he learned on his first visit to England as a young man. The stress of continuous work and travel led to Olmstead's demise. Ironically, the last years of his life were spent at the McLean Asylum in a small cottage, surrounded by grounds that he had designed.

DONALD N. MAYNARD
Univ. of Florida
Bradenton

Washington's Gardens at Mount Vernon. Landscape of the Inner Man. 1999. Mac Griswold. Houghton Mifflin Company, 222 Berkeley Street, Boston, MA. 02116. 192 p., 150 color photos. $40.00, hardcover. ISBN 0-395-92970-9.

George Washington seems to be a larger than life relic of the past. Distant, austere, regal, stern have all been used to describe the "Father of our Country" and its first president. Mac Griswold's text and Roger Foley's photos change all of that. Washington, the horticulturist and farmer, suddenly becomes human and almost warm.

Washington always liked to put on a good show in his personal dress and in the ambience of his properties. From 1754 when he took possession of Mount Vernon until his death in 1799, the mansion and grounds were almost always in a state of renovation, remodeling, and upgrading. The need for funds to support all of this activity as well as tobacco worn-out soil caused Washington to shift his farm enterprise from the traditional crop to general agriculture. It is said that he tried over 60 different crops on his farms.

All of this construction is amazing since he spent so much time away from Mount Vernon tending to the business of Virginia and the country. For this very reason, there is excellent

documentation of his role in even the smallest details of plantation management through voluminous correspondence that serves as the source of much that we know about day-to-day life at Mount Vernon.

Washington's trade was that of a surveyor. He also had an "eye" for aesthetically pleasing arrangements. Together, these skills resulted in the altogether elegant and harmonious landscape of Mount Vernon. Over the years, beginning at about age 12 and most recently about 2 years ago, I have visited Mount Vernon many times. I will be more aware of the thought and planning that went into its design on my next visit.

Horticulturists of many persuasions will appreciate this book, but it will be especially enjoyable for those with an interest in history and horticulture.

DONALD N. MAYNARD
Univ. of Florida
Bradenton

Lettuce, Endive and Chicory. E.J. Ryder. 1999. CABI Publishing, 10 E. 40th St., Suite 3203, New York, NY 10016. 208 p. $50.00. ISBN 0 85199 285 4.

As another book of their Crop Production Science in Horticulture series, CABI recently published *Lettuce, Endive and Chicory* as number nine. Dr. Edward J. Ryder, senior geneticist, USDA–ARS, authored the book. Dr. Ryder is based in Salinas, Calif., which justifiably is considered as America's salad capital.

The author's qualifications are his many years of active participation, approaching nearly a half-century, in an excellent and productive genetic research and plant breeding program for lettuce and other salad crops. He is widely recognized and highly regarded internationally and nationally, and is revered by all facets of the California and Arizona lettuce industries.

In addition to being a major contributor, he has lived through much of the development of lettuce plant breeding, and thus much of the information supplied he either has personally contributed or witnessed. Accordingly, the author's writing, which is clearly organized and written, deals with what he has achieved and is knowledgeable about.

The purpose of the book is to present readers with the background, current status of all aspects of lettuce, chicory, and endive, trends in their development, production, use, and future impacts on their production. He includes major environmental issues and concerns about pesticides, nitrate leaching, water, tillage reduction, sustainability of production, and food safety. The scope of the book is complete, beginning with an excellent introduction to the history, the current situation, and an insight for the future. The book will be useful for producers, extension advisors, consultants, plant breeders, pathologists, and students.

The organization is logical and consists of nine chapters that adequately accommodate the contents. Ryder provides a rich reservoir of information from a wide range of current referenced literature.

Chapter one is an introduction to these salad crops and includes information about their production, value, and consumption. The description of major production sites and activities is very good and significant changes are noted. An excellent summarization is presented about crop botany and taxonomy. Emphasis is given to the role of related species. I found the evolutionary history and description of plant types, and germplasm sources very informative. However, figure 1.2, part C, is not fully labeled. That illustration is much too crowded, especially since different size scales are used. Additionally, figure 1.3 does not depict flower structure adequately.

The author's primary interest is evident in his discussion of lettuce genetics and breeding for disease resistance. The downy mildew gene for gene resistance concept is especially well done, and other plant and horticultural characteristics are also well described. Accomplishments to date in molecular genetics, its direction, and potential for plant breeding are presented. Another strong section deals with breeding methods, objectives, and cultivar development. The history of lettuce, endive and chicory breeding is well done. Mention might have given to the lettuce breeding programs of Wisconsin and Arizona.

Chapter three about crop physiology deals with seed germination characteristics, the influence of light, temperature, and their interaction, and describes plant growth and development from seedling to mature vegetable and seed plant stages. The discussion about leaf formation, and heading is well done, as are the various physiological disorders. An opportunity was missed to detail additional aspects of witloof forcing physiology, but perhaps this is understandable because of that crop's relatively minor status. Mention of the possible utilization of chicory root crops for fuel alcohol production was omitted.

The production chapter gives a clear discussion of production practices that include land preparation, planting, cultural operations, fertilization, and irrigation. Greenhouse crop production is given suitable attention. However, the discussion about minimal tillage practices is minimal, and the discussion about nutrient recycling, water management, and related nitrate leaching perhaps deserves more attention. Similarly, planting practices merit more consideration. Also worth mention is the high reliance of southwestern U.S. lettuce producers on specialized service companies that provide for land preparation, fertilization, pest management, and other cultural needs.

Harvest and postharvest methods is the fifth chapter and provides a history of the dynamic subject of harvesting and packing practice up to those currently used. However, harvest and handling of stem lettuce is omitted. Furthermore, it would be useful to have a line diagram to illustrate the various options employed for harvesting, packing, and postharvest handling. The discussion of relatively recent developments in the production and packaging of lightly processed consumption-ready salad products is well presented. On the other hand, I have often found winter-grown outdoor head lettuce crops requiring as much as 150 days of growth until harvest, and that mid-November can be too late to harvest late planted chicory roots because of freezing weather, especially in northern Europe. Additionally, I believe it would be useful if the discussion of trimming wrapper leaves were more detailed.

The sixth chapter on seed production and marketing is very clear and presents an excellent discussion of seed characteristics, treatment, testing, and marketing. Some repetition of chapter three information I found to be useful.

Considerable emphasis is also given to the chapter concerning diseases and their control. The presentation of information concerning fungal, bacterial, and viral diseases affecting lettuce, endive, and chicory is very complete, especially for downy mildew, lettuce mosaic virus, and sclerotinia. Repetition of some information presented in chapter two also is beneficial. Although occasional reference to the recent *Compendium of Lettuce Diseases* publication is useful, it should not be relied upon as a substitute for illustrations in this book. It would have been useful to have a color plate insert, of one, two, or three pages illustrating diseases, and other photographs. In table 7.2 *Plasmodiopara* is misspelled and its identification as downy mildew is not correct.

The eighth chapter about insects, weeds and other pests, and their control provides a good discussion of pest development of tolerance and/or resistance to pesticides. The description of major insect pests is well presented. Adequate treatment is given to the subject of weeds and their management.

The last chapter deals with marketing, economics, and food safety and presents production costs and market quality features. Attention is given to food safety, an issue of great and increasing concern. I question a possible misinterpretation of lettuce being a staple. In developing countries it may be an important item, but not one deserving designation as a staple. Clarification of the shipment term "fob" would be useful for some readers. An opportunity should have been used to describe and explain perceived flavor differences among/between lettuces, endives, and chicories.

The information covering endive and chicory is not as extensive as some might want, but nevertheless is substantial. In my opinion, there are too few illustrations; some are dated, and some are not clear. Benefits of this book are its clear, extensive, and knowledgeable presentation of relevant information. Furthermore, nothing in print is as current or has this level of detail. The book is an excellent value. I purchased my copy before receiving the free copy to review. I have no regrets and if you cannot get a free copy, I recommend that you do not delay, because the book is too good to pass up.

VINCENT E. RUBATZKY
Extension Vegetable Specialist, Emeritus
Univ. of California, Davis