

## Book Reviews

**Crop Production in Saline Environments: Global and Integrative Perspectives.** 2003. S.S. Goyal, S.K. Sharma, and D.W. Rains (eds.). Food Products Press, 10 Alice St., Binghamton, NY 13904. 427 p.

The challenge of managing saline soils is likely to intensify from its already daunting magnitude. Having a professional interest in this challenge, I added the monograph, "Crop Production in Saline Environments: Global and Integrative Perspectives," to the most-favored section of my office library.

Each of the 15 chapters has unique authorship. I would describe seven chapters as literature reviews and the remainder as case studies. The quality of the team assembled to compose the various chapters was quite remarkable. The forward by the renowned scientist Emanuel Epstein throws down the gauntlet, stating that although plants do not normally thrive in saline soil, plant life exists in the sea and other saline environments and is therefore not fundamentally incompatible with salt. After an overview chapter by Rains and Goyal, the next three chapters discuss molecular genetics and strategies by which crops could be bred to avoid sodium toxicity, escape drought, or otherwise tolerate saline environments.

The fifth chapter, by S.R. Grattan and J.D. Oster, is a brief but masterful discussion of the use of saline or sodic waters for irrigation. They elucidate more clearly than I have seen in any other work the current thinking on practical saline soil chemistry. With their convincing discussion of the ambiguous effects of magnesium—that it may help or hinder soil permeability—I was disappointed when they fell a few words short of directly challenging the use of magnesium in the sodium adsorption ratio.

Subsequent chapters provide a world tour of salinity issues. The sixth chapter is a case study from China. The seventh, eighth, and ninth chapters focus on India. The next five chapters address salt-affected land issues in Pakistan, Egypt, Australia, Siberia, and California. The final chapter is a very well written summary by Sharma and Goyal, reviewing the progress in plant salinity resistance research.

The 427-page book is available in paperback and hardcover. Paper and printing are of good quality. The book includes a 19-page index, about 45 diagrams and graphs, about 65 data tables, and about 20 color photos or drawings. Typographical errors were few. Works are cited and referenced in a scholarly manner. Some promotional material on the back cover is strangely inaccurate, stating that a "panel of authors addresses concerns about soil salinity in Spain, Mexico, Brazil, Saudi Arabia, Israel, and China." In reality, the book addresses concerns in China, India, Pakistan, Egypt, Australia, Russia, and the United States.

The target reader for the book would be the scientist or graduate student interested in saline agriculture. The general public would find it too esoteric and technical. I browsed every page of the book, read some chapters in their entirety, but did not read the entire book word-for-word. Neither will most readers because the book is somewhat unevenly written, and because the subjects range from soil chemistry to irrigation technology to molecular genetics. I consider the book a must-browse, if not a must-read, for those involved in issues related to saline agriculture.

DUANE GARDINER  
Soil Science

Texas A&M University-Kingsville

**Flora of North America, North of Mexico, Vol. 25. Magnoliophyta: Commelinidae.**

Flora of North America Editorial Committee (ed.). 2003. Oxford University Press, 198 Madison Ave., New York, NY 10016. 783 p., b&w line illus, and species distr. maps. \$120.00, hardcover. ISBN 0-19-516748-1.

The year 2003 will most likely be remembered, in the annals of my horticultural memoirs, as the beginning of my intense fascination with native grasses. This is due primarily to the fact that they can be quite hard to identify in the field unless you are a grass guru. As I am merely a grass guru in training, and since my office library at the botanic garden where I work lacks a grass manual with recent nomenclature and adequate maps of the native ranges of each species, I was ecstatic when I was asked to review the *Flora of North America Volume 25* containing descriptions of plants in both *Commelinidae* and *Poaceae*.

I had recently taken a field trip with some other horticulturists to try and identify a number of grass species in an old field site in the pinewoods of the North Carolina piedmont. Out of the 15 or so species we picked out, we had species identification for only three of them. The rest, we had a suspicion about genus, but that was about as far as we got. For a grass guru in training, it was a humbling day. Undaunted however, I took all the unidentified samples back to my office to work on. Two days later, I was asked by our education director to look over and review the new *FONA* volume, and look it over I did. I could not put it down. The excellent illustrations and taxonomic descriptions coupled with the county maps detailing the native range of each species allowed me to positively identify all but one of my mystery grasses. In short, it is my new favorite book. My only complaint about it is that it's too big and heavy to fit comfortably in my daypack for a day of botanizing in the field. That is of course, a small concern when weighed against the ease in which one can use this volume to identify specimens collected in the wild at a later date. Earlier this year, when my native orchid addiction was in full swing, I reviewed *Flora of North America Volume*

26: *Liliales and Orchidales*, and was equally impressed. I do have one large problem with the whole *FONA* phenomenon: "Why can't I have all of these volumes at once, like some amazing *Encyclopedia Britannica* of the plant world?" "How long must I wait for the ensuing volumes?" Since they are being compiled and edited by different groups of botanists, they are coming to print at different times, which is why I received Volume 26 about my native orchids eight months before Volume 25 about the grasses arrived. However long it takes to compile them all, if the following volumes are as useful to me as the first two I have reviewed, then I will eventually have a special *Flora of North America* shrine in my bookshelf; a testament to how valuable well-written and well-designed taxonomic texts can be to someone in my profession. They help me learn more, and they help me improve as a teacher, which to me is priceless. Bring on the next volume!

STEFAN BLOODWORTH  
Horticulturist  
Blomquist Native Plant Garden  
Sarah P. Duke Gardens  
Durham, N.C.

**Oregon Viticulture.** 2003. Edward W. Hellman (ed.). 2003. Oregon State University Press, Corvallis. \$45.00, paperback. 256 p. ISBN 0-87071-554-2.

*Oregon Viticulture*, edited by Ed Hellman, formerly associate professor of Viticulture and extension specialist at Oregon State University, is an outstanding large paperback text for everyone growing or wanting to grow wine grapes, especially those in Oregon. The book is comprehensive and a tremendous value to persons planning a vineyard. Viticulture and enology professionals will find it to be a good reference with a well-developed index making specific topics easy to find. The 26 chapters are grouped into three major divisions; planning, development, and management. Many chapters have two authors; one from academia and the other a grower; thus, the subject matter reflects a blend of practical and technical. Most chapters also have an excellent list of references and acknowledgments for further study.

All aspects of commercial viticulture are covered and, in addition, chapters on economics, irrigation design, marketing, contacts, sustainability, organic concepts, cold injury, frost protection, labor, government regulations, and more. Most chapters are thorough discussions and in some instances the detail could be a plan-of-the-day for a grape grower.

Highlights are chapters that are technical reviews. Mark Kliewer and Ted Casteel do an outstanding job with "Canopy Management." Scott Henry III authored a chapter on their training system. "Soil Management and Grapevine Nutrition" is a must read for all grape growers. Ed Hellman did a great job with the chapter on "Grapevine Structure

and Function.” Growers will profit from the chapter on “Marketing and Contracts” by Al MacDonald and Jesse D. Lyon. A number of authors produced good chapters on “Insect and Disease Management.” Oregon can be cold, thus there are two chapters: “Winter Cold Injury” by Bernadine C. Strik, Donald Moore, and Porter Lombard; and “Strategies for Frost Protection” by David Sugar, Randy Gold, Porter Lombard, and Alfonso Gardea. Barney Watson presented a great chapter on “Evaluation of Winegrape Maturity.”

Illustrations include 21 line drawings, eight figures, and 40 tables. There are six color maps as Oregon AVA regions and Growing Degree Days, and seven color photos of beautiful Oregon vineyards and Pinot Noir fruit produced via VSP or Scott Henry systems.

*Oregon Viticulture* is a major work requiring years in preparation, and Ed Hellman has done an outstanding job as editor and coauthor for many chapters. The book focuses on Oregon, but will be of value to all wine growers and viticulturists.

GEORGE RAY MCEACHERN  
Department of Horticultural Sciences  
Texas A&M University  
College Station

**The Illustrated Encyclopedia of Trees.** 2002. John White, with illus. by David More. Timber Press, 133 S.W. Second Ave., Suite 450, Portland, OR 97204-3527. 800 p, approx. 4500 color plates, \$79.95, hardcover, ISBN 0-88192-520-9.

This book is an extraordinary artistic record that puts it above many other photographic reference books. *The Illustrated Encyclopedia of Trees*, written by John White and illustrated by David More, combines years of accurate botanical knowledge with colorfully artistic features of each tree to produce a botanically correct reference for any plant enthusiast.

This masterpiece outlines truly great botanical specimens from throughout the world that will grow in temperate regions of Europe and North America. The text by John White, who with a lifetime devoted to the study of trees, details the origin of each tree and includes a description of leaves, fruits, stems, and growth habits. White also provides reliable cultural recommendations for more than 1800 species and cultivars.

The book is wonderfully structured according to scientific order by plant families. A page arrangement as two-page spreads that are full of the detailed paintings with approximately a quarter of a page allotted to text about the trees.

Hardiness zones are calculated by percentages based on the minimum temperature, which maybe somewhat confusing to the American reader. However, the artist David More paints each tree with the detail it deserves setting himself above any photograph. He magnifies various morphological characteristics such as leaves, needles, fruits, cones, nuts, flowers, (male and female parts) and stems and bark with such precision that it stands off the page. In addition, More includes seedling-to-mature size silhouettes with animals to give a life-size comparison over time, and represents the majestic specimens with paintings of different stages throughout the seasons.

Anyone looking for the perfect tree for the right location or just a great tree identification book that has meticulous illustrations and accurate information may find this book at their fingertips. This book serves as a great reference for all botanical enthusiasts/artists, educators, and landscape consultants. Though it is written from an English gardener’s standpoint, this volume provides great botanical information to all horticulturists alike.

JASON M. HOLMES  
Assistant Horticulturist  
Sarah P. Duke Gardens  
Durham, N.C.