

FREE INSIDE! *The New AHS Plant Heat-Zone Map*

# THE AMERICAN GARDENER

A Publication of the American Horticultural Society

September/October 1997 \$3.95



## CELEBRATING OUR DIAMOND ANNIVERSARY

75 Great Books for American Gardeners

**HENRY MITCHELL** His Moving, Amusing Prose

**MICHAEL DIRR** A Day With "Mr. Tree"

**NEW IMPROVED MUMS** From Minnesota Research





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♥ *Hear* informative lectures by outstanding horticulturists and meet 1998 national award winners. We'll also honor the top three garden books of the year.

♥ *Tour* the house and gardens of the Hermitage, Andrew Jackson's 19th-century home.

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♥ *Take* a special day trip to renowned plantsman Don Shadow's nursery to learn about new varieties of woody plants and trees, with a side trip to the famous Jack Daniel's distillery in charming Lynchburg.

♥ *Enjoy* private garden tours in the Belle Meade section of Nashville.

*For more information, call Bridget Flint, conference coordinator,  
at (800) 777-7931 ext. 24. Watch for program details and registration information  
in the Directory of Member Benefits mailed in January.*



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Volume 76, Number 5

September/October 1997



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## HAPPY 75TH ANNIVERSARY, AHS!



- 75 Great American Garden Books** 6  
*A blue-ribbon committee's pick of essential references and timeless prose published in the USA since 1922.*

*On the cover:* Ken Druse is the undisputed master of the beautiful garden book. Our cover photograph of a forest floor in autumn is taken from *The Natural Garden*, which appears on our list of 75 Great American Garden Books. His latest, *The Collector's Garden*, was one of three books to receive the first American Horticultural Society Annual Book Awards.



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## commentary

**B**est practices. That's the story told in this landmark issue of *The American Gardener*—a story you should share with your neighbors and colleagues. You not only want your landscape to succeed, you want it to thrive! A flourishing landscape is not only aesthetically pleasing, it also contributes to a much larger purpose—a positive impact on the environment. That's what the American Horticultural Society is all about.

AHS programs, products, and services define and promote best practices for America's gardeners. Run, don't walk, and spread the word about the AHS Plant Heat-Zone Map, a gift to all of our members in this issue's centerfold. It is through the support of members and contributors that AHS brings America this invaluable tool to help you achieve landscaping excellence. While you have this issue open, don't miss the announcement of AHS's new Web site (see page 15), which will give you access to best practices 24 hours a day, seven days a week! It's our 75th Anniversary—celebrate the AHS story!



*Linda D. Hallman*

—Linda Hallman, AHS President/CEO

### Tools You Don't Store in the Shed

**M**aps and books are two wonderful ways of discovering new information. In this issue of our magazine, AHS celebrates both. For our 75th Anniversary, we have selected 75 Great American Garden Books, published in the United States since we were founded in 1922. I have known many of the authors, from Liberty Hyde Bailey, who was at Cornell University during my first year as a graduate student; to A.B. Graf, who showed Americans how to create exotic plantings in our malls and other public buildings; to Ruth Stout who made gardening fun and environmentally sound.

This issue also unveils for the first time the new AHS Plant Heat-Zone Map—our way of helping gardeners cope with global climate change. I've been working toward the creation of this map since 1983 when I began updating the USDA Plant Hardiness Zone Map. We've used the same framework and data sources for this new map, guided by Mark Kramer of Meteorological Evaluation Services Co. in Amityville, New York. Without his understanding of weather data, geography, and design we could never have created such an attractive and valid map.

Coding all of our garden plants so that you can use the map to help you select the best ones for your garden will be a long process. Thirty-seven years after the first Hardiness Map was released, we are still adjusting those codes. Today we have new technology to help speed the journey, but your ideas are important in helping us get to our final destination. Please write or call! We look forward to hearing from you.

—H. Marc Cathey, AHS President Emeritus





# members' forum

## GERANIUM SANGUINEUM

When I first planted the bloody cranesbill (*Geranium sanguineum*) 10 years ago, I had no idea it would make such an outstanding specimen. I poked a tiny seedling into a bare spot near my stone front porch, and within a couple of seasons it was a foot-tall mound. The dainty, saucer-shaped magenta-pink flowers are eye-poppers (some people think they could be a little less so) and keep coming for months—from late spring to fall if I remember to snip off the spent blooms.

The foliage is great, too. The leaves on the stems—about the size of a silver dollar—are so deeply divided they look like green versions of the paper snowflakes that schoolchildren make. In fall they turn a deep bronzy red. I quit deadheading then because the seed heads are small but interesting—their bird-beak shape inspired this genus's common name. *Geranium* is from the Greek *geranos*, which means "crane."

It's a perfect plant for a beginning gardener. Here where we live, south of Kansas City, Missouri, summer temperatures can get stuck near 100 degrees for days on end with high humidity yet not a raindrop in sight. But this particular cranesbill—there are well over 200 species—is especially tough, apparently because the waxy texture of the basal leaves helps it withstand heat, and the thick root can find water when there isn't much to be had.

Our soil is well drained and only moderately fertile. I do water my cranesbill in extended drought and give it a yearly dose of slow-acting fertilizer. I've never had a problem with pests of any kind.

After I saw what this plant could do, I regretted not giving it a more honorable location, such as in my perennial border. But I liked the way it contrasted with the stones in my porch—the magenta and deep green against gray-brown, and the delicate foliage against the stones' rough texture.

Since it's best to divide it every three years anyway, I decided I'd try for both locations. I took a suggestion from one of Rosemary Verey's books and combined it in my perennial bed with a *Liatris*—the flower colors are similar but the blazing star's vertical shape contrasts with the cranesbill's ball. It also looks great with both the golden yellow of *Heliopsis* and the soft yellow of *Coreopsis verticillata* 'Moonbeam'.

The shape is perfect for edging a border, too. With a few more divisions, I may try that next.

Carol Fraser Boles  
Belton, Missouri

*What's your favorite plant? Send us a short essay with a color photograph of yourself in your garden. If we publish it, you'll have your choice of one of the three books receiving this year's AHS Annual Book Award (see page 13).*



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happy 75th anniversary, AHS!

# 75 great american garden books

## AS THE AMERICAN HORTICULTURAL SOCIETY'S 75TH ANNIVERSARY YEAR—

*and the gardening season—winds down, we'd like to invite you to celebrate with us by enjoying great American gardening literature. The following 75 books were selected by a committee chaired by Steve Lorton of Sunset magazine. Also serving on the committee were Suzanne Bales, contributing editor of Family Circle magazine; Sarah Boasberg, a Washington, D.C., landscape designer and former AHS Board chairman; Thomas Cooper, editor of Horticulture magazine; Valerie Easton of the Elisabeth C. Miller Library of the University of Washington; and Pamela Lord, a founder of the Garden Book Club. The publication dates represent the most recent edition available to the book committee; dates in parentheses indicate the first publication date. Prices below each title reflect AHS member discounts. See pages 58 and 59 to order these books or others by the award-winning authors.*

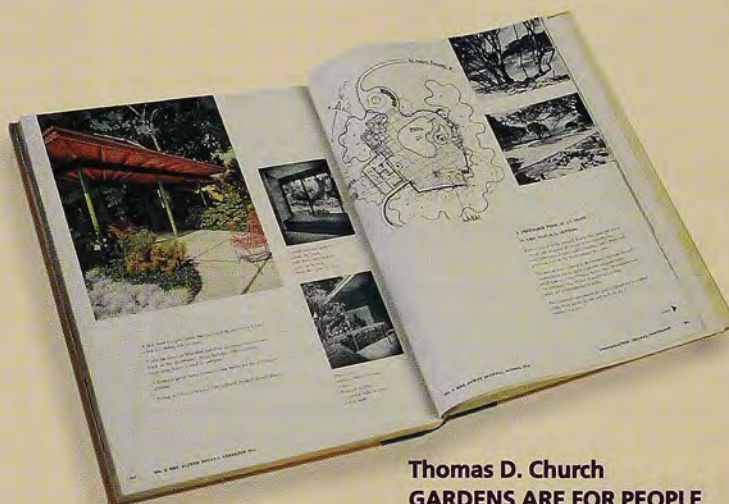
The books selected had to have been published in the United States during the 75 years since AHS was founded, and no author—with the seemingly necessary exception of Liberty Hyde Bailey—could be represented by more than one title. The committee's criteria, which will continue to be used in selecting new titles for the AHS Annual Book Award (see sidebar, page 13), were explained by Lord at our Annual Meeting in San Francisco:

**Authority.** We insisted, first and foremost, on real depth and breadth of expertise and experience.

**Geographical diversity.** We looked for books that addressed—and celebrated—the different regions of the country.

**Seminal and historical works of our horticultural heritage.** We have much to be proud of in our horticultural past. Great voices like Liberty Hyde Bailey, Celia Thaxter, and E.H. Wilson laid the foundations for many books to follow.

**Utility, clarity, and accuracy in reference works.** It's all right, almost expected, for reference works such as encyclopedias to be on the dry side. Facts are facts. We did, however, want thoroughness, accuracy, clear cross-referencing, and excellent indexing.



Thomas D. Church  
**GARDENS ARE FOR PEOPLE**

**Original, opinionated, passionate—even witty—writing styles.**

American garden writing is blessed with many distinctive literary voices including those of Elizabeth Lawrence, Henry Mitchell, Katharine White, George Schenk, Michael Pollan, Louise Beebe Wilder, and Allen Lacy.

**Scientists and naturalists who enrich our awareness and understanding of the natural world.** These writers educate us about the complex interactions between

plants and animals and insects, sensible pest control, problems in the environment, or possible losses of our horticultural heritage. Sara Stein, Ken Druse, Roger Swain, and Kent Whealy have opened our eyes in these directions.

**Physical quality of the book.** A well-made, beautifully illustrated book gives pleasure and help for many years. Sturdiness of binding, legible type, durable paper, and an intelligent layout are crucial.

Finally, very few books are perfect. Neither are their judges. We hope that we have struck a balance in this list. Heaven knows we tried.



James Adams  
**Landscaping with Herbs**  
*Timber Press, Inc., 1987*  
**\$29.95 TIM 105**

Allan M. Armitage  
**Herbaceous Perennial Plants:**  
**A Treatise on Their Identification,**  
**Culture, and Garden Attributes**  
*Varsity Press, 1989*  
**\$32.25 TIM 037**

Liberty Hyde Bailey  
**Hortus Third: A Concise Dictionary of**  
**Plants Cultivated in the United States**  
**and Canada**  
*Macmillan Publishing Co., 1976*  
**\$135 MAC 011**

Liberty Hyde Bailey  
**The Standard Cyclopedia of Horticulture**  
*Macmillan Publishing Co., 1939*  
**Out of Print**

Charles E. Beveridge and Paul Rocheleau  
**Frederick Law Olmsted: Designing**  
**the American Landscape**  
*Rizzoli, 1995*  
**\$63 RIZ 002**

Fern Marshall Bradley and Barbara Ellis  
**Rodale's All-New Encyclopedia of**  
**Organic Gardening**  
*Rodale Press, 1992*  
**\$25.50 ROD 009**

John E. Bryan  
**Bulbs (volumes 1 and 2)**  
*Timber Press, Inc., 1989*  
**Out of Print; Being Updated**

Arthur Edwin Bye  
**Art into Landscape, Landscape into Art**  
**(2nd edition)**  
*PDA Publishers Corp., 1988 (1983)*  
**Out of Print**

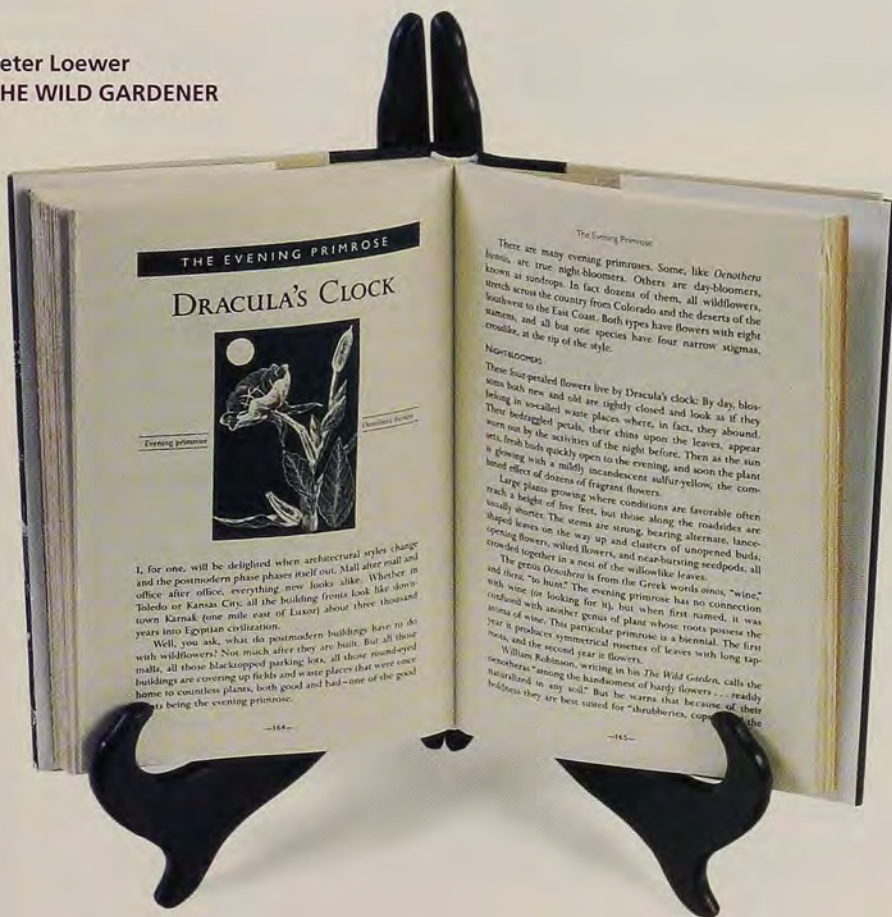
Geoffrey B. Charlesworth  
**The Opinionated Gardener: Random**  
**Offshoots from an Alpine Garden**  
*David R. Godine, 1988*  
**Out of Print**

**FROM THE OPINIONATED GARDENER**  
*Our operative priests are the weather fore-*  
*casters, especially the television types.... The*  
*worst sin these high priests commit is to di-*  
*rect their irritating chatter to golfers, the*  
*spectator sport crowd, parade goers, and*

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Peter Loewer  
**THE WILD GARDENER**





marathon runners. They adopt a smarmy demeanor when we are enduring drought and make hysterical apologies whenever there is a "threat" of rain, as though to take partial credit for the weather. This in spite of the occasional unconvincing disavowal that they are really responsible. You would think these people didn't know where their drinking water comes from. Because they are trying to please this pleasure-crazed group, their predictions are sometimes vividly colored, and the message to gardeners may be misleading. How often I have delayed watering on the strength of that non-materializing shower threatening to



**Ken Druse**  
**THE NATURAL GARDEN**

spoil a baseball game or a parade. How often have I failed to cover tender plants because the city boys had it "in the thirties" and didn't tell me I would get 28 degrees.

Thomas D. Church  
**Gardens Are for People: How to Plan for Outdoor Living (3rd edition)**  
University of California Press, 1995 (1955)  
**\$22.50 UCA 003**

Ruth Rogers Clausen and  
Nicholas Ekstrom  
**Perennials for American Gardens**  
Random House, 1989  
**\$44.50 RAN 022**

Gordon Courtright  
**Trees and Shrubs for Temperate Climates (3rd edition)** Timber Press, Inc., 1988  
**\$44.50 TIM 106**

Rosalind Creasy  
**The Complete Book of Edible Landscaping**  
Sierra Club Books, 1982  
**\$22.50 RAN 023**

James Underwood Crockett  
**Crockett's Victory Garden**  
Little, Brown and Co., 1977  
**Out of Print**

Thalassa Cruso  
**Making Things Grow: A Practical Guide for the Indoor Gardener (reprint edition)**  
Lyons & Burford, 1989 (1969)  
**Out of Print**

John V. Dennis  
**The Wildlife Gardener**  
Alfred A. Knopf, Inc., 1985  
**Out of Print**

Michael Dirr  
**Manual of Woody Landscape Plants (4th edition)**  
Stipes Publishing Co., 1990 (1975)  
**The 5th edition is due out early next year. Watch *The American Gardener* for more information. Turn to page 38 for a profile of Michael Dirr.**

Ken Druse  
**The Natural Garden** Clarkson Potter, 1989  
**\$36 RAN 009**

Dumbarton Oaks Colloquium  
Beatrix Jones Farrand: **Fifty Years of American Landscape Architecture**  
Dumbarton Oaks Trustees for Harvard University, 1983  
**\$24 DOC 001**

Virginie F. Elbert and George Elbert  
**Foliage Plants for Decorating Indoors: Plants, Design, and Maintenance for Homes, Offices, and Interior Gardens**  
Timber Press, Inc., 1989  
**Out of Print**

Thomas H. Everett  
**The New York Botanical Garden Illustrated Encyclopedia of Horticulture**  
Garland Publishing Co., 1981  
**\$750 GAR 001**

David Fairchild  
**The World Was My Garden: Travels of a Plant Explorer**  
Charles Scribner's Sons, 1938  
**Out of Print**

H. Lincoln Foster  
**Rock Gardening: A Guide to Growing Alpines and Other Wildflowers in the American Garden**  
Timber Press, Inc., 1982  
(Houghton Mifflin Co., 1968)  
**\$22.45 TIM 107**

William H. Frederick Jr.  
**100 Great Garden Plants**  
Timber Press, Inc., 1986  
(Knopf/Random House, 1975)  
**Out of Print**

Fred C. Galle  
**Azaleas (enlarged edition)**  
Timber Press, Inc., 1987 (1985)  
**\$67.50 TIM 108**

Alfred Byrd Graf  
**Exotica Series IV International: Pictorial Cyclopedia of Exotic Plants from Tropical and Near-Tropic Regions (12th edition)**  
Roehrs Company Publishers, 1985 (1957)  
**Out of Print**

John Greenlee  
**The Encyclopedia of Ornamental Grasses: How to Grow and Use Over 250 Beautiful and Versatile Plants**  
Rodale Press, Inc., 1992  
**\$26.95 ROD 003**

Mac K. Griswold and Eleanor Weller  
**The Golden Age of American Gardens: Proud Owners, Private Estates, 1890-1940**  
Harry N. Abrams, Inc., 1991  
**\$67.50 ABR 006**

Pamela J. Harper  
**Designing with Perennials**  
Macmillan Publishing Co., 1990  
**\$36 MAC 027**

Jim Harter, editor  
**The Plant Kingdom Compendium**  
Bonanza Books, 1988  
**Out of Print**







Elizabeth Lawrence  
**A Southern Garden**  
 (50th anniversary edition)  
*University of North Carolina Press,*  
 1991 (1942)  
 hardcover \$22.45 UNC 005a  
 softcover \$15.25 UNC 005b

Henry Mitchell  
**The Essential Earthman:**  
**Henry Mitchell on Gardening**  
*Houghton Mifflin Co.,* 1994 (1981)  
 \$11.65 HOU 013

Eleanor Perenyi  
**Green Thoughts: A Writer in the Garden**  
*Random House,* 1983 (1981)  
 \$10.75 RAN 024

Harry R. Phillips  
**Growing and Propagating Wild Flowers**  
*University of North Carolina Press,* 1985  
 \$15.25 UNC 006

Michael Pollan  
**Second Nature: A Gardener's Education**  
*Atlantic Monthly Press,* 1991  
 Out of Print

#### FROM SECOND NATURE

Now it is true that there are countless volumes of practical advice available to the perplexed gardener, but I felt the need for some philosophical guidance as well. Before I firebomb a woodchuck burrow, I like to have a bit of theory under my belt. Yet for the most part, Americans who write about nature don't write about the garden—about man-made landscapes and the process of their making. This is an odd omission, for although gardening may not at first seem to hold the drama or grandeur of say, climbing mountains, it is gardening that gives most of us our most direct and intimate experience of nature—of its satisfactions, fragility, and power.

Yet traditionally, when we have wanted to think about our relationship to nature, we have gone to the wilderness, to places untouched by man. Thoreau, in fact, was the last important American



Stephen A. Spongberg  
**A REUNION OF TREES**

Ann Leighton  
**Early American Gardens: "For Meate or Medicine"**  
*Houghton Mifflin Co.,* 1970  
 Out of Print

Peter Loewer  
**The Wild Gardener: On Flowers and Foliage for the Natural Border**  
*Stackpole Books,* 1991  
 \$17.95 STA 007

Ann Lovejoy  
**The American Mixed Border:**  
**Gardens for All Seasons**  
*Macmillan Publishing Co.,* 1993  
 \$29.75 MAC 003

Laura C. Martin  
**The Wildflower Meadow Book:**  
**A Gardener's Guide** *East Woods Press,* 1986  
 Out of Print

Mildred Esther Mathias, editor  
**Flowering Plants in the Landscape**  
*University of California Press,* 1982  
 \$19.95 UCA 004

John Mickel  
**Ferns for American Gardens**  
*Macmillan Publishing Co.,* 1994  
 hardcover \$54 MAC 009a  
 softcover \$20 MAC 009b

William Olkowski, Sheila Daar,  
 and Helga Olkowski  
**Common-Sense Pest Control**  
*Taunton Press,* 1991  
 \$35.95 TAU 002



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**Lauren Springer**  
**THE UNDAUNTED GARDEN**

writer on nature to have anything to say about gardening. He planted a bean field at Walden and devoted a chapter to his experiences in it. But the bean field got Thoreau into all sorts of trouble. His romance of wild nature left him feeling guilty about discriminating against weeds and he couldn't see why he was any more entitled to the harvest of his garden than the resident woodchucks and birds. Badly tangled up in contradictions between his needs and nature's prerogatives, Thoreau had to forsake the bean field, eventually declaring that he would prefer the most dismal swamp to any garden. With that declaration, the garden was essentially banished from American writing on nature.

Janet Meakin Poor, editor,  
Garden Club of America  
**Plants That Merit Attention,**  
**Volume I: Trees**  
Timber Press, Inc., 1984  
**\$52.50 TIM 082**

Tom Pritchard  
**Flowers Rediscovered: New Ideas**  
**for Using and Enjoying Flowers**  
Stewart, Tabori & Chang, Inc., 1985  
**Out of Print**

Rob Proctor  
**Annuals: Yearly Classics for the**  
**Contemporary Garden**  
HarperCollins, 1991  
**Out of Print**

Alfred Rehder  
**Manual of Cultivated Trees and Shrubs**  
**Hardy in North America (2nd edition)**  
Dioscorides Press, 1986 (Macmillan, 1927)  
**Out of Print**

Harold William Rickett  
**Wild Flowers of the United States**  
McGraw-Hill, Inc., 1966-1973  
**Out of Print**

Homer E. Salley and Harold E. Greer  
**Rhododendron Hybrids: A Guide to**  
**Their Origins, Including Selected,**  
**Named Forms of Rhododendron Species**  
**(2nd edition)**  
Timber Press, Inc., 1992 (1986)  
**\$54 TIM 109**

**Ernest H. Wilson**  
**ARISTOCRATS OF THE GARDEN**





George Schenk  
**The Complete Shade Gardener**  
(2nd edition)  
*Houghton Mifflin Co., 1991 (1984)*  
**\$17.95 HOU 013 (1995)**

Marina Schinz and Susan Littlefield  
**Visions of Paradise: Themes and Variations on the Garden**  
*Stewart, Tabori & Chang, Inc., 1985*  
**\$45 STC 004**

## Indispensable Directories

Barbara J. Barton  
**Gardening by Mail: A Source Book**  
(4th edition)  
*Houghton Mifflin Co., 1994 (1986)*  
**\$21.50 HOU 001 (5th edition)**

Richard T. Isaacson, editor  
**Andersen Horticultural Library's Source List of Plants and Seeds: A Completely Revised Listing of 1993-96 Catalogues** (4th edition)  
*Andersen Horticultural Library, 1996 (1987)*  
**\$34.95 AND 001**

Kent Whealy  
**The Garden Seed Inventory: An Inventory of Seed Catalogs Listing All Non-Hybrid Vegetable Seeds Still Available in the United States and Canada** (4th edition)  
*Seed Savers Publications, 1992 (1985)*  
**hardcover \$27 SSE 001a**  
**softcover \$21.50 SSE 001b**

Wayne A. Sinclair, Howard H. Lyon, and Warren T. Johnson  
**Diseases of Trees and Shrubs**  
*Comstock Publishing Associates, 1987*  
**\$53.95 COM 002**

Stephen A. Spongberg  
**A Reunion of Trees: The Discovery of Exotic Plants and Their Introduction into North American and European Landscapes**  
*Harvard University Press, 1990*  
**hardcover \$31.50 HUP 002a**  
**softcover \$22.45 HUP 002b**

Lauren Springer  
**The Undaunted Garden: Planting for Weather-Resilient Beauty**  
*Fulcrum Publishing, 1994*  
**\$26.75 FUL 004**

Sara B. Stein  
**Noah's Garden: Restoring the Ecology of Our Own Back Yards**  
*Houghton Mifflin Co., 1993*  
**hardcover \$19.75 HOU 004a**  
**softcover \$9.95 HOU 004b**

### FROM NOAH'S GARDEN

*Or did I become a gardener at all? And do I wish to address those ladies and gentlemen of the club who, by addressing one another with shared assumptions of taste and knowledge, assure themselves of membership? I write for gardeners, of course, but I want to suspend judgment on what qualifies a person to join that group and open the door to whoever stewards the land, whoever digs, whoever plants, whoever by even raking leaves tinkers with a system of which, sad to say, horticulture is shockingly ignorant. My purpose in letting in the hoi polloi is eventually to similarly fling wide the garden gate, to loosen the land's esthetic corset, let it grow more blowsy and fecund, allow it to bed promiscuously with beasts and creatures of all sorts...*

*Horticulture told me to cultivate the soil to control the weeds; botany told me that the more the soil is disturbed, the more weeds grow. Gardening books said that grass needs fertilizing; botany books said that grasses produce the soil fertility that other plants depend on. I was advised to stake and tie stems that had evolved the strength to defy gravity 400 million years ago, to spray pesticides on species that over eons had formulated an infernal chemical arsenal of their own, to deadhead flowers that were doing their darnedest to go to seed, an activity that is at once their biological purpose and their natural wont.*

Ruth Stout  
**Gardening Without Work**  
*Devin-Adair Publishers, Inc., 1961*  
**\$22.45 DVA 001**

David C. Streatfield  
**California Gardens: Creating a New Eden**  
*Abbeville Press, Inc., 1994*  
**\$28 ABV 001**

The Editors of *Sunset Magazine*  
**Sunset Western Garden Book**  
*Sunset Publishing Co., 1995*  
**hardcover \$31.50 SUN 001a**  
**softcover \$25 SUN 001b**

Roger B. Swain  
**The Practical Gardener: A Guide to Breaking New Ground**  
*Little, Brown and Co., 1989*  
**Out of Print**

Celia Thaxter  
**An Island Garden (reprint)**  
*Houghton Mifflin Co., 1995 (1894)*  
**\$27 HOU 014**

Kim E. Tripp and J.C. Raulston  
**The Year in Trees: Superb Woody Plants for Four-Season Gardens**  
*Timber Press, Inc., 1995*  
**\$40 TIM 098**

James van Sweden and Wolfgang Oehme  
**Gardening with Water: How James van Sweden and Wolfgang Oehme Build and Plant Fountains, Swimming Pools, Lily Pools, Ponds, and Water Edges**  
*Random House, 1995*  
**\$36 RAN 006**

J.D. Vertrees  
**Japanese Maples (2nd edition)**  
*Timber Press, Inc., 1987 (1978)*  
**\$36 TIM 044**

Sally Wasowski and Andy Wasowski  
**Native Gardens for Dry Climates**  
*Clarkson Potter, 1995*  
**\$31.50 RAN 008**

Katharine S. White  
**Onward and Upward in the Garden**  
*Farrar, Straus & Giroux, Inc., 1979*  
**\$12.50 FSG 002**

### FROM ONWARD AND UPWARD IN THE GARDEN

*I can't swear that I have put my finger on still another trend, since the words denoting size, like Mammoth, Giant, and Colossal, are still so overwhelming, but it does appear that there is a movement to decrease size. Have the customers rebelled? There have always been dwarf plants, of course, but this year it seems to me there are many more of them. In every seed book are Lilliputs, pygmies, midgets, and miniatures... Perhaps my unhappiest moment was the discovery in several catalogs of a combination of dwarfism and giantism in the person of "Miss Universe, a brand new idea in Zinnias. She has stems only two feet high and flowers seven inches across." Poor Miss Universe! She reminds me of my own plight as a girl. I was short, with a great knot of hair at the back of my head. I had not particularly worried about my appearance, though, until an old friend of the family said to me, "I suppose you realize, my dear, that your hair is a deformity."*



## The 1997 Annual Book Awards

This year the American Horticultural Society inaugurated an Annual Book Award, to be given each year at its Annual Meeting. The books had to have been published in 1996 and meet the same criteria as the "75 Great American Garden Books." Look for our seal on these books in your book store.

### The Collector's Garden: Designing With Extraordinary Plants

Text and photographs by Ken Druse. Clarkson Potter. AHS member price: \$40. CRN 001.

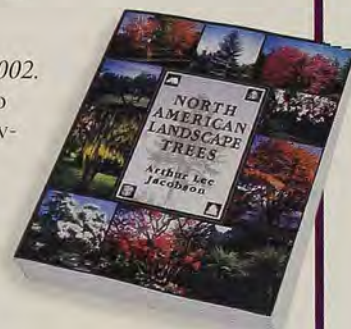
With *The Collector's Garden*, Ken Druse has achieved that rarity among gardening books—a simply gorgeous picture book that you can't help but read cover to cover. Druse not only gives the reader a guided tour of some of the loveliest gardens all over the country, but he answers the questions that always come to mind when you see photos like these. Extensive quotes from the gardeners themselves help a reader to understand how such fascinating and beautiful gardens are created, what mistakes were made along the way, and how each gardener has adapted to his or her particular climate, soil, and topography—the things gardeners everywhere need to deal with. The reader of *The Collector's Garden* feels that he or she has been lucky enough to chat with the passionate gardeners of Druse's "insider network," and to hear about their favorite plants and where to find them.



### North American Landscape Trees

by Arthur Lee Jacobson. With drawings by Michael Lee. Ten Speed Press. AHS member price: \$35.95. TSP 002.

*North American Landscape Trees* is an ambitious compilation of information that we would venture to suggest could only have been written by one person—Seattle tree expert Arthur Lee Jacobson. He covers both native and exotic ornamental trees growing in temperate North America north of Mexico, hardy to at least 30 degrees Fahrenheit. The book covers 72 families, 198 genera, 950 species, 36 subspecies, 159 varieties, 95 forms, and 3,540 cultivars. His extensive research in old nursery catalogs, done in part at the Elisabeth C. Miller Library in Seattle and in part at the Helen Crocker Russell Library at Strybing Arboretum, shows in the depth and breadth of the book. What distinguishes Jacobson's work from *Hortus III* or the *Royal Horticultural Society Dictionary* are both its currency—where else can you find descriptions of such new cultivars?—and the author's informed, humorous, and colorful writing style. Ten Speed Press should be commended for letting Jacobson's individual voice come through so clearly in this impressive and useful book.



### Plants That Merit Attention, Volume II: Shrubs

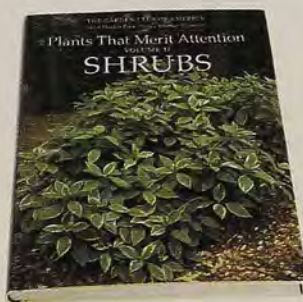
by the Garden Club of America. Janet Meakin Poor and Nancy Peterson Brewster, editors. Timber Press, Inc. AHS member price: \$52.50. TIM 081.

It would be hard to imagine a more useful book for the home gardener than this new volume on shrubs from Timber Press. At the Elisabeth C. Miller Library in Seattle, it took us a month longer than usual to get it cataloged because the book was constantly being borrowed from the cataloging cart by library users, volunteers, and staff.

What is so special about it? First, it is selective—only the most unusual, garden-worthy shrubs appear here, as suggested to the Garden Club of America by horticulturists, botanists, gardeners, and landscape architects. The acknowledgements include more than 200 names that read like a "Who's Who" of horticulture. And because it is a selective listing, enough information is given on each plant to really answer that most important of questions, "Why give

this plant space in my garden?" Timber Press is to be commended for producing a thoughtful, collaborative, selective guide to making intelligent choices for the landscape.

—Valerie Easton, AHS Book Award Committee



*Remembering how I felt, I suggest that we do not deform the flowers or, for that matter, dwarf the princesses.*

Louise Beebe Wilder  
**Color in My Garden: An American Gardener's Palette** (reprint edition)  
Atlantic Monthly Press,  
1990 (1918)  
Out of Print

Elizabeth Wilkinson and  
Marjorie Henderson, editors  
**Decorating Eden:  
A Comprehensive Source Book  
of Classic Garden Details**  
Chronicle Books, 1992

hardcover \$36 CHR 004a  
softcover \$15.50 CHR 004b

Ernest H. Wilson  
**Aristocrats of the Garden**  
Stratford, 1932  
Out of Print

Wayne Winterrowd  
**Annals for Connoisseurs: Classics and  
Novelties from Abelsonschus to Zinnia**  
Prentice Hall, 1992  
\$22.50 PRE 002

Donald Wyman  
**Wyman's Gardening Encyclopedia  
(2nd edition)**  
Macmillan Publishing Co., 1986 (1971)  
\$59.50 SIM 005





# offshoots

## GARDEN EPIPHANY

by Anita Stamper

I have never believed much in epiphanies. My skepticism came hand in hand, I think, with my irritation when I read Jane Austen's *Emma*. I had always thought an epiphany created such sweeping change that one could never be the same, yet the heroine experienced an epiphany every 50 pages. I also understood an epiphany to be a revelation followed by instantaneous change. Now that I have had an epiphany or two myself, I know that change, however real, is more likely to be gradual.

Several of these moments of revelation converged in my mind this morning on the way to work and birthed another, more sweeping comprehension. These moments, from seemingly disparate aspects of my mind and life, are tied to the things I hold most dear—my family, my identity, and my garden.

The catalyst for this latest revelation was a decision to move—to leave my garden 20 years in the making and begin anew in another location. I love my garden, but the house was always lacking. My old house will become a therapy center for troubled individuals, and I hope my garden will be as healing for the new occupants and their clients as it has been for me. The buyer is giving me a full two years to move my plant treasures, and I have decided to hire a landscape architect to help me plan my new garden. By the time dormancy sets in this fall, I will have a design and some structural components of the new garden to guide me as I dig and move.

## THE MISSING INGREDIENT

I have always been a plant collector rather than a garden designer, so my present garden has evolved very slowly and painfully. The prospect of starting with a design is so novel to me that I feel like a child at Christmas. This weekend I decided to write down things I must communicate to the landscape architect when we meet, and it was this act that stirred those old memories.

I listed paths and pergolas and gates and arches. I noted the types of spaces I wanted and the kinds of plants I like to grow. I remembered a screen for trash receptacles, a composting bin, and a space for parking. But there was something missing from my list and it took some time to realize what it was—the meaning of the garden to me and mine. The garden is who I am, who I have always been, and who I will be. It is my healing place and my growing place. It is my mother's legacy to me and mine to my children—through the memories stored and recalled, through the selves passed through then rediscovered.

I study the history of textiles and clothing. In a recent exhibition I had profiled Lucy Irions Neilson, an ordinary Mississippi woman of the 19th century. I touched the tiny doll quilts and clothing she had made, and by reading the diary that she kept from 1854 to 1911, I came to know her well and to learn from

her. It was a quote from the January 3, 1875, entry to her diary that had lasting impact. Writing of her first child's excitement at Christmas, Neilson said: "I am more than ever determined always to exert myself for the entertainment of my children on Christmas, for oh! what a sweet lifetime remembrance it is!"

## "MARK-DOWN DAYS"

From the day I read those words, I thought differently of the time I spend with my two daughters. I realized that my own childhood memories were not of things as much as of feelings. And so I began consciously creating memorable events or times for my children's future enjoyment. I think I recognize them when they occur, but perhaps I indulge my sentiments. At times, though, we can articulate and share the sense that this is a very good time, a time to be remembered. My first daughter, Shand, calls them "mark-down days."

Last night, Shand asked me if I would lie on her bed and take some pictures from her window. When my face registered total incomprehension, she explained what should have been so obvious to me of all people: "I don't ever want to forget what it's like to open my eyes in the morning  
a n d





the first thing I see is the yard." It is a wonderful sight, truly; I made it that way! I planted night-scented jasmine (*Jasminum nocturnum*) and sweet olive (*Osmanthus fragrans*) so their scents would waft upward to her bed. I often slip into her room in the morning to sit in the big chair overlooking the yard and enjoy the view I don't have in my room.

Yet while I accepted her compliments on how nice the yard was looking, I had never realized that the garden I so carefully tended down below was an integral part of her life, too. Now I know this garden is a part of who she is, a main feature of her "sweet lifetime remembrance."

My youngest daughter, Brianna, brings me rocks from wherever she goes. Somehow she can see a playground or driveway filled with nondescript pebbles and find the most exquisite stones. My love of rocks and my use of them in my garden have become a part of her vision of what is beautiful and important.

### LAYERS OF OURSELVES

We are like trees, we humans, and the language of human aging is all wrong. We do not become old; we do not pass through these discrete stages named infancy, childhood, adolescence, adulthood, middle age, old age. We are born as a core that is built up, layer upon layer, over all the minutes and hours and days and years of our lives. And all that richness of detail, every self we were at any point in time, is still there. The layers change our concept of the core; sometimes they mask it, but they don't erase it. The core and all the layers are available. The key is to find them, to see or hear or smell or feel them again.

I smell a bubbly bush (*Calycanthus floridus*) in bloom and I am seven years old standing in my grandfather's yard. I can hear the

stream to my left; I can feel the sun filtering through the enormous maple that centered the front yard. I remember now the furry *Robinia rosea* that grew on the bank above the drive. And there is more, much more, lost for years and then recovered when we bought our house 20 years ago and there was a *Calycanthus* blooming at the back door. That may well have been why we bought what my husband called "a damn fine yard, thankfully with a house on it." As I plan this new garden, I must think about the views from all the windows. I must make special places, soothing scenes, unforgettable fragrances. I must grow memories that will sustain us in the hard times and enrich us in the good times.

This afternoon I will meet with the landscape architect who thinks he will be in charge of my garden but who will, in fact, be in charge of some sweet lifetime remembrances. I hope I can tell him what he needs to know, show him what he needs to see. I hope I can make the enormity of his responsibility obvious. I hope I can afford him. I hope he will take the job. I hope he doesn't think I'm crazy.

Anita Stamper is director of the School of Family and Consumer Sciences at the University of Southern Mississippi.

## Remembers

I have pictures in my mind, already made up, but they don't talk. There's this blank piece of paper that goes all the way to the zoo, and the pictures just come up and go on the paper and I can see 'em, and it's all in my mind. One side's blank, and they just turn around and a rainbow comes out and then just everything makes the remembers. Doesn't that happen to you sometimes?

—Sara Brianna Stamper, Age 4, August 17, 1991

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OUR ADDRESS IS: <http://members.aol.com/gardenahs>

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PETER LUI







# conservationist's notebook

## UNLIKELY HAVENS

by David J. Ellis

In 1992, when Nature Conservancy botanists inventoried 100,000 acres of land at the Fort Bragg and Camp Mackall military bases in North Carolina, they identified nearly 60 rare or endangered plant species, including the Alabama beak rush or bearded beak sedge (*Rhynchospora crinites*), one of the rarest plants in the United States.

On the opposite side of the country, Nature Conservancy botanists have in the last three years found three plants previously unknown to science and more than 100 populations of rare plant species on uncontaminated grounds of the Hanford Site, a U.S. Department of Energy (DOE) facility in southeastern Washington formerly used for plutonium production.

What do these sites have in common? Both are large tracts of government-owned land that have for many years remained largely protected from human disturbance. Recent agreements between government agencies and conservation groups have allowed the natural resources of these unusual sites to be inventoried, many for the first time in decades. The result has been a series of pleasant surprises ranging from the discovery of new populations of rare or endangered plants to the identification of new species.

## EXPLOSION OF RARE PLANTS

Some of North Carolina's rarest plants have found an unlikely haven: firing ranges and the buffer zones around them at military bases such as Fort Bragg and Camp Mackall. Thanks to a 1988 agreement between the Nature Conservancy and the U.S. Department of Defense (DOD), scientists have been inventorying the plants and animals at these North Carolina installations as well as at other DOD facilities throughout the United States.

The North Carolina bases are particularly interesting because they contain some of the most extensive longleaf pine plant communities in the state. These ecosystems are among the most biologically diverse in North America, often harboring more than 30 species per square meter. Fires fueled by artillery training and by prescribed burns have helped preserve the longleaf pine ecosystem by suppressing invasive plant species, preventing establishment

of native hardwoods, and recycling key nutrients in the soil.

In addition to the bearded beak sedge, several other plants previously believed extinct within the state have been found at the military bases, including wild coco (*Pteroglossaspis ecristata*), an orchid usually found on the Gulf Coast and a candidate for the federal Endangered Species list.

## FLOWER POWER

In 1991, the DOE agreed to let the Nature Conservancy conduct an inventory of plants and animals at the Hanford facility. The site, near Richland, Washington, is no longer producing plutonium, but is engaged in cleanup and disposal of the toxic and radioactive waste that is the legacy of the Cold War.

The DOE helped fund the study and the Conservancy chipped in with private money. "We thought it would be a good idea since no inventory had ever been done," says Keith Taylor, a spokesperson for the DOE, "and we knew the Hanford Site would probably contain some rare species." Taylor says the DOE will use the results to guide future land-use decisions.

Curt Soper, a Nature Conservancy field representative who coordinated the inventory, says the 362,000-acre facility was basically off limits for 55 years. "A lot of it is a buffer area that has not been damaged or polluted, not been grazed or plowed." The newly discovered plants include a desert buckwheat (*Eriogonum codium*), White Bluffs bladderpod (*Lesquerella tuplashensis*), and an as yet unnamed variety of a relatively common milk vetch (*Asragalus conjunctus*). In addition to the new plants found at Hanford, 25 previously unknown insects and more than 30 rare birds have been documented.

According to Soper, what makes the Hanford Site particularly valuable is the pristine quality of the native habitat in an area that has otherwise been mostly converted to agriculture. Looking

at Hanford in a satellite photograph, Soper says, it appears as an island in a sea of farmland. "Parts of the site are disturbed and have a lot of exotic species, but there are vast acres without cheat grass, that ubiquitous western weed. It's that quality that makes the site so significant. We still have a functioning example of the shrub-steppe habitat." The Hanford inventory will only be about three-quarters complete by the end of the year, and Soper says more new plants and animals are likely to be found.



A new buckwheat, *Eriogonum codium*, discovered on the grounds of a former nuclear energy facility.

David J. Ellis is assistant editor of *The American Gardener*.

COURTESY OF WASHINGTON FIELD OFFICE, THE NATURE CONSERVANCY





# gardeners' information service

***I have some American boxwoods in my yard and I would like more, but I am having a difficult time finding the plants at a nursery. Would it be possible to root cuttings of these shrubs?***

—N.O., via e-mail

Yes, it is actually fairly easy to root cuttings of boxwoods. Aubrey Glass, the caretaker of the American Horticultural Society's River Farm headquarters in Alexandria, Virginia, has rooted thousands of boxwoods from the ones growing here on land that once belonged to George Washington.

His technique is to break—not cut—off the tips of branches in early to mid-spring, once he sees new growth beginning on the boxwoods; others have also had success rooting cuttings in late summer or early fall. Break off stems about two to three inches long with a small cluster of leaves at the top. Do this early in the morning or in the evening when it is cool. Immediately stick these cuttings about an inch deep in a tray or flat filled with moist sand. Make sure only the stem portion is in the sand; all leaves should be above soil level. Although cuttings will root quite well untreated, some propagators dip the stems in rooting hormone.

Keep the sand evenly moist but not soaking wet for the next several weeks. Store the flat where the cuttings will receive indirect or filtered sunlight and a good flow of air; under the edge of a deck or in the shade of a tree would be suitable locations.

Cuttings should root in about three to four weeks. You can tell they have rooted when they begin to put out new leaves. At this point, the cuttings are ready to be transplanted carefully into small individual pots. You can transplant them using regular potting soil. Continue to keep them moist and out of direct midday sun until the following spring when they will be ready to plant in the ground. For another year or so, until they become well established, make sure they're sheltered from harsh elements, animals, and humans. If you live in a cold climate, you should use burlap to protect them from freezing winter winds. Keep them well watered until they become established.

***I would like to grow native plants on my property on the Eastern Shore in Maryland. How do I find out what is native to this area?***

—B.B., Chestertown, Maryland

We're glad you're joining the growing number of people interested in gardening with native plants. You can begin by contacting your local native plant society (AHS publishes a list of native plant societies, available for \$2) or your state Natural Heritage program, which works to conserve and protect native endangered plants and animals. Call Carol Smeltzer at the Nature Conservancy at (703) 841-7420, or look in the govern-

ment pages of your phonebook under Natural Resources (Department of). The Natural Heritage programs also have a Web site at [www.abi.org](http://www.abi.org).

You can find a lot of information on native plants in books called "field guides," which cover specific geographic areas—for example, *A Field Guide to the Wildflowers of Maryland*. Field guides may be available in your local library or book store; otherwise ask for more information about where to find one when you contact your local Natural Heritage program.

A wide selection of native plants is not always readily available from local garden centers, so you may need to buy through mail-order nurseries that specialize in native plants. Some books on native plants list such nurseries. Another good way to find out what plants are native to your area and different ways to use them is to visit local public gardens.

***Our flowering cherry tree was attacked by a woodpecker a few years ago. We subsequently wrapped the tree to protect its bark. Should we remove the wrapping, now that the bird is no longer around?***

—Pensington Landscape

Maintenance,  
Denver, Colorado



Yes, remove the wrapping immediately. According to Michigan State University Extension horticulturist Julie Stachecki, tree wraps provide a dark place for insects to take shelter, and they trap moisture, which may prevent injuries from healing or promote conditions favorable to disease development.

When you remove the wrapping from the tree, check the condition of the bark. If you see borers of any type—borers are the larvae of any of a number of insects, and they may have been what the woodpecker was after—apply an organic pesticide, such as pyrethrin, and seal the holes with wood putty.

If the woodpecker comes back, you might try shielding the tree trunk with a sheet of flexible plastic (similar to the material tree tubes are made of) available from the hardware store, but don't wrap it so tightly around the tree that air can't get to the trunk.

—Sara Epp, Editorial Assistant

For answers to your gardening questions, call Gardeners' Information Service at (800) 777-7931 ext. 31 between 11 a.m. and 3 p.m. Eastern Time, or e-mail us anytime at [gardenAHS@aol.com](mailto:gardenAHS@aol.com).





# mail-order explorer

## PRAIRIE MOON NURSERY

For owner Alan Wade, Prairie Moon Nursery represents a constant philosophical struggle, pitting his personal belief in growing only locally indigenous plants against the realities of running a successful business. Wade would prefer to sell his plants and seeds only within the narrow area of the upper Midwest to which they are genetically native, but he's relented in the face of more widespread demand.

"If you start moving things too far from their origin, many species are not going to be healthy or set good seed," contends Wade, who launched the Winona, Minnesota, nursery 15 years ago. His dream is that eventually there will be nurseries throughout the country selling regionally indigenous plants and seeds. "That's what is lacking at this moment—there are not enough smaller nurseries specializing in local genotypes."

Wade actively solicits feedback from customers in different areas about how their plants and seeds fare, so he has developed an idea of where individual species are likely to flourish. "We generally get very favorable reports back from customers from the Midwest across to the New England states and as far south as Virginia," he says. "Where we don't like to see our plants go is too far south. If we get an order from Florida we are likely to say we don't think it is going to work. Orders from Hawaii we just turn down."

Wade is also sensitive to the possibility that a few of his plants may succeed all too well away from their native haunts and native predators. "We worry about introduction of aggressive native species into areas where they are not already found, so occasionally we will choose not to ship a particular species to one part of the country if we think it's one that could escape cultivation."

Prairie Moon sells plants and seeds of nearly 400 species of prairie natives including wildflowers, grasses, ferns, vines, woody



consignment seed producers who collect seeds from a discrete bioregion. Its epicenter is the intersection of the boundaries of Minnesota, Wisconsin, Iowa, and Illinois. Prairie Moon uses the collected seeds to grow the plants it sells.

The nursery is set on 30 acres within a 356-acre tract held in common by Wade and other members of a land cooperative. About half of the residents of the cooperative are involved with the nursery, but, according to Wade, "Most of the operation is based on consignment sales—the nursery itself does only a little bit of production. I don't know of any other nurseries that operate that way but it helps keep our overhead down."

## CUSTOMIZED MIXES

Prairie Moon offers nearly 80 native seed mixes to suit a wide variety of site conditions and budgets. "This is one of the things that sets us apart from other native plant nurseries—our ability to deal individually with customers based on site requirements and how much someone is willing to spend," says Wade. "We custom-design most of our mixes, so the more information we have on the site and the objectives of the planting, the better."

Bill Cullina, nursery manager and propagator for the New England Wild Flower Society in Framingham, Massachusetts, says he often advises people who are interested in starting a meadow to contact Prairie Moon. "I referred one local woman to them because she had about an eighth-acre garden she wanted to turn into a meadow. She was just thrilled with the attention they gave her."

Most of the plants Cullina has tried have done quite well in New England, especially prairie blazing star (*Liatris pycnostachya*), baptisias (*Baptisia* spp.), northern dropseed (*Sporobolus heterolepis*), and bluestems (*Andropogon* spp.). "We even have the wild hyacinth (*Camassia scilloides*) coming up in

**Wade's dream is that eventually there will be nurseries throughout the country selling regionally indigenous plants and seeds.**

plants, and cacti. The catalog defines a native as a plant indigenous to North America before European settlement, and Wade interprets this to exclude cultivars of native species. "It seems like a lot of people who have had training in horticulture and nursery practices really operate on the belief system that if it hasn't been altered by man it's not worth anything," Wade says. "As much as possible we're trying to work with native genotypes and not consciously favor any particular trait."

Nearly all Wade's seeds are supplied by a network of up to 70

LEFT: COURTESY OF ALAN WADE. RIGHT: COURTESY OF RAY BERNER



bloom this year—it takes quite a while to get going,” he says.

Cullina praises Wade for being frank with prospective customers about the time and effort required to successfully establish a prairie or meadow garden. “It’s partly the fault of the industry in passing along the idea that native wildflowers need no care,” says Cullina. “It’s become sort of the microwave dinner of the plant world.”

Wade doesn’t soft-pedal the difficulty of starting a prairie or meadow garden from seed. “Once well established they can be low maintenance, but the establishment period can be three to five years or longer, with lots of problems all along the line,” he observes. “Often when dealing with potential customers I get the response, ‘Are you trying to talk us out of this?’ My answer

before anyone realized what the prairie landscape had to offer. Alan grew up in a household that was very supportive of this, and he has continued to make these plants available to people.”

Among Olsson’s favorite plants from Prairie Moon is the prairie lily (*Lilium philadelphicum*). “It’s a gem—a beautiful orange thing,” she exclaims. She also likes meadow blazing star (*Liatris ligulistylis*). “That plant is phenomenally beautiful when it’s in bud. It has this wonderful dark red—but a pure red, not maroon—color then opens to that marvelous pink.”

Prairie Moon has “done a great job of promoting how you can get started on your prairie,” says Olsson. “The catalog is very thorough—it tells you how to start your prairie from scratch. It also has a cultural guide that tells you about the plants’ needs. You couldn’t possibly find someone who couldn’t produce a beautiful garden using the plants in the catalog.”

Longtime customer Anne Meyer, owner of Enders Greenhouse in Cherry Valley, Illinois, has grown many of the Prairie Moon species to sell at her retail business. “Queen-of-the-prairie [*Filipendula rubra*] is especially beautiful and is not common around here, although once established in your yard it’s easy to grow,” she says. “I’ve also introduced an awful lot of people to rattlesnake-master [*Eryngium yuccifolium*]—and not just people who want to grow prairie plants. It’s such a dramatic plant that I find a lot of people buy it because they want to make it a specimen plant.”

Meyer particularly enjoys the personal attention she gets from Prairie Moon. “They are familiar with a lot of different growing

To receive a catalog, send \$2 to Prairie Moon Nursery, Route 3, Box 163, Winona, MN 55987. Tours of the nursery are held twice a year during the growing season; call (507) 452-1362 for information about 1998 tours.



**Black-eyed Susans and Indian grass, far left, and prairie spiderwort (*Tradescantia bracteata*), left, brighten the landscape at Prairie Moon Nursery.**

is ‘yes’ for those people who want a quick fix for their landscaping—there isn’t one.”

Wade also strives to ensure that his customers buy plants appropriate to their site conditions. “A plant that only does well in rich black mesic prairie soil is not going to do well in a wetland or on a dry sandy soil,” he notes. Some homeowners who have full sun and rich, moist soil or clay would prefer short prairie species, even though their soil is better suited to a tallgrass prairie. “Many of the shorter grass species require a well-drained soil that is not real fertile,” Wade explains, emphasizing, “it’s much more cost effective to match the plants to the site conditions than to try to adjust the site conditions to the plants you want to grow.”

## PRAIRIE IN THE BLOOD

As the son of two pioneering prairie conservationists, it was almost inevitable that Wade would become involved in the movement to preserve one of America’s vanishing natural treasures. His father, Doug, and mother, Dorothy, met in a botany class at the University of Wisconsin at Madison. Doug, a graduate student of the legendary Aldo Leopold, went on to teach outdoor education at Northern Illinois University. Dorothy founded Windrift Prairie Nursery, the first prairie nursery in Illinois, in the early 1960s and ran it almost single-handedly before retiring seven years ago.

“We could never have done it without the help of my parents,” says Wade of forming Prairie Moon. “The first species we grew were all northern Illinois genotypes that we got from my mother. That allowed us to start learning the plants so we could identify the native species found here in southeast Minnesota.”

Perle Olsson of Ringwood, Illinois, was initially a customer of Alan’s mother but switched to Prairie Moon after Dorothy Wade retired. She says Alan’s parents “were promoting prairie way back

**“It’s much more cost effective to match the plants to the site conditions than to try to adjust the site conditions to the plants.”**

situations and can tell you which plants will do well in particular situations.” Of Wade she says, “I just have lots of confidence in his experience and straightforwardness. He will always tell you which seeds are hard to germinate.”

Scott Woodbury, horticulturist in charge of the Whitmire Wildflower Garden at Shaw Arboretum in Gray Summit, Missouri, says Wade “offers some fairly unusual things”—such as prairie violet (*Viola pedatifida*), golden Alexanders (*Zizia aurea*), and heart-leaf golden Alexanders (*Z. aptera*).

Woodbury also likes Prairie Moon’s great Indian plantain (*Calcium muehlenbergii*, also known as *Arnoglossum muehlenbergii*), native both in Missouri and in Minnesota. “But from him we get a totally different genotype. It’s very vigorous, while ours is sluggish—it’s quite ironic.”

Dave Egan, a horticulturist with the University of Wisconsin at Madison’s arboretum, has used Prairie Moon plants and seeds both at the arboretum and in independent landscaping projects in the Madison area. “Everybody that I know of in the prairie nursery business does a good job of keeping things in line,” says Egan, “but for the price and for the security of knowing the genetic quality of the seeds and plants, [Prairie Moon] is pretty hard to beat.”

—D.E.





# plants and your health

## SLEEP-INDUCING HERBS

Story and photographs by Steven Foster

Call it what you will—anxiety, stress, tension, or just plain excitement—it can lead to insomnia. As a solution, many people turn to prescription drugs—potent drugs with risks that include overdosing, tolerance development, and habit formation, even addiction. Often, too, these drugs react with alcohol, as is the case with barbiturates, or lead to drowsiness the day after. Consumers concerned about these side effects—and whose conditions do not require a physician's attention—are seeking alternatives even safer than over-the-counter drugs. These insomniacs may find that herbs can successfully help them sleep without annoying complications.

Herbs used for treating insomnia generally produce a depressant effect on the central nervous system. Agents used to treat anxiety or insomnia, according to Varro E. Tyler's book *Herbs of Choice*, may be called sleep aids, sedatives, hypnotics, soporifics, anti-anxiety agents, anxiolytics, calmatives, or minor tranquilizers. Herbs can fall into one or another of these categories based on the dose, but are often ambiguously described as "nervines." In order to be considered a sleep aid, larger doses are generally required.

Many herbs have traditionally been used to treat insomnia, or at least have a reputation as being effective for that purpose. These include valerian (*Valeriana officinalis*), hops (*Humulus lupulus*), and passionflower (*Passiflora incarnata*), to name a few.

### VALERIAN

The first-century Greek physician Dioscorides called valerian "phu" in reference to the somewhat unpleasant odor of its roots. In the Middle Ages it was known as "all-heal" because of its many reputed virtues. Today it is simply called valerian, or sometimes garden heliotrope.

From a scientific perspective, valerian is certainly the best-documented herbal sleep aid. It has been valued as an antispasmodic and sedative for several hundred years. Few herbs have such a well-established history of medicinal use in cultures throughout the world. In India, Korea, China, Europe, and North America, native people have for centuries used the dried rhizomes and roots of several of the more than 200 species of *Valeriana* as a sedative tea. Most

references suggest consuming a teaspoonful of the dried roots steeped in water up to three or four times daily.

The best-known species is *V. officinalis*. Though native to Europe, this tall perennial has escaped from cultivation in North America and become a common roadside weed in some parts of New England and elsewhere in the Northeast.

Over the past 20 or 30 years, more than 200 scientific studies on valerian's active chemical components and their effects have been published in the scientific literature, especially in Europe. In the 1980s, there were a number of clinical studies on the effects of valerian extracts on sleep patterns. In one study, 128 volunteers reported subjective improvements in sleep quality and the time it took to fall asleep—with no "hangoverlike" effect, a common complaint among users of synthetic sedatives. Those who said they were habitual poor sleepers or who usually took a long time to fall asleep had the best results. The authors conducted several more studies, ultimately concluding that the extracts helped to significantly improve the sleep quality of those suffering from mild insomnia, while producing minimal side effects. It is reported, however, that some individuals using the herb may experience a stimulant effect or develop headaches.



The roots of valerian, left, have been used as a sleep aid for centuries. The female flowers of the hop plant, above, well known as the source of the bittering agent in beer, also have a long history of use in the treatment of sleep disorders.



## HOPS

The conelike female flowers, or strobiles, of the herbaceous vine *Humulus lupulus*, hops are best known as a source of the bitter flavor in beer. In addition, hops contain antiseptic constituents and an essential oil said to possess biological activity.

Traditionally hops have been used—usually in the form of a tea—to treat insomnia, restlessness, and other nervous conditions. They have also been used as a digestive aid and an antispasmodic to treat intestinal cramps. The German government has approved the strobiles—at a daily dose equivalent to a half-gram—for use in the treatment of sleep disturbances and for mood disturbances such as unrest and anxiety. People under treatment for depression are advised not to take hops, however.

What about those hop-filled sleep pillows that are so widely advertised in this country? Tyler writes that when hops are stored, bitter constituents undergo oxidation and produce a volatile compound called methylbutenol. When inhaled, it has a depressant effect on the central nervous system. Some researchers suggest this accounts for the sleep-inducing attributes associated with hop pillows. Tyler points out, however, that it would take all of the

## As with many medicinal plants native to America, modern use of passionflower is more widely accepted in Europe.

methylbutenol contained in about six ounces of hops to produce a single effective dose. This makes it difficult to judge how much of the volatile compound is effectively delivered through an entire night of inhaling the subtle fumes emitted from a hop pillow.

## PASSIONFLOWER

Passionflower (*Passiflora incarnata*) has been recognized for use as an antispasmodic and sleep aid for more than a century. As with many medicinal plants native to America, modern use of passionflower is more widely accepted and appreciated in Europe. The whole plant, fresh or dried, as well as preparations made from the plant are accepted for medicinal use in Germany, France, and other European countries for treating nervous anxiety. Although not yet officially approved, it has been proposed in Europe for treatment of nervous tension, especially in cases of sleep disturbances, at a recommended dose of about two and a half grams in tea.

Pharmacological studies in a number of laboratory models have shown that passionflower preparations have a measurable central nervous system depressant effect. Several studies have confirmed that constituents of passionflower have sedative, antispasmodic, and anxiety-reducing activity, but scientists have not been able to attribute any of these effects to a single active component. It appears that a number of components work synergistically. The late German physician Rudolf Fritz Weiss suggested that passionflower is mildly sedative and hypnotic, but that it is best used as a supportive ingredient in herbal preparations containing other herbs.

The above three herbs are the most widely used and perhaps best known of herbal sleep aids. They all have a long tradition of safe use, though their effectiveness is not as well documented as it might be by well-designed clinical studies. But if the herbs themselves don't make you nod off at bedtime, try reading the scientific papers about them.

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*Steven Foster has written numerous books and articles on herbs and their medicinal uses. He lives in Fayetteville, Arkansas.*

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# natural connections

## EIGHT-LEGGED HUNTERS

Story and photograph by Stephen R. Johnson

**A**lthough true arachnophobia—despite what Hollywood might like you to believe—is rare, many people harbor an unwarranted aversion to spiders. It would be tempting to blame this on overzealous renditions of the Little Miss Muffett nursery rhyme, but more likely it results from the same bad press that plagues snakes. A few bad apples spoil it for the far more numerous benign members of the arachnids. This is a pity, because these eight-legged critters are enthusiastic predators of garden pests from whiteflies and aphids to Japanese beetles and stinkbugs.

Several recent magazine articles on spiders have overlooked those that actively hunt their food rather than trapping prey in webs. The most common hunting and ambushing spiders found in flower and vegetable gardens belong to three families: wolf spiders (Lycosidae), crab spiders (Thomisidae), and jumping spiders (Salticidae).

### BASHFUL WOLF

Wolf spiders are usually the most abundant spiders in a garden, but they permit us only an occasional glimpse of themselves because they are shy, living on the ground and hunting mainly by night. They are also hard to see because they are colored to merge inconspicuously with their habitat. Many are brown or gray with two or three black-bordered, gray or white stripes running from head to abdomen. Because wolf spiders are so bashful, gardeners are not likely to have much interaction with them.

### CRAFTY CRAB

Crab spiders, also known as flower spiders, are not active hunters. Instead, they find hunting sites such as flowers, where they lurk—somewhat like hunters in a tree stand—to ambush unwary insects or other spiders. Along with pests such as thrips and small beetles, these spiders commonly eat bees and other beneficial insects, but not to the extent of endangering pollinator populations. They are called crab spiders because, like their crustacean namesake, they tend to scuttle about in all directions.

Most spiders do not prey on ants because ants rarely travel alone and will attack en

masse anything that threatens one of their own. A few spiders, however, including a crab spider called *Synema parvula*, have developed specialized techniques for capturing ants. The acrobatic *S. parvula* will position itself on branches or leaves frequented by ants. When an unsuspecting ant approaches, the crab spider attacks and then bungee jumps with its victim over the side of the branch or leaf. Hanging by its silk thread a few inches below the jump-off point, the spider is then at leisure to consume its prey. Other ants that are alerted to the attack will be unlikely to locate the spider or unable to climb down the thread.

In many areas of the United States, flower gardens attract large crab spiders such as *Misumena vatia*. Rather like a chameleon, *M. vatia* can change color to match its surroundings. The color changes—which occur gradually over a period of one to two weeks—aren't always perfect, but *M. vatia* can become virtually invisible on both yellow or white flowers.

### GYMNASTIC JUMPERS

Of the three families, jumping spiders are the most commonly seen because they are active, daytime predators that hunt high in the foliage of plants. My personal favorites, these spiders have the best eyesight of any group of spiders. Jumping spiders have several features that make them easy to identify. For starters, they have relatively short, sturdy legs compared to other types of spiders. Also, the body often has brightly colored markings. Last but not least, they have large, forward-facing eyes. If they see you, these spiders will spin around and look you right in the eye in what appears to be wide-eyed surprise. Jumping spiders are also very catlike in the way they stealthily sneak up on a fly or other insect, then suddenly pounce on it.

I have seen many different jumping spiders in every area of my garden. For example, a tiny, metallic blue spider called *Agassa cerulea* hunts and nests among the flowers of black-eyed Susans and the upper leaves of evening primrose. I also frequently see a very delicate-looking little show-off with the musical name *Tutelina elegans*. Both of these small salticids are common in much of the contiguous United States.

A larger jumping spider also found widely in the United States is the audacious *Phidippus audax*,



Awaiting an insect meal, a crab spider, *Misumena vatia*, lurks on the petals of a coneflower.



which I have seen stalking planthoppers, flies, and young grasshoppers among the upper leaves of garden plants. This spider is black and has one large and two small white or orange spots on the upper surface of its abdomen. This arrangement of spots is unfortunate for *P. audax*, which I have seen confused with the deservedly infamous black widow (*Latrodectus mactans*). It is important to note that the black widow's well-known red hourglass is on the *underside* of its abdomen. Furthermore, the black widow is a web-building spider and won't be found hunting insects on the ground.

Here in central Virginia, I begin to see baby jumping spiders on my garden plants in late June. They actively attack aphids and

## Welcome Mat for Spiders

**T**here are ways to encourage hunting spiders to colonize your garden. The first and most important step is to not use herbicides or pesticides of any kind. Even botanically based pesticides such as neem are as deadly to spiders and other beneficial insects as they are to the pests you are trying to control. If you use nontoxic agents such as insecticidal soaps or horticultural oils, apply them in the middle of the day when spiders are least active.

Another way to induce spiders to inhabit your garden is to use mulch around your plants. This gives spiders places to hide from their own predators and ambush their prey. Planting nectar-bearing plants in or around your garden to attract insects will ensure the spiders' larders stay well stocked.

Chinese farmers once used small piles or tepees of bamboo twigs to encourage spiders to take up residence in their vegetable gardens. Like mulch, the twigs sheltered the spiders from predators and inclement weather. Your own twigs or pruning residue will do just as well as bamboo.

—David J. Ellis, Assistant Editor

*A good reference for more information is How to Know the Spiders by B.J. Kaston, Wm. C. Brown Company, Publishers, Dubuque, Iowa, 1978.*

many varieties of tiny flies and gnats. As they grow they will reach sufficient size to attack larger insects such as planthoppers, larger flies, and many other kinds of garden pests.

While all spiders use venom to subdue prey, the venom of these garden spiders is seldom harmful to people and the jaws of most are too weak to pierce human skin. Although it's important to be able to identify and avoid the poisonous brown recluse (*Loxosceles reclusa*) and the aforementioned black widow, both of these web-building spiders are usually found in dry, sheltered areas such as old buildings and woodpiles.

Furthermore, most garden spiders choose to run rather than bite. Although I don't recommend you try this, I have handled countless salticids, thomisids, and many others and have never been bitten. Most jumping spiders bound for the edge of my hand and bungee overboard. Some just sit in my hand and look up at me.

Even if spiders give you the creeps, consider the benefits they bring to your garden and try to coexist with them. Perhaps an hour or two spent observing their antics will change your mind about these engaging and acrobatic arachnids.

*Dr. Stephen R. Johnson is a plant ecologist who lives in Richmond, Virginia.*



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# urban gardener

## A FARM-FRESH ENTERPRISE

by Jane Bernstein

**W**ith a scant half-acre of land, Samorina Greens Company is the smallest certified organic farm in Washington State. Acreage notwithstanding, its combined parcels of two backyards in Capitol Hill and one in West Seattle yield an exceptionally vast harvest, providing gourmet salad mixes to some of Seattle's finest restaurants.

Samorina Greens is one of the fruits of a friendship that began a decade ago, when Cheri Singer—then a graduate student—moved to Seattle and met Anne Jacobs on a garden crew. After devoting 14 years to their respective professions, both women independently arrived at a crossroads in life last year.

Jacobs no longer found her work as a professional landscaper spiritually rewarding. Singer sought a change from her vocational work with chronically mentally ill adults. "I was about to have another child," she says, "and I wanted to do something that spoke more for where I want to go with my life."

Jacobs goes on: "We got together, talked a lot about what we wanted to do and how we wanted to be more involved in our community, instead of simply working for monetary returns. Both of us really enjoyed gardening and wanted to work with people in an educational capacity." Singer adds a more practical note: "Our primary concern was having a business that would be financially sound on its own in addition to providing a social service."

"We did some market research," continues Jacobs, "to determine what crop would be easiest for us to grow and decided on salad greens, because the turnover is rapid and it doesn't require a great amount of land. We also interviewed chefs at some of the top restaurants in town and asked what greens they were interested in but couldn't find. So we targeted our product to a rather picky clientele, and as a result we grow some unusual greens." They named the fledgling enterprise after Singer's two children, Sam and Sabina, and Jacobs' whippet puppy, Maurice.

Meanwhile in West Seattle a nonprofit community mental health center, Transitional Resources, had begun to explore

horticultural opportunities for its clients. The American Horticultural Therapy Association (AHTA) put Transitional Resources director David Johnson in touch with Singer, an AHTA member, and the city hired her and Jacobs as consultants. Soon Transitional Resources' ordinary urban backyard was converted into a small farm and Samorina Greens experienced a growth spurt. "We are building a self-supporting, community-based enterprise that links horticultural therapy, small-scale farming, and business skills development," says Singer.

This season Samorina Greens is providing eight full-time clients—upscale restaurants and a caterer—with gourmet greens including heirloom lettuces, romaine, arugula, and mustard, plus herbs such as chervil, fennel, garlic chives, and thyme. "We try to get a nice palette of color and texture to work with," says Jacobs. "It changes through the season: The flavors are more hardy and robust in winter; they get more delicate in the spring and summer."

Depending on availability, says Singer, chefs can order their own personal combination. "They call us early in the week and tell us they need, say, 10 pounds of their salad mix on Friday. We don't have storage facilities, so we pick and deliver on the same day."

The chefs buying from Samorina Greens have been enthusiastic about supporting a community project, and thrilled with the super-fresh organic greens. "Growing organic also was important to us for our own health," Singer says. "We're working in our own yards, and we have children and animals around us. We do very

simple hand-weeding, and our pest management consists entirely of hand-picking insects. We don't use chemicals of any kind, not even the 'allowed' ones."

In their own backyards, Singer and Jacobs do most—but not all—of the work. "There has been a lot of love and support for this project. People have just gravitated to it. We've had volunteer labor, our partners have been helpful, the kids have been there. That's part of the beauty of having Samorina Greens in our backyards."

At the Transitional Resources "TRY" house, residents are also at work in their own backyard. Singer and Jacobs led a four-week training program to teach interested clients and staff the gourmet greens business. Last October, Transitional Resources



Cheri Singer (left) and Anne Jacobs' organic farm also provides a community service.



and Samorina Greens celebrated their partnership at the dedication of a 500-square-foot, state-of-the-art greenhouse for Transitional Resources. A grant from the Douglas J. Schwartz Living Foundation, made through AHTA, provided half of the cost. By late winter the greenhouse was full of "starts," the first round of many trays of seedlings that Transitional Resources clients, Singer, and Jacobs transplanted into raised beds outside the sliding glass door. The sun-filled, wheelchair-accessible greenhouse is enabling the partners to plant and harvest much more this season than they

**"There has been a lot of love and support for this project. People have just gravitated to it."**

did in their first year of operation. "The turnaround time of sowing directly into the ground was longer than we anticipated," Jacobs says. By sowing the seeds indoors in January and transplanting, they were able to start selling in April this year, rather than in July as they did in 1996. "We cut from the plants once or twice, and then simply pull them up and bring out new starts. It's a much more intensive use of the soil than last year, so we have to work on making sure that the vitality is there."

Rather than tilling or double digging, Transitional Resources is building up its beds with compost. Up and out, in fact. They've rented the property next door and, with two truckloads of compost, converted that backyard into additional farming space.

"From the start, David Johnson has been willing to try some-

thing new and innovative for Transitional Resources' clients," Jacobs says. "There aren't many executive directors who would volunteer to have a greenhouse built in their backyard. We took out their entire yard and created a farm here. That took a great deal of courage—and trust in our project."

All the residents of the "TRY" house, whether or not they work in the garden, are enjoying the new Eden in their West Seattle yard. "In addition to the greens, last year there was a little picking garden where we grew all kinds of vegetables," Jacobs says. "It was very popular and full of things you just have to go outside and eat, like cherry tomatoes. We're also hoping to have lots of events in the garden, so that anyone who lives here can come out and enjoy it."

"Our mission here is to help Transitional Resources develop its own business," Singer says. "Once they're up and running, we'll just wholesale their product. It's something we'd like to do to support other projects as well. That's why we've been really careful with each step. We've kept the project small and manageable so that it would be easy to replicate."

This seems likely to happen, since the city has agreed to support them through next year and other area social agencies have inquired about setting up similar programs—a promising beginning for a half-acre enterprise.

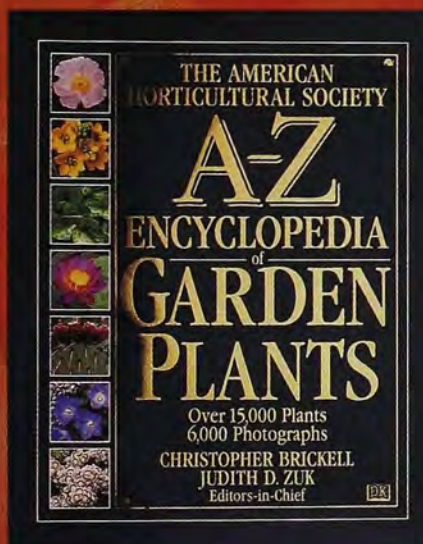
*Jane Bernstein is a free-lancer who writes regularly about organic farming and gardening.*

**For information about developing a similar program in your area, contact Samorina Greens Co. at 1202 East Pike Street, Suite 887, Seattle, WA 98122, (206) 323-5711, or fax (206) 328-6228.**

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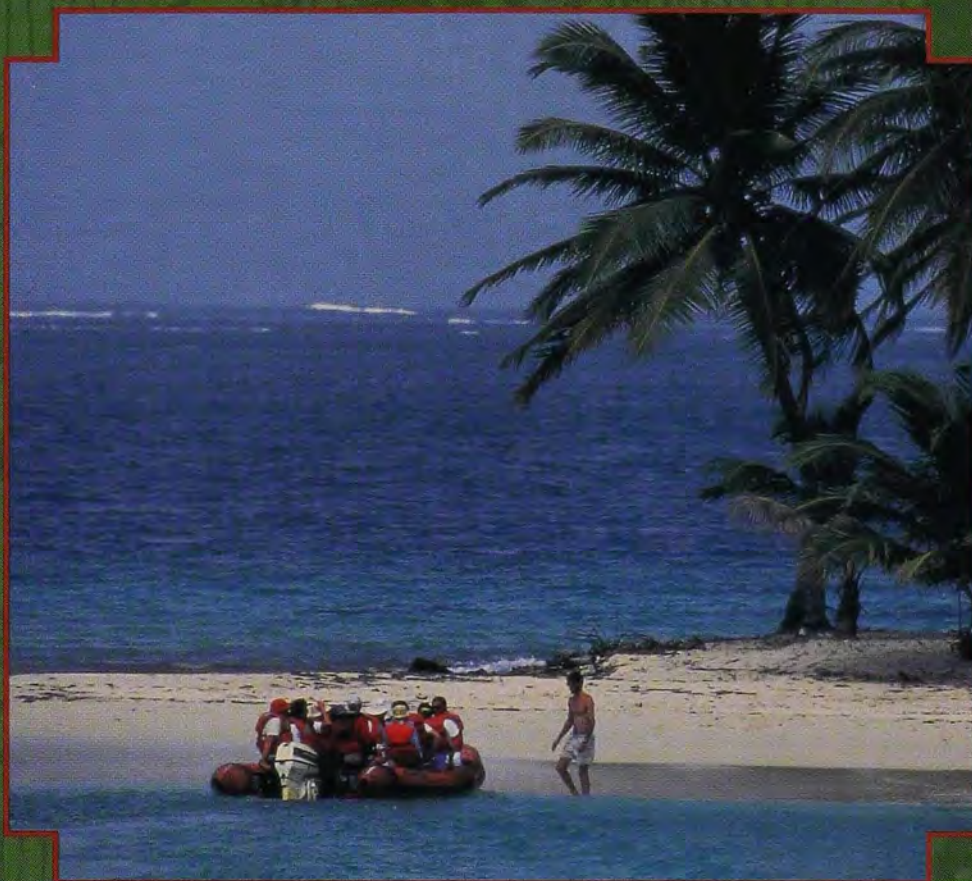
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February 5-15, 1998

# Costa Rica



THIS EXPEDITION TO THE TROPICAL PARADISE OF COSTA RICA will begin and end in San José, at the Hotel Camino Real. Between these stays, we'll enjoy a seven-night voyage on the elegant sail ship *Wind Song* to Isla de Coiba, Panama, and to the national parks of Corcovado, Isla del Caño, Manuel Antonio, Palo Verde, and Curu on Costa Rica's Pacific coast. *Wind Song* has expansive sails, broad teak decks for sunning and alfresco dining, and 74 cabins with every conceivable comfort. During our stay in San José, we will make an excursion to Cartago to visit Linda Vista, a flower-seed farm started by AHS member—and 1994 Liberty Hyde Bailey Award winner—Claude Hope. Guest horticulturist for this trip will be former AHS Board member Roy Thomas.

## Also Planned For 1998

- |                                       |                                                          |
|---------------------------------------|----------------------------------------------------------|
| ■ MARCH: GARDENS OF SPAIN AND MOROCCO | ■ JULY: GARDENS OF THE COLORADO ROCKIES AND GRAND TETONS |
| ■ APRIL: GARDENS OF HOLLAND           | ■ AUGUST: ALASKA                                         |
| ■ MAY: GARDENS OF IRELAND             | ■ SEPTEMBER: GARDENS OF THE MEDITERRANEAN                |
| ■ MAY: GARDENS OF CHEAPEAKE BAY       |                                                          |
| ■ JUNE: GARDENS OF ST. PETERSBURG     |                                                          |

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CST#2019027-50



# Remodeling the Mum

**New shapes and sizes—hardier and less demanding—are on their way from Minnesota.**



by Margaret A. Haapoja

**Imagine chrysanthemums as tall as hydrangeas and hardy as peonies.** Imagine mums that come back reliably and never need pinching. That's the direction the University of Minnesota chrysanthemum breeding program is heading with the introduction last year of its first Maxi-Mum, 'Betty Lou'. Massive, shrublike, and smothered with blossoms, it will definitely add a new dimension to the fall landscape.

'Betty Lou' originated from a natural cross found in a rock garden. In 1989 Peter Ascher, head of the breeding program, discovered seedlings growing around a mum he'd given Betty Lou Patsche, a St. Paul gardener who works as a teaching assistant at the university. "A flag went up when I saw them," Ascher says. "I looked around and found a different mum nearby. Our mum crossed naturally with another garden mum." Since garden chrysanthemums rarely self-pollinate and almost never produce seedlings, Ascher knew he was on to something.

Developing a mum that will readily reproduce from seed has

been a longtime goal of the university's plant breeders because it would create greater flexibility in developing new cultivars. "Growers have to maintain stock plants now," explains research associate Neil Anderson. "This would reduce their costs, and the plants would be more likely to be virus-free."

Still, "we never anticipated the size of these plants," says Ascher of 'Betty Lou', which is three feet tall and three feet wide by its second or third year. Striking red button blooms two inches in diameter—some five or six thousand of them—cover the plant from early August until frost. Not only is it mammoth, but it's the Minnesota mum program's most cold-hardy release in its 60-plus-year history. Winter survival has been rated at 90 to 95 percent even without crown protection.

Chrysanthemum research at the University of Minnesota began under L.E. Longley in the 1930s. Ascher speculates that the school

**Neil Anderson, at left above, and Peter Ascher evaluate mums in the field.**





'Betty Lou'



'Inca'

got into mum breeding to disprove a regional twist on Horace Greeley's advice to "go west, young man," which adds, "but don't go to Minnesota because you can't grow apples there." This bad rap has spurred state horticulturists to prove that Minnesotans can grow all kinds of plants successfully. Under the direction of Longley, then Ronald A. Phillips, Richard E. Widmer, and now Ascher, the program has introduced 76 garden mums and seven greenhouse cultivars. Today the Minnesota program is the only public mum breeding project in the country.

The ancestor of our garden chrysanthemums is thought to be *Chrysanthemum indicum*, a Japanese native that looks like a yellow daisy. At one point, there may have been many as 200 species classified within the genus *Chrysanthemum*, but in 1991—in a taxonomic revolution to which there are still diehard dissenters—the roughly 50 species in cultivation were all renamed. The original mum, for instance, is now *Den-dranthema indicum*. Now only three Mediterranean species bear the former genus name, from the Greek words *chrysos* for "gold" and *anthos* for "flowers."

Working with a very broad gene pool, University of Minnesota scientists each year grow hundreds of mum seedlings in the field, attempting to mimic garden conditions as best they can. "Cultivated mums are the product of interspecific hybridization among 10 to 15 species or more," says Anderson, "so there's incredible genetic variability there." Early in June, Ascher and Anderson set out new seedlings of hybridizations made during the winter, along with cuttings of all past Minnesota releases, clones of previously selected mums that

performed well, and a modest array of cultivars from other breeding sources. Field trials of all these mums are conducted not only at the St. Paul home site but also at six or seven other University of Minnesota experimental stations, from Morris in the west central part of the state to Grand Rapids just 100 miles south of the Canadian border. At all sites scientists evaluate mum cultivars for flower bloom size, color, growth, habit, and frost resistance. Even though they'll grow up all over the world, they need to be cold hardy enough for their Minnesota nursery beds.

The university licenses propagators to produce and market their mums. One of them is Dooley Gardens in Hutchinson, Minnesota. Owner Vince Dooley says his retail sales of mums doubled in the past year. "Most of my sales come out of New York, Pennsylvania, Ohio, North and South Carolina, Indiana, and Illinois." According to the American Nursery and Landscape Association, the sale of garden and florist chrysanthemums totals about \$160 million annually.

Ascher sees garden mums increasing in popularity both in the United States and in Europe. "European breeders mainly are going after cut flowers that you buy on the street corner to take home every day," he says. "Most of the garden mums for landscape use in Europe come from America, so it's kind of a division of labor. Nobody's doing exactly the same thing."

Ascher thinks mums appeal to gardeners because of their variety—"They give you a color range that fills out what the native fall flowers are lacking"—and tradition—"There's really nothing that gives you that fall feeling quite the way mums

will." In fact, the Minnesota program gears its commercial production schedule to the last week of August, he says, "because people have to be thinking fall to go to Kmart and buy garden mums."

Nevertheless, the researchers are doing their best to change tradition, working toward mums that will start blooming on the Fourth of July and still last until frost. "There aren't a lot of perennials that give you that long a season," Anderson notes.

In 1993 they introduced 'Rose Blush', a spreading variety with a profusion of mauve flowers that begins to bloom as early as July 29. In 1997 they released two early mums: 'Inca', a cushion plant with two-inch bronze button flowers, and 'Snowscape', which forms mounds flowing nearly to the ground, covered with purple-tipped dahlia-like white flowers. 'Inca' begins blooming in early August, and 'Snowscape' comes into bloom in late July and continues to produce a full canopy of blossoms until a freeze.

'Snowscape' is an example of what is called a "day-neutral" chrysanthemum. The real stumbling block to producing early-blooming mums is not their temperature requirements, but their daylength requirements. "Typically mums are what we call short-day plants—they flower in the fall when the days are short and the nights are long," explains Anderson. "We have successfully selected for ones that will initiate and develop flower buds under either long days during the summer or in the fall—August and September."

### Mums of the Field

Beginning the first of August, Ascher and Anderson tour the fields every couple





'Snowscape'



'Rose Blush'

days to record first-bloom dates. "Usually we try to have our selections for potential release pretty much in hand by the second week of September," says Ascher, "with the idea that anything we select much later than that will lose the Minnesota edge." After selections are marked, they dig the plants in late October to early November. Most of them go into cold frames for the winter, but some representative plants remain in the field to be checked for winter hardiness.

Parallel plants of all breeding stock are kept in the greenhouse, and at the same time they are digging field plants, the researchers begin to use these blooming plants to make crosses. "That's when we do the pollen dabbing back and forth. We would like to do a second batch of crossings in February or March," Ascher explains, "but if we let the seeds ripen full term, the seedlings will be too late to compare with others in the fall."

To solve that problem, Anderson developed a shortcut to seed ripening as part of his thesis work in 1987. In 1951 a North Platt, Nebraska, researcher, Glenn Viehmeyer, found that he could shorten the ripening cycle of chrysanthemums by culturing their flowers in flasks of nutrient solution and ripening the seeds off the plants. Anderson took this technique one step further with what is called embryo rescue. "Once the embryo has developed to a certain stage within the flower," he explains, "we go in and surgically remove it and grow it under aseptic conditions in tissue culture. Usually the seed will germinate immediately but then fail to go through the rest of the seed development cycle. By combining the embryo rescue

along with ripening the seeds off the plant we came up with 'rapid cycling generation technique.'" Ordinarily it might take a year to a year and a half to go from seed to seed. Minnesota breeders can get mums from seed to seed in two or three months and produce three or four generations a year. While these techniques are not new, they had never been used with chrysanthemums before.

If "fall" is synonymous with garden mums, so is the pinching required to make them bloom heavily. But Anderson says

Another Minnesota mum innovation is the cushion-type plant, which has a hemispherical dwarf habit with double flowers extending down to the ground in a wide range of colors. Typical are those in the "Minn" series, such as 'Minnqueen', 'Minnwhite', 'Minnpink', and 'Minnehaha'.

Mum breeders in the Minnesota program have worked for 20 years to develop seed-propagated mums. Anderson knows there's a demand among commercial growers, but thinks seed-grown mums may appeal to some consumers as well.

**"Some of our newer cultivars 'pinch themselves,' and we never pinch anything that goes into our fields."**

Minnesota's three newest mums—'Betty Lou', 'Inca', and 'Snowscape'—are selected not to need that. "We don't recommend or institute pinching any more," he says. "Some of our newer cultivars 'pinch themselves,' and we never pinch anything that goes into our fields."

#### **Lower Growers**

Ascher and Anderson's newest project is what they call patio mums. Bred to stay short, these mums don't require pinching either, and commercial growers don't need to use retardants on them. None of the plants in this series has been released yet, but Ascher suggests that in the meantime, the low-mounding 'Snowscape' should work well as a patio mum.

"We've sent some to AAS [All-America Selections] trials," says Anderson, "so we're getting close."

Gardeners who have written off mums as too predictable or too troublesome may find themselves tempted to try a Maxi-Mum as a hedge, a specimen, or even for erosion control. Apartment dwellers may purchase patio mums for fall accents, and ambitious gardeners may experiment with starting them from seed. With so many new things happening to chrysanthemums, it seems almost appropriate that they no longer bear the same old scientific name.

*Margaret A. Haapoja is a free-lance writer who lives in Bovey, Minnesota.*



# *Announcing* THE AHS PLANT HEAT-ZONE MAP

b y H . M a r c C a t h e y

**For most gardeners, the USDA Plant Hardiness Zone Map** is such an indispensable tool that it's hard to imagine how anyone selected plants before it was first published in 1960. The American Horticultural Society sponsored its creation, under the leadership of Henry Skinner, then director of the U.S. National Arboretum. But because the Society lacked the funds to print and distribute it, the responsibility for carrying out those functions was transferred to the U.S. Department of Agriculture. Between 1983 and 1990, while serving as the fourth director of the U.S. National Arboretum, I coordinated the updating of the map with data collected from 8,000 weather stations between 1974 and 1986.

That updated map indicates 11 zones showing average annual minimum temperatures. There is a 10-degree difference in the average for each zone. Today most of the tens of thousands of plants available in the nursery trade have been coded to cold hardiness according to the





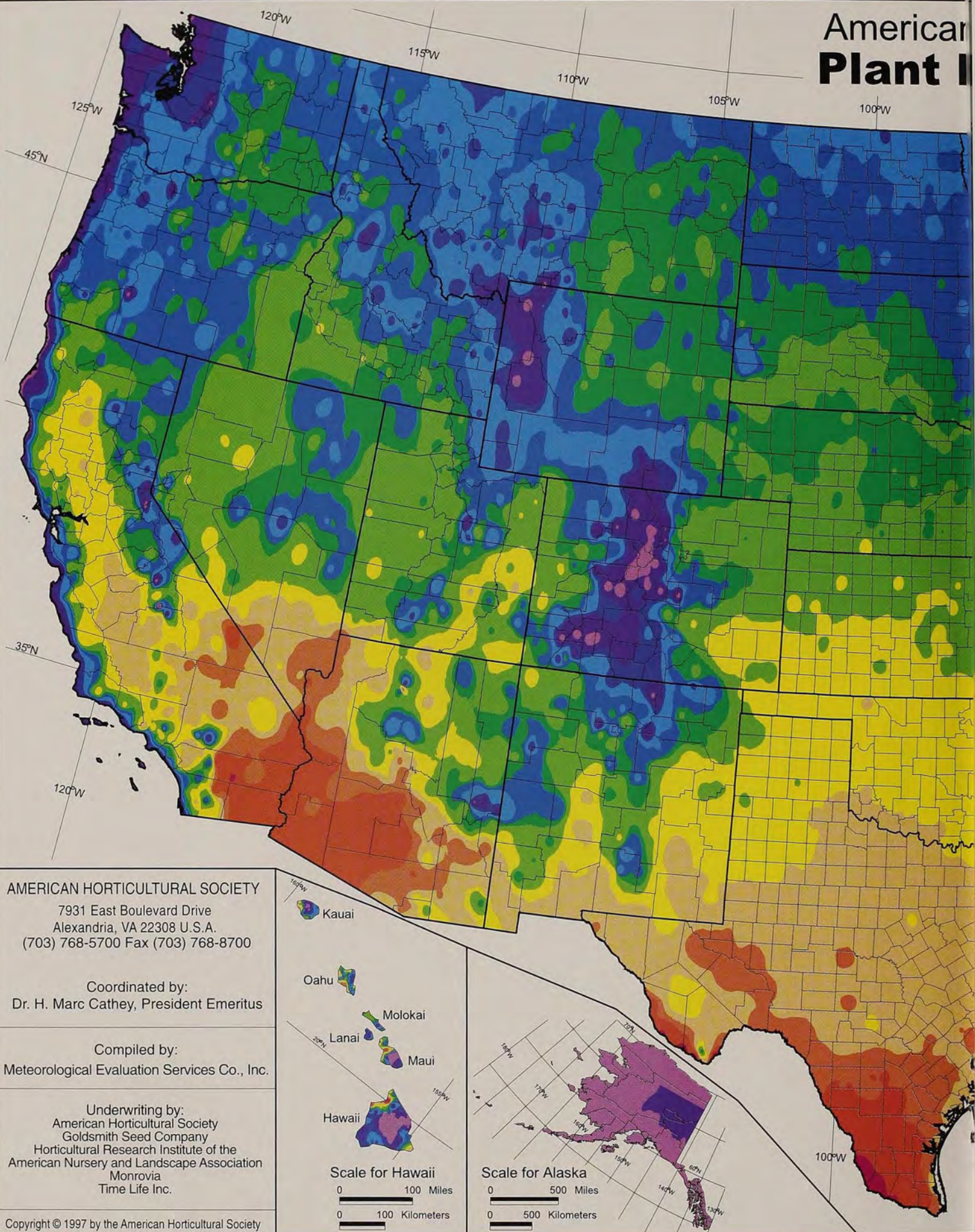
Heat takes longer to kill plants than does severe cold but most gardeners recognize its effects, such as the wilting of these squash plants (top) and the sunscald on these apples and rhododendrons (middle and right). Gardeners can reduce heat damage by choosing plants appropriate to their zones and siting them carefully: The apples were espaliered to a south-facing wall and the rhododendron was exposed to afternoon sun.



DAVID CAVAGNARO, RIGHT, TOP: DAVID CAVAGNARO, CENTER AND BOTTOM: MICHAEL S. THOMPSON

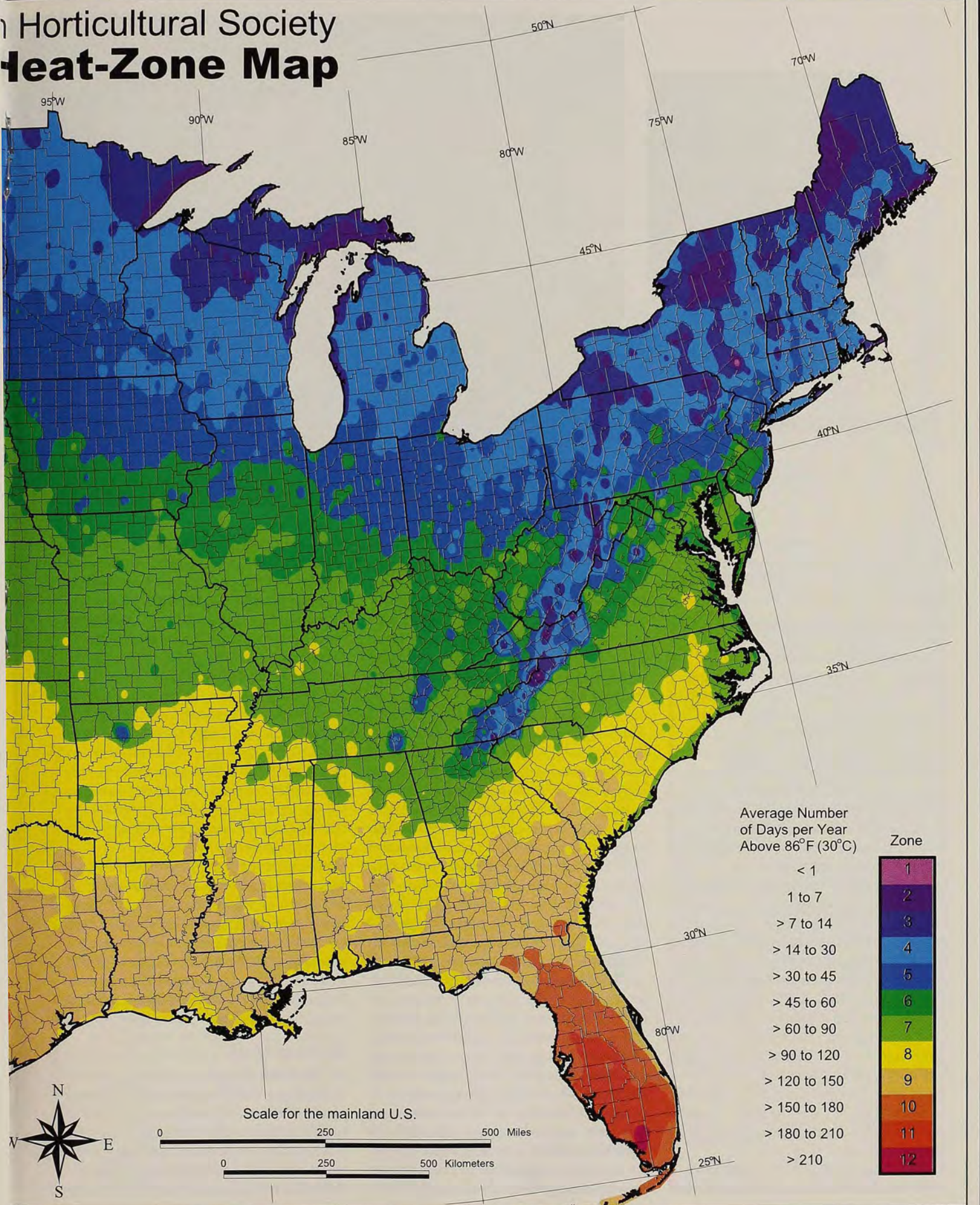


# American Plant I





# Horticultural Society Heat-Zone Map







Among the plants that don't like hot summers are peached-leaved bellflower (above), English wallflower (right), and delphinium (far right).



zones of the USDA map. A good nursery catalog will tell you, for instance, that *Corydalis* 'Blue Panda' is hardy from USDA Zones 5 to 7, and calla lily will grow in Zones 8 to 11. Therefore if you live in Knoxville, Tennessee, which is in Zone 6, you know that the second plant will not survive an average winter in your garden. All of this coding did not happen overnight, of course, and adjustments are still being made all the time.

But as we all know, cold is not the only factor that affects the survival and performance of crops and landscape plants. Now AHS is giving the gardeners of the United States a new tool for assessing the potential performance of plants in regard to another major criterion—the average number of hot summer days in their region. "Hot" is defined here as a day when the high temperature is 86 degrees Fahrenheit (30 degrees Celsius) or higher. That is the point at which plants begin to suffer physiological damage from heat.

Gardeners can do many things to help ensure optimum performance of their plants: supply water and shade, add organic matter and nutrients, use moisture-retaining gels and mulches, and protect them from or treat them for pests and diseases. But they can do little or nothing about the temperature of the growing environment.

Although all plants can adapt to a range of environments, plants grow best

within an optimum range of temperatures. The range is wide for some, narrow for others. For example, one of the main reasons the daylily has become one of our most popular perennials is its wide range of cold tolerance: It will flourish from Zone 3, where the average low temperature is 40 to 50 below, to Zone 11, where the average low is 40 above. Among trees, the red maple (*Acer rubrum*) tolerates a wide range of cold temperatures, from Zones 3 to 10. The redwood (*Sequoia sempervirens*), on the other hand, will grow well only in Zone 7, and only in the most favorable sites, such as the northern California coast, will it grow to the majestic heights that most of us associate with that species. Many endangered plant species are rare because they have strict environmental requirements that don't allow them to grow outside a narrow geographic range. For this reason, most such plants are not grown commercially.

Gardeners group plants using such tags as "annual" or "perennial," "temperate" or "tropical," but these tags can obscure rather than illuminate our understanding of exactly how plants sense and use the growth-regulating stimuli sent by their environment. Plants vary in their ability to withstand heat and cold, not only from species to species, but even among individual plants of the same species! Breeders have taken advantage of this variation to develop or select plants that tolerate

more cold or heat. Breeders at the U.S. National Arboretum developed crape myrtles and camellias that were more cold hardy than most, and Harold Pellett at the Landscape Plant Development Center at the University of Minnesota has developed a cold-tolerant line of azaleas that he calls "Northern Lights."

Fewer plants have been developed for heat tolerance. The 'Whitespire' birch, a Manchurian white birch (*Betula platyphylloides*) selected by former USDA plant explorer John Creech, will grow farther south than other forms of white birches, and among Japanese maples (*Acer palmatum*), 'Bloodgood' is less likely to suffer heat scorch in summer.

There are many more examples of plants that cannot tolerate hot summers. The white spruce (*Picea glauca*) won't grow south of Zone 6 because of summer heat (as well as susceptibility to spider mites), and the lily-of-the-valley bush (*Pieris japonica*) must be grown in shade south of Zone 7. Most rhododendrons also need protection from hot summer sun.

### Cold and Heat

In all plants, the physiological response to extreme cold is the same. When a plant's lower limit of temperature is reached, ice forms in its cells, tearing them apart so that they cannot be reconstituted into a living system. The result of selecting a plant not appropriate





to your USDA Plant Hardiness Zone is its death.

Damage due to heat, on the other hand, can first appear in many different parts of the plant: The flower buds may wither, leaves may droop or become more attractive to insects (as in the case of the white spruce), chlorophyll may disappear, or roots may cease growing. Death is not quick as with extreme cold, but slow and lingering. The plant may survive in a stunted or chlorotic state for several years. When dessication reaches a high enough level, the enzymes that control growth are deactivated and the plant dies.

In using the USDA Plant Hardiness Zone Map, many people assume that only one number is important—the lowest number, indicating the northernmost zone in which a plant will prove winter hardy in most years. But it is important in describing a plant to include the range of zones, because most perennial plants also have a “least cold” requirement. They require chilling in order to go through a needed period of rest, or dormancy.

Most peaches and apples need a cold period in order to flower and fruit. Americans who move to frost-free climates such as Florida and Southern California are disappointed to learn that they can’t grow old favorites such as daffodils, tulips, and lilacs. Most purple and white forms of the latter (*Syringa vulgaris*) will not bloom without four to five months of temperatures below

38 degrees (although Monrovia wholesale nursery in Azusa, California, has developed some lilac cultivars—‘Angel White’ and ‘Lavender Lady’—that will bloom without winter chilling). For the most part, our garden perennials need shifts in both temperature and daylength over a 12-month period to perform their best.

## The Heat Map

In learning how to use the coding for the new AHS Plant Heat-Zone Map, gardeners will want to look first at the highest number, indicating the southernmost zone in which a plant will be able to stay healthy through the summer with reasonable care. For example, eastern hemlock (*Tsuga canadensis*) will tolerate no more than 90 days of 86-plus temperatures and therefore will not do well south of AHS Zone 7. The Chinese pistachio (*Pistacia chinensis*), on the other hand, will perform well with 210 days of such hot weather, so that it is a good choice even for gardeners in AHS Zone 12.

Just as with the Hardiness Map, though, gardeners will want to pay attention to the range of temperatures; many plants have a minimum heat requirement in order to perform. An example familiar to all of us are tomato cultivars that won’t set fruit in our northern regions. Our eastern dogwood (*Cornus florida*) does not flower well in England; it requires our hot summers in order to set buds.

Many of the plants that we consider

## A Few Examples

### CITIES AND THEIR ZONES

	Cold	Heat
Alexandria, Virginia	7	7
Atlanta, Georgia	7/8	7
Boston, Massachusetts	6	4
Chicago, Illinois	5	5
Denver, Colorado	4/5	7
Houston, Texas	9	9
Miami, Florida (airport)	10	10
Miami, Florida (beach)	10	8
New York City	6	5
San Diego, California	11	3
San Francisco, California	10	3

### PLANTS AND THEIR CODES

Ageratum	10-11	12-1
Crabapple	5-8	8-1
Eastern hemlock	4-8	9-1
Heliconia	11	12-9
Monarda	4-8	8-2
Norfolk Island pine	11	12-9
Pampas grass	7-11	12-7
Red maple	3-10	12-1
Viburnum ‘Erie’	5-8	8-3

## AHS Heat Map Order Form

Durable full-color posters of the AHS Heat Map are available for \$14.95 each. To order, please fill out this form and mail with payment to AHS Heat Map, 7931 East Boulevard Drive, Alexandria, VA 22308-1300. Or call (800) 777-7931 ext. 45.

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annuals—such as the petunia, coleus, snapdragon, and vinca (*Catharanthus roseus*)—can live for years in a frost-free environment. Others, such as marigold and nigella, will form seeds and die at the end of a season no matter where they are growing. The Heat Map will differ from the Hardiness Map in assigning codes to “annuals,” including vegetables and herbs and ultimately field crops as well.

### ***How the Map was Created***

Our new map was created to address changing interests, new plants, and our growing awareness of responsibilities in a time of global climatic changes.

Today we expect our plants to thrive in more demanding sites and through longer seasons than previous generations of gardeners would have attempted. We want a wider range of plants to make our environments more livable, to add value to our property, and to add interest to our lives in all seasons. We are becoming more sophisticated, ambitious gardeners.

Our horticultural industries have worked with plant explorers and breeders to introduce new strains and cultivars of plants from around the world that are adapted to a wider range of winter and summer temperatures than the older forms.

We also have a growing interest in regionally native plants that thrive in highly variable summer and winter conditions. Until the last few years, many of these plants have not been available in the nursery trade. To encourage nurseries to sell them and gardeners to buy them, we need to be able to offer as much information as possible about where they will flourish.

The data used to create the map were obtained from the archives of the National Climatic Data Center. From these archives, Mark Kramer and his staff at Meteorological Evaluation Services Co. Inc., (MES) in Amityville, New York—they were also involved in the creation of the Hardiness Map—compiled and analyzed National Weather Service (NWS) daily high temperatures recorded between 1974 and 1995. Within the contiguous 48 states, only NWS stations that recorded maximum daily temperatures for at least 12 years were included. (Due to the amount of missing data in Alaska and Hawaii, the 12-year requirement was reduced to seven years at several stations.)

Because they were too difficult to map, data from weather stations at or near mountain peaks in sparsely populated areas

were not incorporated. A total of 7,831 weather stations were processed; 4,745 were used in plotting the map.

As was done with the Hardiness Map, the country was divided into zones. These 12 plant heat zones indicate the average number of days in the year that daily high temperatures reached or exceeded 86 degrees. In addition, we made note of the absolute maximum temperatures recorded each year. The latter information will be available in a data book that is more detailed than the map. Gardeners who live in mountainous areas or otherwise complex terrain, near coastlines, or near zone boundaries may want to consult the data book. Details about its availability will be announced in coming months.

The colors used in the map were selected to represent the entire spectrum of light, from ultraviolet (the area of the fewest heat days) to infrared (the most heat days).

### ***How Coding Will Proceed***

I have already begun coding plants for the new heat zones. An AHS Resource Bulletin describing our “75 Great Plants for American Gardens” (available through our Gardeners’ Information Service for \$2.50) lists heat-zone codes for all of those plants. Working with Monrovia—an underwriter of this map—I have coded 1,200 plants for their next catalog. In cooperation with Time Life Inc., I am writing a book titled *Successful Summer Gardening*, to be published in January 1998, which will include hardiness and heat zone ratings for 500 plants. Plant codes will include four numbers. For example, a petunia might be coded 9–11, 12–4, indicating that USDA Zone 9 is the coldest region where it will survive under normal conditions and 11 the least cold (in the United States); AHS Heat Zone 12 is the most heat it will tolerate, and Zone 4 is the least. This petunia will survive only mild winters, but will grow all summer in most of the country.

A magnolia might be 7–11, 12–6. It will survive temperatures down to zero, but requires a warm summer. A Chinese juniper is likely to have a wider range for both cold and heat, such as 5–9, 12–3.

### ***Proper Watering Is Crucial***

The concept of a Heat Map is more challenging than that of a Hardiness Map because so many factors can interact with heat to cause additional stress to a plant. Most important, the heat zone ratings assume that adequate water is supplied to



the roots of the plant at all times.

Although some plants are naturally more drought tolerant than others, horticulture by definition means growing plants in a protected, artificial environment where stresses are different than in nature. No plant can survive becoming completely desiccated. Heat damage is always linked to an insufficient amount of water being available to the plant. Herbaceous plants are 80 to 90 percent water, and woody plants are about 50 percent water. Plant tissues must contain enough water to keep their cells turgid and to sustain the plant's processes of chemical and energy transport. For example, in times of drought stress a plant's stomata will fail to open, so that carbon dioxide cannot enter the leaf and photosynthesis cannot take place.

Therefore the accuracy of the zone coding can be substantially distorted by a lack of water, even for a brief period in the life of the plant.

Watering directly at the roots of a plant—through drip irrigation for instance—conserves water that would be lost to evaporation or runoff during overhead watering. In addition, plants use water more efficiently when it is applied to their roots rather than their leaves. Mulching will also help conserve water.

### ***Other Factors***

There are a number of other factors that can cause stress to plants and skew the heat





Heat tolerance is not often a factor in plant breeding and selection. The 'Frisia' black locust (far left) and the 'Thundercloud' plum (left) are two cultivars better able to stand heat than their respective species.

zone rating. Some of them are more controllable than others.

**Oxygen.** Plant cells require oxygen for respiration. Either too much or too little water can cut off the oxygen supply to the roots. This will lead to a toxic situation, blocking the uptake of water and essential elements. You can control the amount of oxygen your plant roots receive by making sure your plants have good aeration—adequate space between soil particles.

**Light.** Light affects plants in two ways. First, it is essential for photosynthesis—providing the energy to split water molecules, take up and fix carbon dioxide, and synthesize the building blocks for growth and development. Second, light creates heat. Light from the entire spectrum can enter a living body, but only rays with shorter wavelengths can exit. The energy absorbed affects the temperature of the plant. Cloud cover, moisture in the air, and the ozone layer—factors we gardeners can't control—affect light and temperature. However, you can adjust light by choosing to situate your plant in dappled shade, for instance, if you are in the southernmost recommended heat zone.

**Daylength.** Daylength is a critical factor in regulating vegetative growth, flower initiation and development, and the induction of dormancy. The long days of summer add substantially to the potential for heat to have a profound effect on plant survival.

In herbaceous perennials and many

woody species, there is a strong interaction between temperature and daylength. This is not a controllable factor in most home gardening situations.

**Air movement.** While a gentle spring breeze can "cool" a plant through transpiration as it does us, fast-moving air on a hot day can have a negative effect, rapidly dehydrating it. Air movement in a garden is affected by natural features such as proximity to bodies of water and the presence of surrounding vegetation, as well as structures such as buildings and roads. You can reduce air circulation by erecting fences and planting hedges.

**Surrounding structures.** If the environment is wooded, transpiration from trees and shrubs will cool the air. On the other hand, structures of brick, stone, glass, concrete, plastic, or wood will emit heat and raise the air temperature. Gardeners wanting plants to produce early or survive in cold zones will often plant them on the south side of a brick wall. Obviously, this would not be a good place for a plant at the southern limit of its heat zone!

**Soil pH.** The ability of plant roots to take up water and nutrients depends on the relative alkalinity or acidity of the soil. Most plants prefer a soil close to neutral (pH 7), but there are many exceptions, such as members of the heath family, which prefer acidic soil. The successful cultivation of any plant requires that it be grown in a medium within a specific pH range. While it is

possible to manipulate the pH of soil with amendments, it is easier to choose plants appropriate to your soil type.

**Nutrients.** Plants vary greatly in the ratio and form of elements they need for consistent, healthy growth. When these are present in appropriate quantities, they are recycled over and over again as the residue of woody material and dropped leaves accumulates and decays, creating sustainable landscapes.

### *A Long Road Ahead*

Because so many other factors complicate a plant's reaction to heat, we expect that—even more than with the USDA Plant Hardiness Zones—gardeners will find that many plants will survive outside their designated AHS Plant Heat Zone. Unusual seasons—fewer or more hot days than normal—will invariably affect results.

We do not expect the coding for the AHS Plant Heat-Zone Map to be perfect in the beginning. After all, nearly 40 years later we are still perfecting the Hardiness Map ratings. But more and more over time, as we fine tune the coding, knowing just two numbers—your cold-hardiness zone and your heat-tolerance zone—will be your best assurance that plants you purchase will not only survive but thrive in your garden.

*Dr. H. Marc Cathey is president emeritus of the American Horticultural Society.*





# Man of Many Woods

*Desperate for a book to use in teaching  
a plant class, he created a must-have  
reference work on trees and shrubs.*

b y B o b H i l l

P h o t o s b y M i c h a e l H a y m a n

**Mike Dirr has missed a turn somewhere  
outside his beloved Athens, Georgia,** with no in-

tersections looming on the immediate, rolling horizon that would allow him to correct his error. Dirr missed the turn because he was talking about plants, offering up equal parts history, nomenclature, and culture in long, confident bursts—too interested in taxonomy to worry about traffic signs. Dirr is a big, solid man who keeps healthy with jogging





Mike Dirr







## Author Profile

and nocturnal tennis. He's leaning slightly forward over the steering wheel, peering out from under his trademark sun visor, mulling over his options, still talking, always teaching.

As a University of Georgia horticulture professor, photographer, plant gatherer, father, husband, promoter, propagator, international tour leader, and author of essays and books on woody landscape plants, Dirr is a man of considerable knowledge, presence, humor, opinion, energy, and focus, very comfortable with being in charge.

Add to that some impatience with necessary detail, a free-spirited outlook, and more places to go today than available sunshine, and Dirr's solution to the missed turn makes perfect sense. He abruptly makes a U-turn through the grassy median and heads off in the right direction, leaving wide tire marks behind him—the roadside symbol of a man on an educational mission.

"A good teacher, a good faculty, makes a gigantic difference in a student's potential development," he's saying. "You have to nurture, encourage, give pats on the back, foster growth."

Dirr got that kind of nurturing from his parents, but it's clear that he was also a natural born plantsman. He grew up in Pleasant Run, a small community north of Cincinnati. In the third grade he commandeered the family sandbox, turning it into a rooting box for euonymus and juniper. His mother had taken him to the store for some Rootone and brief instructions. Dirr covered his cuttings with a screen held down with cinder block and faithfully watered his progeny with a hose.

"Damn," he says 40 years later, "they rooted! It's one of the great miracles in biology. Take some cuttings, some hormonal treatment or manipulation of the environment, and all of a sudden you've got whole new plants."

His youthful curiosity about plants was endless. When he and his buddies would be playing football in a local park, Dirr would occasionally go re-e-e-al long and take some cuttings from nearby shrubs. "There was strange little Mikey over there in the bushes," he recalls, laughing.

The Dirr family gardeners branched out. Dirr and his two sisters opened a roadside vegetable stand near the family's three-acre patch, selling onions for 10 cents a dozen. Dirr paid his sisters a nickel to hoe the sweet corn and would with-



### His youthful curiosity about plants was endless.

**When he and his buddies would be playing football in a local park, Dirr would occasionally go re-e-e-al long and take some cuttings from nearby shrubs.**

hold their earnings if their work didn't suit him. "They about had a heart attack," he says. "They still talk about that."

He was obviously a good judge of this particular skill. In high school he went to work in a nursery for \$1.15 an hour and was bumped up to \$1.25 when his supervisors saw what he could accomplish with the business end of a hoe. He also ran his own lawn service, firmly setting his sights on a horticulture degree at the state college. Students at the traditional, classically oriented Jesuit high school he attended were expected to seek less labor-intensive callings.

"I want to go to Ohio State," he told his school counselor.

Why not the law, or medicine? the priest asked.

"I want to go to Ohio State."

Dirr has always believed in mixing academics with potting soil. At Ohio State he earned bachelor's and master's of science degrees while working at a nursery and garden center, earning about \$1.70 an hour—plus three percent commission. A salesman was born. "I'd be working 10 to 12 hours a day on Saturdays, do \$1,000 in sales in a weekend. It never cost my dad much for me to go to school."

He met his wife, Bonnie, in February 1969 and married her in August. He went on to the University of Massachusetts, earning a doctorate in plant physiology in 1972. While in Amherst the Dirrs also bought a small home on an acre lot where they established their first garden, a precursor to the mini-arboretum now surrounding their Athens home.

In July 1972 Dirr was offered a position as assistant professor of horticulture at the University of Illinois and was told to be ready to teach a plant materials course by August. It was as a tool for this class that his first *Manual of Woody Landscape Plants* was born.

"It was started in desperation," Dirr says. "There were no comprehensive books for a plant materials course that had much identification information."

Dirr has always lectured on the move, leading students around campus, pushing, prodding, holding impromptu tree quizzes. These Socratic walks bogged down because each student had to carry three books to piece together all the answers.

Dirr dug out his detailed notes from years of plant study and arranged them in the template now so familiar to his *Man-*

COURTESY OF MIKE DIRR





**Dirr chats with Georgia graduate Chris Aubry, who says the professor sometimes has almost too much influence over gardeners' plant choices, but adds, "It's not his fault."**

ual readers: family, leaves, stem, size, bark, hardiness, flowers, fruit, culture, disease and insects, cultivars, and landscape value—the latter category always made interesting with his informed, funny, occasionally biting opinions. He photocopied the pages and handed them out to his appreciative students; the resulting product was crude, but definitely easier to carry than three books.

At the end of the spring semester Dirr fine-tuned the package a bit, putting together what was basically a type-written book with line drawings by several of his students. He turned in a rough copy to the Stipes Publishing Company in Champaign, Illinois, in July and went away for a few weeks' vacation. In August 1973—only three months after he had started—the first rudimentary manual was done.

"I wasn't thinking 'book' at first," he says. "My students just told me I had to figure out a way to make the course better. I didn't know anything; I was three years out of graduate school.

"Rutgers adopted it and I was getting letters from everywhere saying it was a great book. It wasn't, it was a lousy book. Then it started to sell, we got a royalty check for like \$333, and I'm thinking, 'God, this is great.'"

Dirr would follow that first manual with a textbook printed in 1975, and revised editions in 1977, 1983, and 1990. The fourth edition became the most widely adopted teaching and reference text on woody landscape plants in the country, selling more than 200,000 copies. Bonnie did many of

the drawings for the updated texts. "She's fast," he says, "and she's accurate."

In 1978 Dirr became a Mercer Fellow at the Arnold Arboretum of Harvard University, went on to become the director of the University of Georgia Botanical Garden, then resumed teaching and research

at the university in 1981. Since he was promoted to professor in 1984 his work pace has never slowed; his fifth edition on woody landscape plants, about 20 percent larger than the fourth, is almost complete.

"It should be somewhere between 1,200 and 1,400 pages," he says. "I could probably have lived with the book as it is and made enough money to make me happy, but when I get done I want something of worth. What it comes down to is do you care, or do you not care?"

In 1987, Dirr and Charles W. Heuser Jr. of Pennsylvania State University collaborated on another standard reference, *The Reference Manual of Woody Plant Propagation*. Due out this month from Timber Press is a photographic treatise called *Dirr's Hardy Trees and Shrubs*, a guide to his 500 favorites for colder areas, with a book on southern favorites to follow. He is also working on a book compiled from the more than 300 articles and essays he has written for nursery and gardening magazines.

Then there is the newest baby on the plant-information block: a CD-ROM for which he culled images from the more than 80,000 slides and photographs he has taken on plant trips around the world. Designed to be used as a companion



to his woody plant manual, "Michael A. Dirr's Photo-Library of Woody Landscape Plants" went on the market in April. It is a 7,600-photo database that offers a comprehensive look at thousands of plants with detailed photographs showing color, flower, fruit, leaves, bark, and structural habit.

Most of the work on the four-disk CD-ROM has been done with consultant Hillary Barber—Dirr says her official title for the two-person project is "assistant to the president"—who spent more than a year editing slides to show six images of each plant. A second, interactive photo library is in the works for 1998.

#### **Banished to the Basement**

The agonizing, detailed, time-consuming task of updating *Manual of Woody Landscape Plants* falls entire-

ly to Dirr. Looking back at earlier editions, he remembers many nights working until 11 p.m., and many days bolting from his basement office just in time to coach his son's tee-ball team or attend a school event. (Katherine is now 25, Matt, 23, and Suzanne, 20.) Many days he never got out of their basement at all: "I remember times coming upstairs and telling Bonnie, 'Geez, I've been on redbuds all day.' I'll get in a mode where I'm nuttier than a fruitcake, but I don't know how else to get it done."

His home office is a well-worn clutter of thousands of articles, textbooks, pamphlets, reference manuals, research papers, and letters, each arranged in a file box or black notebook. Added to that pile of information are Dirr's copious personal notes, and his immense slide collection.

To integrate this new information into the fifth edition of the *Manual*, Dirr makes handwritten notes on a yellow legal pad and tapes them to the appropriate page of the last one. He'll occasionally work to the mournful, my-love-done-left-me country sounds of Tex Ritter or Patsy Cline.

"My observations made while traveling are tied together with all this literature," he says. "Hopefully, that brings some validity to the book."

A strange remark about a work that's already considered something of a bible among plant lovers, but Dirr is sensitive to the fact that he cannot see—or personally evaluate—every plant listed in the book. He must trust the judgment and



**Then there is the  
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**Hillary Barber helped Dirr produce his four-disk, 7,600-photo CD. He calls her "assistant to the president" of the two-person project. Opposite: One of Dirr's favorite lacebark elm cultivars, 'Allee'.**

writings of others and give them credit for their work.

"People say that it's all Dirr's opinion, but it isn't all Dirr's opinion. Maybe I like a plant because it's aesthetic and beautiful, but it's also based on pretty sound judgment and other peoples' facts as well as mine. I put their references in there because, hell, I'm smart enough to know the guy is smarter than me."

He'll also get complaints: letters from people who believe he's wrong about a particular plant, phone calls from colleagues who might question a reference to a hardiness zone. These too go into his pile of information to be evaluated.

"I accept them, put notes in the book margin, check them out," he says.

One aspect of his book that has bothered some users is that plant hardiness is indicated using a map developed at the Arnold Arboretum,

rather than the more standard USDA Plant Hardiness Zone Map. Dirr says he used the Arnold map because an important reference for his first editions was Donald Wyman's *Trees for American Gardens*. Wyman was horticulturist at Arnold Arboretum for 35 years, and Dirr worked at the arboretum twice while on sabbaticals. In the fifth edition, he says, he will bow to popular use and key plants to the USDA map.

Although he travels the country and the world on tours and lectures, much of his missionary zeal is focused on the beautiful University of Georgia campus, and on Athens, a town practically surrounded by nurseries operated or owned by former UGA students. "This is just a terrific place," says Dirr, "very aesthetically pleasing. We're happy to be a part of it."

Dirr is generous with his knowledge, given the time he can spare. When photographer Mike Hayman and I went to visit him in Athens, our two days began early with tours of the campus and local nurseries and ended long after dark on the tennis court as Dirr relentlessly returned shots until 11 p.m.

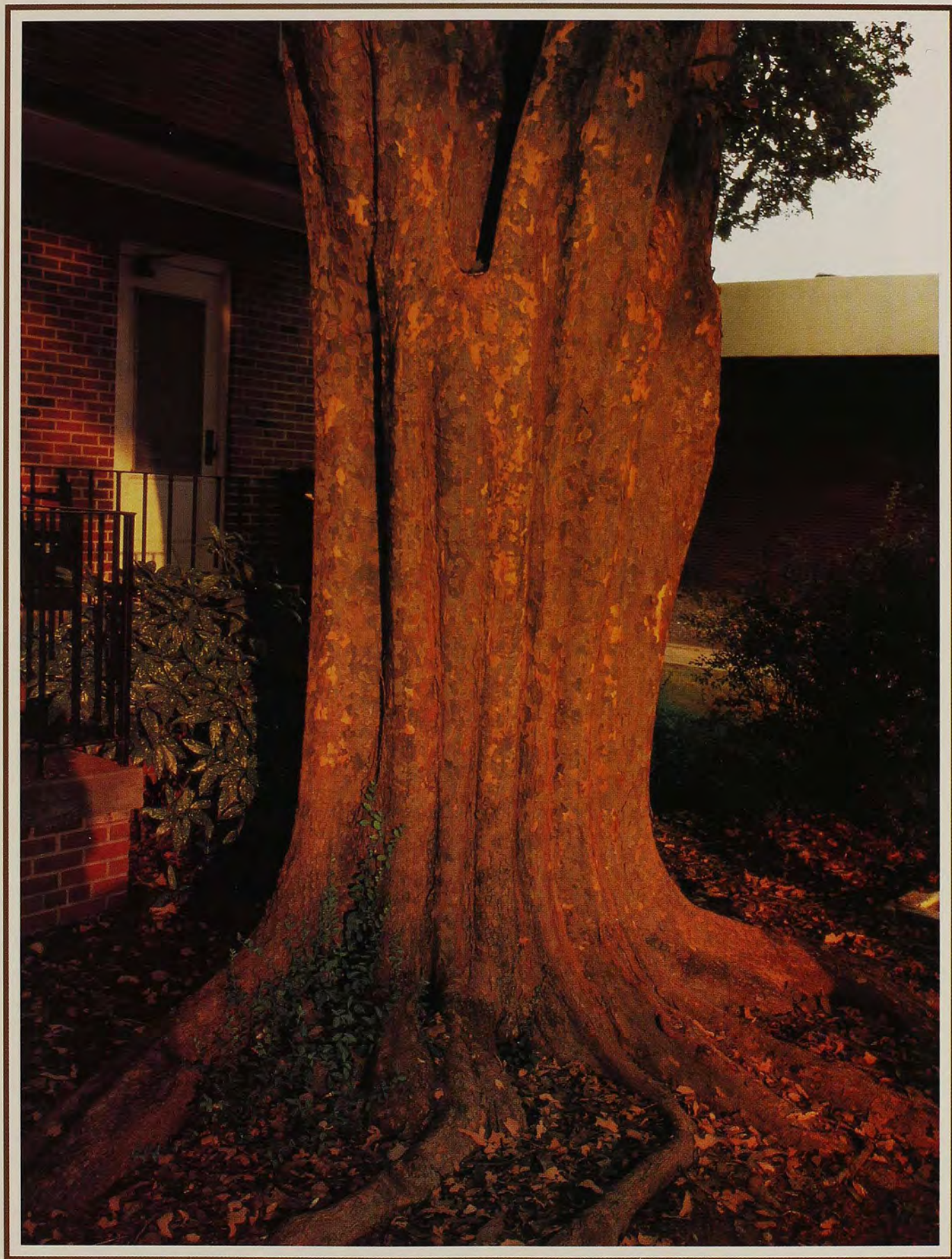
His tour of the campus inevitably included its bottlebrush buckeyes (*Aesculus parviflora*) and lacebark elms (*Ulmus parvifolia*). He wrote of the lacebark in his *Manual*: "Excellent, tough, durable tree for about any situation.... I predict the species will provide some of our most beautiful shade trees in the years ahead; in fact I will crawl out on a limb and predict a bright future in the 21st century."

By no small coincidence, two of Dirr's





*Mike Dirr*







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favorite lacebark cultivars, 'Athena' and 'Allee', were discovered on the UGA campus. As we walked the grounds, Durr continually challenged Hayman—no plant slouch himself—to name a tree or identify a shrub. Hayman's wrong answers were met with a lesson; Durr would pluck a leaf, examine a stem, explain texture, habit, and culture. The correct answers—as when Hayman pegged the Formosan sweetgum, *Liquidambar formosana*—always brought a shot of praise.

We toured a half-dozen nurseries around Athens, including the Griffith Propagation Nursery near Watkinsville. Owner Mark Griffith is a former Durr student.

"Dr. Durr was a very demanding teacher, but he made it fun," Griffith tells us. "He has tremendous energy. He not only helped me get started, but he helped nurseries all over the state. He's so busy, but he's very loyal to his students. He's never been one to just teach class for an hour and go home."

Mike Glenn, another UGA graduate and co-owner of Select Trees and Tree Introductions, says Durr has had a profound impact on the Georgia tree industry and across the Southeast. "With his enthusiasm and experience, he's really an ambassador," Glenn says. "A lot of universities are so focused on research that teaching seems to be forgotten. We really value his graduates. The Georgia horticulture program is one of the best in the country."

Another Georgia graduate, Chris Aubry of Aubry's Arbor, says Durr has been incredibly helpful to him, ex-

**At Select Trees and Tree Introductions, co-owner Mike Glenn shows Durr his demonstration area of healthy root growth.**

posing him to new plants and customers. If there is a downside to Durr's influence, Aubry says, it's that his word is so powerful people automatically flock to his recommendations, ignoring equally good cultivars. "It's not his fault," Aubry

shrugs. "People don't like to think for themselves."

Finishing his local tour with a surprising touch, Durr pulled into a Home Depot where several of his students work in order to check out their stock and merchandising. Durr is especially interested in a device called the McStack, developed by Skeetter McCorkle of McCorkle's Nursery in Dearing, Georgia. A wholesaler loads it with plants and the retailer simply slides it into the store and expands its legs for display. "It's a quick way to handle plants," Durr observes.

### **Growing What He Preaches**

It isn't quite correct to say Durr unwinds at home, but his clock doesn't seem to be as tightly wound there. He and Bonnie are putting together a vast plant collection in their several-acre yard.

His tour begins near the back door, where a splendid paperbark maple hybrid, *Acer griseum* × *A. nikoense* (the latter is now known as *A. maximowiczianum*), brushes the house. He counts nine forms of osmanthus, including *O. heterophyllus* 'Variegatus', brought home from England, and 'Aureomarginatus', which has yellow leaf margins.

"Here's a quiz plant for you," he says to Hayman, pointing to a small tree. "What's this?"





"Sapphireberry" is the quick response. "Very good," answers the professor. Hayman has identified *Symplocos paniculata*, an Asiatic sweetleaf described on page 821 of Dirr's book. ("This is an excellent plant for attracting birds; ... have a lone plant in my Georgia garden that flowers well but sets little fruit; suspect another seedling is necessary for cross pollination.")

His backyard slopes down toward some woods, offering welcoming islands of trees, shrubs, grasses, and perennials: *Indigofera incarnata* (sometimes called *I. decora*), the Chinese indigo, which produces racemes of pink flowers in late summer; *Forsythia* × *intermedia* 'Lynwood'; *Lespedeza* 'Spring Grove'; *Amsonia hubrechtii*; *Buddleia* 'Miss Ellen' and 'Lochin'; and *Rudbeckia laciniata*.

*Loropetalum chinense*, a pink-to-red-hot commodity in southern gardens, is well represented with 'Rubra', 'Burgundy', and 'Blush' ("...has a certain naturalness that is lost by turning it into a green meatball," he observes on page 502). There's also *Cephalotaxus harringtonia* ("slow growing, which frightens those who design with a juniper mentality"), *Acer manschuricum* ("turns a magnificent rose-red to red in early October"), *Stewartia monadelphica* ("I believe gardeners should be growing this instead of *S. pseudocamellia*"), an *Illicium* (anise tree), *Hydrangea quercifolia* 'PeeWee' ("has received rave notices from Atlanta gardeners who have observed it"), and of course, more bottlebrush buckeye.

At the side of the house, set off in a stunning row that

**Dirr is creating a mini-arboretum with his wife, Bonnie, who also illustrates his Manual. "She's fast, and she's accurate," he says.**

lights up the thin shade, are a dozen crape myrtles, *Lagerstroemia* 'Natchez', their orangish, gray-white bark visible from inside Dirr's downstairs office.

From outside, you peek into his office, see the files, the magazines, the books, the accumulated weight of book-writing tools and academic responsibilities. Then you look up and see the man disappear around a corner of his garden, talking excitedly about a special lantana cultivar, 'Miss Huff'—always and forever teaching, and never for a minute seeming to think of it as work.

*Bob Hill is a columnist for the Louisville Courier-Journal.*

## Sources

**DIRR'S HARDY TREES AND SHRUBS**, AHS member price: \$62.95. Book code: TIM 105.

**MANUAL OF WOODY LANDSCAPE PLANTS**, Fifth Edition. Due out in early 1998. Watch future issues of *The American Gardener* for member price.

**MICHAEL A. DIRR'S PHOTO-LIBRARY OF WOODY LANDSCAPE PLANTS** is available through Plant-America, (888) 752-6823 ([www.plantamerica.com](http://www.plantamerica.com)).

**THE REFERENCE MANUAL OF WOODY PLANT PROPAGATION**, AHS member price: \$26.95. Book code: TIM 063.





# The Exuberant Pilgrim

*Henry Mitchell believed that gardening was "a sort of traveling," and with his words he took us along for the ride.*

b y N a n c y M c D o n a l d

**"Sooner or later most gardeners will die, to put it cautiously,"** wrote Henry Mitchell, "and the question then is whether the gardener has spent his time and resources fidgeting about with fungi, moles, bugs, and evil squirrels or has gloried, year by year, in the snowdrops." ■ Henry Mitchell, beyond all question, gloried in the snowdrops, and the roses and the irises. He gloried in *Tulipa clusiana* var. *chrysantha*, "almond-shaped, ten inches high, soft yellow





*Henry Mitchell*







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with alternate petals soft red on the outside. Most gardeners like it, of course, and then go on to the next thing, but I practically faint dead away every spring when it blooms." And he gloried in "our paw-bearing, tufted, or screeching friends," particularly dogs, who served to illustrate important points throughout his writings:

**"Resistant** as I am to dozens of flowering crabs, I confess the flowering peach is irresistible. It carries extravagance beyond all bounds and thereby achieves a sort of triumph. It is somewhat like dogs—if you are going to have great ears and paws, you might as well go



all the way like a basset or a bloodhound and not settle for being merely a beagle."

Born in 1923, Henry Mitchell grew up in Memphis, in extreme southwestern Tennessee, just across the border from the state of Mississippi and across the Mississippi River from the state of Arkansas. His father, a physician, hoped that his son would go into medicine or the law, but Henry had other ideas. He attended the University of Virginia in Charlottesville, where he first met Helen Virginia Holliday (Ginny), who was to become his wife. At one point Henry went off to France for six months with \$700 he had saved as a soldier in World War II. By the time he got back to the university, Ginny had moved to Washington, D.C., but they saw each other on weekends.

Henry spent some time working in the cotton fields of Arkansas, and loved it. Ginny sent him packages of food. "And then we realized we were in love," Ginny told me, "and he came up to Washington and looked for a job, but didn't find one. I worked for a doctor, and we had a patient who was head of the "Women's Page" on the evening *Star*. One day she came in and I said, 'You haven't got a job for a good-looking young man, have you?' And she said, 'Send him down,' and he went to work as a copy boy at the evening *Star*, and that's how he started in newspaper work. But that's where he would have wound up no matter what—in some kind of writing, I'm sure."

The Mitchells lived in Washington for two years, then moved to Memphis, where their two children were born. Henry worked on a Memphis newspaper, the *Commercial Appeal*, for nearly 20 years, writing among other things a

gardening column, a zoo column, and a television column. In 1970 the family returned to Washington, where Henry went to work for the *Washington Post* as a reporter. In 1973 an enlightened editor suggested he start a weekly garden column, which Mitchell called "The Essential Earthman." Three years later he began a second weekly column, "Any Day," about anything and everything. He continued to write "Any Day" until his retirement in 1991, and "Earthman" until his death in 1993.

Henry Mitchell was a deeply religious man, though not dogmatic, yet he never thrust his faith upon us in his writing. Still it came through in his written celebration of life, his appreciation of the smallest change in bud or flower. His faith helped him triumph in his struggle with alcoholism, and gave him considerable strength and good spirits during his painful two-year battle with cancer. "His friends from the *Post* would come out to cheer him up," Ginny says, "and he'd wind up cheering them up. I'd hear them upstairs laughing and having the best time."

Six weeks after he was told he had two weeks to live, Mitchell rose from his sick bed to "watch" a neighbor plant daffodils. He collapsed in her garden and died soon after Ginny reached his side.

The Mitchells' son, Clay, who had suffered from cancer even longer than his father, died three weeks later; daughter Katherine is a chemical engineer working in Alexandria, Virginia.

### *The Garden As Life*

Two books of his compiled garden columns, *The Essential Earthman* and *One Man's Garden*, allow gardeners everywhere to savor Henry Mitchell's opinionated, gentle, exuberant writing. And not just gardeners—his co-worker Sarah Booth Conroy, in an appreciation written after he died, wrote: "The other day we [at the *Post*] were all talking about Henry, and why those of us who have neither dogs nor gardens read every word he ever published. And the general view was that Henry used gardens and dogs and bumblebees as metaphors for life."

He did indeed. His vigorous, concise prose combines practical information with his ruminations and is leavened with modest, if occasionally curmudgeonly, advice.

**"Remember** the past few early springs, and tell me truthfully if some of these early sorts [of daffodils] would not be a great addition to the garden. Then why are you not growing them? I told you last fall. And the fall before. But peace.



CAROL NOURSE

JOSEPH G. STRAUCH JR.





## Henry Mitchell



**HIS LIFE:** Mitchell's physician father hoped his son would go into medicine or law. At his newspaper job in Memphis, he wrote columns about television and the zoo as well as gardening. Passionate about many plants, he admitted that "I go quite beserk" for grapevines. The photo above was taken just a few minutes before he died, helping a neighbor in her garden.





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I know you are trying. As I always said of Luke, my personal hound of excellent and dear memory, it took him quite a while to get going on anything, but he was just fine once he started."

Mitchell's plant descriptions are among the best I've read. He made no attempt to be encyclopedic, believing that there are more important things about a plant than its dimensions. Instead, he noted the essentials:

**"The flowers** [of *Hosta plantaginea*] are white, not



whitish, and the scent is sufficiently strong that you don't have to keep sniffing or say, 'Now I wonder if this is what he means by scented.'"

Plant size is important, he felt, but to help the gardener better grasp the dimensions, a fruit tree was described as the size of a garage; a perennial, the size of a bushel basket; a bulb, the size of a butter bean. Garages vary in size, to be sure, but even a small one is large, which is the important thing.

Animals, too, were closely observed. He advocated placing small wooden floats in one's pond, to help keep waterlogged bees from drowning. ("Often a stick or tuft from some plant can be extended to fish them out.") He spoke knowledgeably of hummingbirds ("these little fowl") and other garden denizens:

"Toads are conservative animals, I think, and not much given to expecting the best from fortune. As most gardeners know, it is only young dogs that pick up toads, and they usually do it only once, though Luke, who as the vet correctly said was always going to be 'a very slow dog,' tried toads twice."

Though one sometimes feels that Henry Mitchell preferred dogs and plants to humans, every person I spoke with about him mentioned his kindness, his unusual courtesy, and his sense of humor. "Even when speaking on a serious subject, humor was always just a phrase away," wrote one friend. "When I was around him I remained in a perpetual state of laughter. Like most kind people, his ability to tell stories on himself and to laugh at his mistakes and misadventures was especially endearing." He was fair to people, and (not surprisingly) to plants: "[The rose 'Celsiana'] has as good a claim as any other to be thought

the most glorious rose of this world, [but] there is no rose in commerce that is totally worthless."

Henry Mitchell could complain as thoroughly as he could praise, particularly about the weather, believing that

**"when** we complain of the weather we are always on firm ground. Even the most beautiful weather will not allay the gardener's notion (well-founded, actually) that he is somehow too late, too soon, or that he has too much stuff going on or not enough." A too-small garden led to frequent cries of anguish: "The pain of losing a cherished plant in a bad winter is as nothing compared to the pain of realizing that there are at least twenty-three roses that must somehow be added to the garden if life is to be more than one long agony."

Occasionally he could be sanguine about the limits of his land: "I live in a downtown house in the middle of Washington with a cat-run garden," he said, "and I grow all the flowers I need." All he needed, perhaps, but if his writing is any indication, not all he wanted. A space like the Mitchells' long, narrow, fenced back garden (roughly 180 by 40 feet) requires careful design if it is to be effective. As a longtime architecture buff, Mitchell felt strongly the need for proportion and line. This resulted in a rather formal plan of pathways, beds, a pond, and a small shrine containing a lion-dog sculpture that he adored. And there the formality ended. "A jungle, bordering on chaos," one friend described it. But when you have only a limited space, and you are mad about roses, "go quite berserk" for grapevines, "go to pieces over" irises, when you are caught by "the fierce addiction of gardeners," formality stands little chance.

(Today, the pond that featured the lion-dog sculpture has been dismantled to make way for a ground-floor addition to the house, because Ginny is beginning to find it difficult to climb stairs. "My daughter asked, 'Now would Dad want you to keep that pond or would he want you to be comfortable?' and I said, 'Don't make me think about that one,'" relates Ginny. She notes that there are two other ponds now, and adds that the sculpture will be given a new place of honor in the garden.)

Mitchell had strong opinions about both plants and gardening practices, though in matters of taste he was gen-

BILL JOHNSON





## Henry Mitchell



**HIS GARDEN:** Irises and roses were among Mitchell's favorite flowers, but he was hard-pressed to stuff everything he loved into his small city lot, where a lion-dog sculpture was the focal point of his pond. He bred the rose below and named it 'Ginny' for his wife, but couldn't register it because its parentage is forgotten.







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tle: "my own suggestion, which is worth little and for that matter is worth nothing if you see the matter differently." But about some things he was adamant:

**"I do not** grow anything that has to be sprayed. Any rose that can't make it without sprays is a



wretched weakling, and if anybody wants to coddle the thing, fine, but I don't. Why should I, or any other sane man, be expected to expose my hound to poisons in the garden? She eats blueberries in season, she commonly sniffs everything, she

buries bones, she eats grass; I am responsible for her, and she is not going to eat poison as long as I am around."

Although Mitchell wrote about gardening in the mid-Atlantic, his principles of garden design and philosophy apply everywhere. Beauty is the primary concern.

"We should keep asking ourselves, when we are tempted by color and display and show, whether it is beautiful as well. The world should not be a nice drab universal gray. But nothing is gained by painting sidewalks orange, either. We will all hit on different balances in our gardens, large or small, and that is what makes them endlessly different. But though we may answer differently we should at least not forget the question, which in gardening is a great question and the ultimate one. All the rest (is it rare, is it showy, does it hold up well, does it grow easily, etc.) is relevant, but less important." Even this he softened. "It is not important for a garden to be beautiful. It is extremely important for the gardener to think it a fair substitute for Eden."

Mitchell used language well and thriftily. *Don Quixote* was his favorite book; he loved the works of Shakespeare

and Milton. He brought to his writing a clarity and expressiveness rarely seen in newspapers—or anywhere else—today. To successfully communicate ideas and instruction, without the smallest hint of patronage or pedantry, to a widely varying newspaper audience is no mean feat. To do it well is an art.

**"Your garden** will reveal your self. Do not be terrified of that. You have as much right to live as—well, at least one may always say, 'Nevertheless, here I am.'" ■ "Gardening is not some sort of game by which one proves his superiority over others, nor is it a marketplace for the display of elegant things that others cannot afford. It is, on the contrary, a growing work of creation, endless in its changing elements. It is not a monument or an achievement, but a sort of traveling, a kind of pilgrimage you might say, often a bit grubby and sweaty though true pilgrims do not mind that. A garden is not a picture, but a language, which is of course the major art of life."

Nancy McDonald is co-editor of *The American Cottage Gardener*. A version of this article appeared in the spring 1996 issue of *The Hardy Plant*, the Journal of the Hardy Plant Society.

### Resources

**ANY DAY**, a compilation of Henry Mitchell's Friday columns from the *Washington Post*, is to be published this month by Indiana University Press. AHS member price: \$22.45. Book code: IUP 002.

**THE ESSENTIAL EARTHMAN** by Henry Mitchell. AHS member price: \$11.65. Book code: HOU 013.

**HENRY MITCHELL ON GARDENING**. A third collection of Henry Mitchell's garden columns is due out from Houghton Mifflin next spring. Watch future issues of *The American Gardener* for an announcement of availability and member price.

**ONE MAN'S GARDEN** by Henry Mitchell. AHS member price: \$9.85. Book code: HOU 005.





## book reviews

### hollies

### ground covers

### wildflowers

#### HOLLIES: THE GENUS ILEX

Fred Galle. Timber Press, Inc., Portland, Oregon, 1997. 573 pages. 8 1/2 x 11". Publisher's price: hardcover, \$59.95. AHS member price \$51.

TIM 115

One hundred years ago, Theodore Loesener published the definitive work about hollies, but because it was written in Latin and German, it has not been of much use to American gardeners. Now Fred Galle has written the first English language, comprehensive monograph on the genus *Ilex*. It will be appreciated by plant lovers ranging from hobbyists to scientists.

Galle, author of the acclaimed *Azaleas*, lays out the whole ball of wax—the history, culture, botany, nomenclature, propagation, and pathologies of holly. He and his guest writers give directions for orcharding, landscaping, topiary, decorating, and bonsai.

*Ilex* is a diverse genus. Galle anticipated finding 450 species, but instead discovered more than 800. They grow on all continents except Antarctica, with the greatest concentrations in Asia and South America. Hollies grow from the tropics to USDA

Zone 3, range in height from 12 inches to 60 feet, and are used ornamentally from rock gardens to tall hedges.

It seems unlikely that a 573-page book can be concisely written, but this one is. The book is long simply because there is so much detail. Descriptions of holly species, cultivars, and hybrids cover 271 pages. The list of American holly cultivars alone takes up 55 pages. Even hollies that are not true hollies are identified by common and scientific name in an appendix.

Yet there is plenty of practical information for the home gardener. Why didn't the green berries on your American holly ripen to red last winter? The answer is the holly berry midge, a mosquito-like fly that lays eggs in the developing fruit.

At the other end of the scale, Galle offers more experienced horticulturists suggestions for hybridization that include extolling the promise of *I. geniculata*—a deciduous Japanese species whose fruits hang on long, nodding peduncles—as a breeding species. He points out that *I. pernyi* breeds easily with hollies that are difficult to breed to each other, such as American holly and English holly, and might be used as a breeding bridge between those species.

Beginning gardeners may be overwhelmed by the technical chapters, which include some botanical jargon, but there is a good glossary that will help anyone wade through unfamiliar terms. On the other hand, if you want to skip the

botany lessons, there are beautiful color photographs to whet any gardener's appetite.

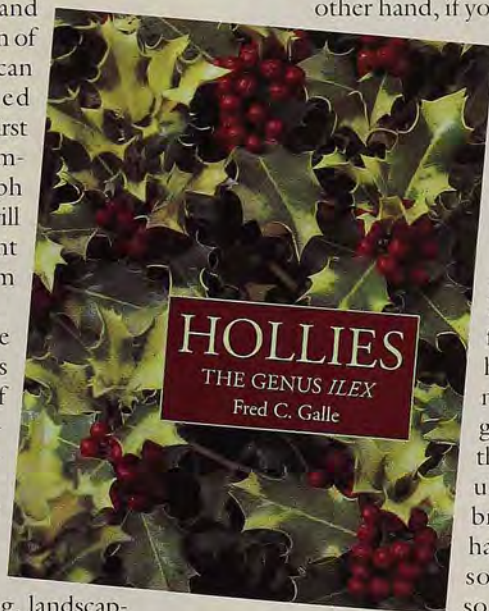
Many beautiful hollies that grow for Galle in Zone 8 are, unfortunately, not hardy for us in more northern gardens. Perhaps this book will stimulate scientists to breed more cold hardiness into these southern beauties so that they can be

extended into Zones 5 and 6 and listed in the next edition.

In the meantime, *Hollies: The Genus Ilex* is now the preeminent holly reference and will remain so for a long time.

—Michael Hayman

A photographer for the Louisville Courier-



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Journal and frequent contributor to this magazine, Michael Hayman received the American Horticultural Society's 1996 Local Horticulture Award for developing a neighborhood arboretum in his suburb.

**PERENNIAL GROUND COVERS**

David S. MacKenzie. Timber Press, Inc., Portland, Oregon, 1997. 379 pages. 8 3/4 x 11 1/4". Publisher's price: hardcover, \$49.95. AHS member price: \$42.50. **TIM 116**

Where I work, at a public arboretum that is also a college campus, we rely on ground covers to give us interesting yet low-maintenance plantings appropriate in a campus setting. For the wealth of information it contains, this book will hold a prominent place on the library shelf here, as I imagine it will on those of many gardeners, landscape designers, and architects.

MacKenzie defines worthy ground covers as plants that "require little maintenance and densely cover the soil in a manner that discourages and prevents the growth of weeds." The wealth of plants—about 800—he has evaluated for this function includes ornamental grasses, ferns, shrubs, and perennials, but not annuals or biennials.

The first part of the book is devoted to such basics as finding the right ground covers and then planting, maintaining, and propagating them. Additional chapters conveniently group ground covers for gardeners who have particular interests, such as those with native plant gardens or those keen on ferns, ornamental grasses, or variegated ground covers.

The bulkier second section is devoted to descriptions of specific

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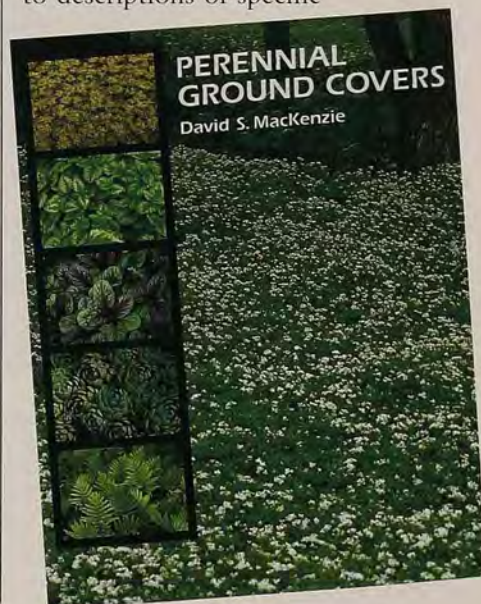


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plants. I'm impressed with the kind of details in these easy-to-read entries, written by a gardener for gardeners. MacKenzie includes an introductory overview of the species or genus, then outlines the pronunciation and derivation of scientific names. Hardiness and native range are covered, followed by a succinct description of foliage, flowers, and fruit. He also makes spacing recommendations to ensure that plants will cover the ground in one or two growing seasons, noting plants with slow growth rates that might not live up to that expectation.

This is followed by a very up-to-date section on horticultural selections and related species. For instance, in the entry for *Heuchera xbrizoides*, he describes nearly 50 cultivars, including dozens of selections named in the last few years. Entries conclude with sections on care and propagation.

If you merely scan the plants included in this section, you might take issue with some of the listings. But if you read the descriptions, you'll find MacKenzie has presented them fairly. For instance, under *Shortia galacifolia*—a rare, native evergreen wildflower not readily available in the trade—he points out that it is not easy to grow and is “certainly not a good choice for impatient gardeners.”

At the end of the book is a ground cover comparison chart that facilitates quick selection of plants based on a site's characteristics.

For identification, 315 color photographs—one for each genus covered—are sandwiched between the two sections of the book. There is also a glossary and a detailed index that includes cultivars.

Reference works are expected to have a high degree of accuracy, and so far I've found only a few quibbles with scientific names; for instance, he uses *Asarum* instead of *Hexastylis* for species such as *H. shuttleworthii*.

While MacKenzie acknowledges that he drew from other sources to compile this reference work, his firsthand experience is considerable. He has been growing, hybridizing, photographing, researching, and lecturing on ground covers since 1983 and now runs one of the country's largest nurseries devoted to ground covers. He deserves our thanks for painstakingly recording his observations and knowledge so the rest of us can garden effectively with ground covers.

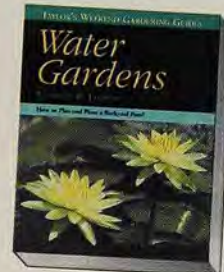
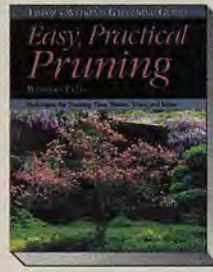
—Claire Sawyers

Claire Sawyers is the director of the Scott Arboretum of Swarthmore College in Swarthmore, Pennsylvania.

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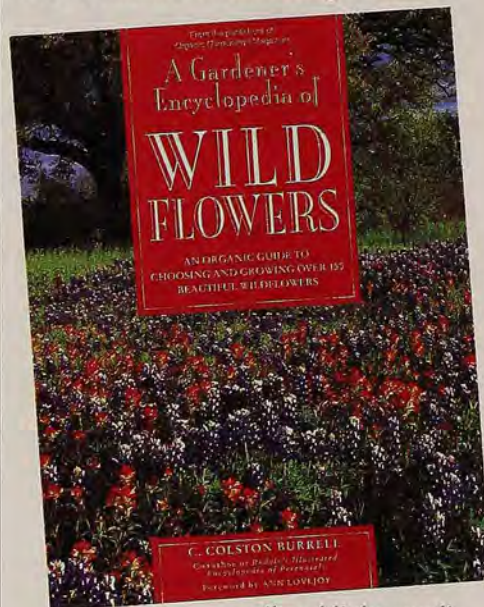
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### A GARDENER'S ENCYCLOPEDIA OF WILDFLOWERS: AN ORGANIC GUIDE TO CHOOSING AND GROWING OVER 150 BEAUTIFUL WILDFLOWERS

C. Colston Burrell. Rodale Press, Inc., Emmaus, Pennsylvania, 1997. 192 pages. 9 x 11 7/8". Publisher's price: hardcover, \$29.95. AHS member price: \$26.95. **ROD 015**

Gardening with native wildflowers has gained popularity in recent years for many reasons. Native wildflowers represent our natural botanical heritage. Grown within their native range and with



soil and light conditions similar to their usual habitat, most are easy to maintain once established. Many attract birds and butterflies and have flowers that are more understated and not as garishly colored as some exotics and cultivars.

This is the second in Rodale Press's encyclopedia series—it debuted with a book on ornamental grasses by John Greenlee—and carries on a laudable tradition of presenting new gardening trends in a moderately priced, well-illustrated format. Oddly, the title avoids use of the word "native," instead relying on the often loosely used term "wildflowers." Native plant fans can relax, however, because all the plants described are native to North America.

This book covers much of the same ground as the influential *Gardening with Native Wild Flowers* by Samuel B. Jones Jr. and Leonard E. Foote—published in 1990—but is designed very differently. Burrell's large-format book has a species description and a photograph on every page, while Jones and Foote's smaller book has more text and smaller, more prosaic photographs that are clustered in one section.

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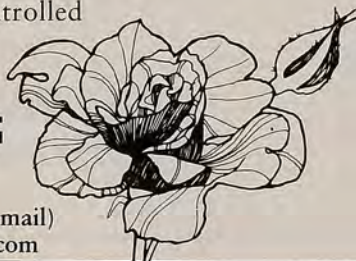
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Burrell's book is divided into three parts, followed by a series of appendices that include a glossary, recommended reading lists, mail-order sources, and the USDA Plant Hardiness Zone Map. Part one is an introduction to the principles of wildflower gardening. Part two is the encyclopedia itself. The third part describes how to create six different wildflower gardens—sun, shade, meadow, woodland, savanna, and prairie. Garden plans and species lists are included.

The heart of the book is the central section of plant descriptions. Each page—highlighted by a crisply focused large photograph—features a description of the species and its uses in the garden, growing and propagation tips, suggested cultivars, and related species. A handy box provides the botanical name, its pronunciation, plant family, hardiness zone, and native habitat and range. With the exception of a few species that reach into Texas and the Southwest, the plants covered are native to eastern and central North America. Notable omissions from the encyclopedic section are ferns and grasses, although some of these plants are listed in the design section.

I recommend the book for the beginning gardener who wants to do the right thing ecologically, but doesn't know where to start. The pictures are handsome enough to inspire you to grow the plants, and plenty of information is provided to get you started.

—James P. Bennett

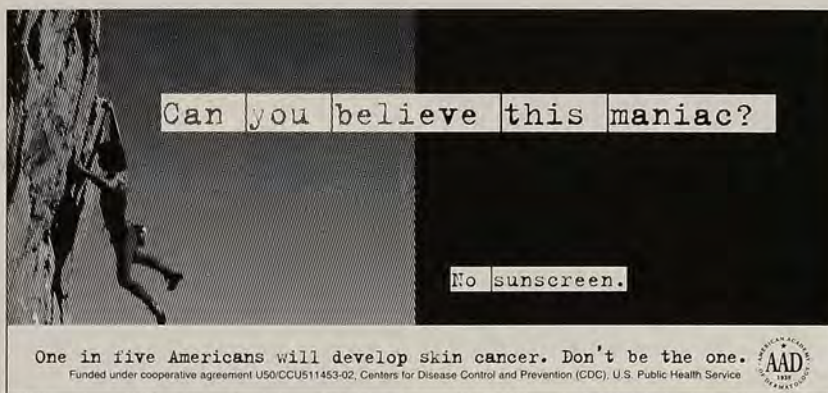
*James P. Bennett is a member of the Institute for Environmental Studies at the University of Wisconsin.*

#### WEEDS OF THE NORTHEAST

Richard H. Uva, Joseph C. Neal, and Joseph M. DiTomaso. Comstock Publishing Associates, Ithaca, New York, 1997. 397 pages. 6 × 9". Publisher's price: softcover, \$29.95. AHS member price: \$26.95. **COM 001**

This detailed and user-friendly guide identifies nearly 300 weedy plant species commonly found from southeastern Canada south to Virginia and west to Wisconsin. Sharp color photographs illustrate each plant in seed, seedling, and mature stages. In addition, plants can be readily distinguished using an identification key based on vegetative characteristics such as leaf orientation, leaf shape, and presence or absence of hairs. A handy fold-out chart helps with identification of those tricky grasses. Weeds that can be identified easily by characteristics such as thorns or milky sap are listed in a series of "shortcut" tables.

—The American Gardener staff



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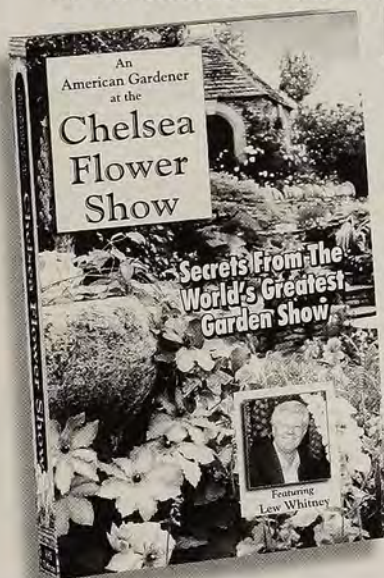
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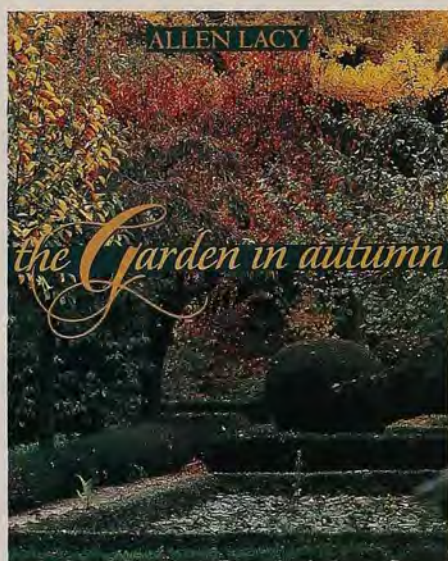
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## gardeners' books

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### 75TH AWARD WINNERS' BOOKS



#### THE GARDEN IN AUTUMN

Allen Lacy. 1995. 229 pages. Publisher's price: softcover, \$25. AHS member price: \$19.75.

**HOL 002**

This garden classic by one of America's best philosophical garden writers is a must for anyone who savors the joys of the fall garden. Lacy advises bringing into our gardens the natural colors of our native woodland plants and describes those "lingering perennials" that bloom until frost. Sumptuously illustrated with color photographs.

#### CUTTINGS FROM A ROCK GARDEN: PLANT PORTRAITS AND OTHER ESSAYS

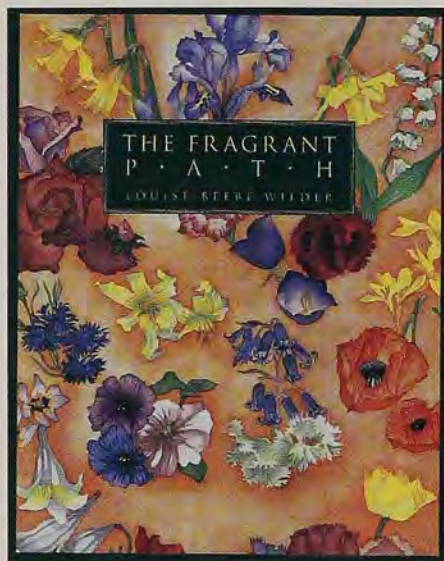
**NEW**

H. Lincoln Foster and Laura Louise Foster. Norman Singer, editor. 1997. 446 pages. Publisher's price: softcover, \$24.95. AHS member price: \$22.45.

(available in November) **TIM 111**

At last, a reissue of the book that won an Award of Excellence from the Garden

Writers Association of America. This personal account of the making of the Fosters' celebrated garden in northwestern Connecticut also includes vivid descriptions of the authors' favorite alpine and woodland plants illustrated with 43 of their own line drawings and 14 color photographs.



#### THE FRAGRANT PATH

Louise Beebe Wilder. 1996. 259 pages. Publisher's price: softcover, \$14.95. AHS member price: \$13.50.

**HAM 001**

First published in 1932, this timeless book is still one of the best descriptions of fragrant plants and how to use them. In this revised edition, the plant names have been updated to reflect current usage, but Wilder's beautiful prose remains unsullied. Includes black-and-white illustrations.

#### GARDENING BY MAIL 5TH EDITION

**NEW**

Barbara J. Barton. 1997. 440 pages. Publisher's price: softcover, \$24. AHS member price: \$21.50.

**HOU 001**

The long awaited update to this indispensable catalog of gardening resources now includes a valuable addition: a guide to gardening on the Internet. From mail-order nurseries to plant societies, the world of American gardening is captured here.

#### MOSS GARDENING: INCLUDING LICHENS, LIVERWORTS, AND OTHER MINIATURES

**NEW**

George Schenk. 1997. 264 pages. Publisher's price: hardcover, \$34.95. AHS member price: \$31.45.

**TIM 100**

This much anticipated book covers the gamut of moss gardening with information on propagating, cultivating, and transplanting these tiny plants in gardens of practically any climate. The author, a re-

tired nurseryman, offers landscape recommendations for using mosses in rock gardens, in borders, as lawn substitutes, and in containers. Includes nearly 100 color photographs.

#### THE EVENING GARDEN: FLOWERS AND FRAGRANCE FROM DUSK TILL DAWN

Peter Loewer. 1993. 288 pages. Publisher's price: hardcover, \$25. AHS member price: \$21.25.

**MAC 008**

This book holds the key to serenity for those who work during the day and look forward to spending evenings in the garden. Loewer describes hundreds of plants that bloom and/or release their fragrance at or after sunset. He also relates the history of the moonlight garden and introduces the pollinators of night-blooming flowers.



#### A GARDEN OF ONE'S OWN: WRITINGS OF ELIZABETH LAWRENCE

**NEW**

Barbara Scott and Bobby J. Ward, editors. 1997. 281 pages. Publisher's price: hardcover, \$24.95. AHS member price: \$22.45.

**UNC 004**

After seven years of searching, the editors have brought together 55 treasures from the dispersed trove of Lawrence's writings. Among the articles culled from such disparate sources as *House and Garden*, *Pacific Horticulture*, and *Garden Gossip* are ones on the author's favorite plants and "Brothers of the Spade," a tribute to her fellow gardeners.



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## regional happenings

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### MID-ATLANTIC

**SEPT. 14 ■ Fall Plant Sale.** William Paca Garden, Annapolis, Maryland. (410) 267-6656.

**OCT. 5 ■ Dahlia Day/Discovery Day.** River Farm, Alexandria, Virginia. (703) 768-5700 ext. 764.

**OCT. 17-NOV. 16 ■ Floral Gems: The Blossoming Wealth of South Africa.** Exhibit. U.S. National Arboretum, Washington, D.C. (202) 245-4539.

### NORTH CENTRAL

**SEPT. 6-NOV. 9 ■ Frank Lloyd Wright: Drawing Inspiration From Nature.**

Exhibit. Chicago Botanic Garden, Glencoe, Illinois. (847) 835-5440.

**SEPT. 12 ■ Autumn Affair at the Manor House.** Metropark dinner, dance, and auction to raise money for nine area parks. Toledo, Ohio. (419) 825-2032.

**SEPT. 19-21 ■ Gardening with a Legacy.** Symposium. Indianapolis Museum of Art, Indianapolis, Indiana. (317) 920-2673.

**SEPT. 20 & 21 ■ Garden Harvest Festival.** Chicago Botanic Garden, Glencoe, Illinois. (847) 835-5440.

**SEPT. 28 ■ Dog Day Afternoon.** Auction of architect-designed doghouses. Midway Stadium, St. Paul, Minnesota. (612) 870-1099.

**SEPT. 24-28 ■ Taking Root: Building Community from the Ground Up.** Conference of the American Community

Gardening Association. Radisson Hotel City Centre, Indianapolis, Indiana. (317) 848-7351.

**SEPT. 27 ■ Decorating Your Home for the Holidays with Herbs.**

Demonstration. Olbrich Botanical Gardens, Madison, Wisconsin. (608) 246-4551.

### NORTHEAST

**SEPT. 6-28 ■ GardenFest.** Longwood Gardens, Kennett Square, Pennsylvania. (610) 388-1000.

**SEPT. 13 ■ Herbs and Their Uses.** Herb festival. Hill Top Nursery and Herbal Garden, Egg Harbor, New Jersey. (609) 965-0337.

**SEPT. 19 & 20 ■ Plant Sale.** Scott Arboretum of Swarthmore College, Swarthmore, Pennsylvania. (610) 328-8025.

**SEPT. 21 ■ Annual Fall Plant Sale.**

Arnold Arboretum, Jamaica Plain, Massachusetts. (617) 524-1718.

**SEPT. 21 ■ Hershey Community Gardenfest.** Hershey Gardens, Hershey, Pennsylvania. (717) 534-3493.

**SEPT. 27 ■ Conserving Urban Woodlands.** Abrons Woodland Volunteer Day. Wave Hill, Bronx, New York. (718) 549-3200.

**OCT. 4-8 ■ Landscape Lighting Institute.** Class. Rensselaer Polytechnic Institute, Troy, New York. (518) 276-8716.

**OCT. 4-26 ■ A Carnival of Color.** Fall Flower Show. Phipps Conservatory, Pittsburgh, Pennsylvania. (412) 622-6915.

**OCT. 14 ■ Perennials Conference.** Swarthmore College, Swarthmore, Pennsylvania. (610) 988-8778.

### NORTHWEST



**OCT. 27 ■ Third Annual Reef Tour.** Geothermal Aquaculture Research Foundation, Boise, Idaho. (208) 344-6163.

### SOUTH CENTRAL

**SEPT. 12-14 ■ Texas Herb Growers and Marketers Association 11th Annual Herb Conference.** San Antonio Airport Hilton, San Antonio, Texas. (972) 924-3703.

**SEPT. 25-27 ■ 55th Annual Bulb and Plant Mart.** Westminster United Methodist Church, Houston, Texas. (713) 626-7908.

**OCT. 3 & 4 ■ Southern Garden Symposium and Workshops.** Various locations throughout St. Francisville, Louisiana. (504) 775-0970.



Events marked with this symbol are official "Diamond Anniversary

Gardening Events" chosen as regional sites where AHS members can help us celebrate our 75th anniversary during 1997. Look for others in your area throughout the year.



**OCT. 16-19 ■ Texas Rose Festival.** Tyler Municipal Rose Garden, Tyler, Texas.

(903) 597-3130.



**OCT. 18 & 19 ■ Fall Garden Show.** New Orleans Botanic Garden, New Orleans,

Louisiana. (504) 483-9386.

### SOUTHEAST

**SEPT. 12-14 ■ Southern Gardens Exposition.** Georgia World Congress Center, Atlanta, Georgia. (800) 723-5563.

**SEPT. 13 ■ Giant Growers Association Giant Vegetable Contest.** North Carolina State Farmers Market, Raleigh, North Carolina. (919) 639-2644.

**SEPT. 17 ■ Identifying Orchids.** Class. Marie Selby Botanical Gardens, Sarasota, Florida. (941) 366-5731 ext. 10.

**SEPT. 17-20 ■ Cities by Nature's Design.** National Urban Forest Conference. Hyatt Regency Hotel, Atlanta, Georgia. (202) 667-3300 ext. 211.

**SEPT. 26-OCT. 26 ■ Michaelmas: An English Harvest Fair.** Biltmore Estate, Asheville, North Carolina. (704) 255-1174.

**SEPT. 27 & 28 ■ Fall Native Plant Sale.** Reflection Riding Arboretum and Botanical Garden, Chattanooga, Tennessee. (423) 821-9582.

**OCT. 2-4 ■ Breaking Ground: Examining the Vision and Practice of Historic Landscape Restoration.** Conference. Salem Academy and College, Winston-Salem, North Carolina. (910) 721-7300.

**OCT. 3-5 ■ Charleston Garden Festival.** Gaillard Auditorium, Charleston, South Carolina. (803) 722-0661.

**OCT. 4 ■ Eighth Annual Perennials Conference.** Cheekwood, Nashville, Tennessee. (615) 356-8000.



**OCT. 4 ■ Fall Gardening Festival.** Atlanta Botanical Garden, Atlanta, Georgia.

(404) 876-5859.

**OCT. 10-12 ■ Chrysanthemum Festival.** Tryon Palace Gardens, New Bern, North Carolina. (800) 767-1560.



**OCT. 11 & 12 ■ Color Fest.**

Bernheim Arboretum and Research Forest, Clermont, Kentucky. (502) 543-2451.

**OCT. 12 ■ Fall Rose Show.** Goldsmith Civic Garden Center, Memphis, Tennessee. (901) 685-1566.

**SOUTHWEST****SEPT. 4 & 5 ■ Southwest Horticultural**

**Trade Show.** Phoenix Civic Plaza, Phoenix, Arizona. (602) 966-1610.

**SEPT. 6 & 7 ■ Fall**

**Gardening Fair.** Denver Botanic Garden, Denver, Colorado. (303) 370-8187.

**SEPT. 20 ■ Autumn Festival.**

Red Butte Garden and Arboretum, Salt Lake City, Utah. (801) 581-5322.

**SEPT. 26 & 27 ■ Harvest Fair.**

Albuquerque Garden Center, Albuquerque, New Mexico. (505) 296-6020.

**WEST COAST****SEPT. 20 ■ Fall Garden Tour.**

Ruth Bancroft Garden, Walnut Creek, California. (510) 210-9663.

**SEPT. 20 ■ Four Seasons of Herbs.**

Class. The Arboretum of Los Angeles County, Arcadia, California. (818) 447-8207.

**SEPT. 27 ■ Succulent Symposium.**

Huntington Botanical Garden, San Marino, California. (626) 405-2160.

**OCT. 5 ■ Fall Planting: The Best of**

**the Old and New.** Seminar. Descanso Gardens, La Cañada Flintridge, California. (818) 952-4401.

**OCT. 21-23 ■ International Oak Society Conference.**

Seed exchange and triennial meeting. Huntington Botanical Garden, San Marino, California. (510) 763-0282.

**OCT. 19 ■ Fall Plant Sale.**

Santa Barbara Botanic Garden, Santa Barbara, California. (805) 963-1886.

**OCT. 22 & 23 ■ Western Nursery and**

**Garden Expo.** Sands Expo Facility, Las Vegas, Nevada. (916) 567-0200.

**OCT. 22-26 ■ Los Angeles Garden**

**Show.** The Arboretum of Los Angeles County, Arcadia, California. (818) 447-8207.

**CANADA****SEPT. 6, 13, & 20 ■ Autumn Wild-**

**flower Walks.** Royal Botanical Gardens, Hamilton, Ontario. (905) 527-1158.

## U.S. Botanic Garden Closing for Renovations

After years of debate, studies, and budgetary hand-wringing, Congress has funded renovation of the 66-year-old U.S. Botanic Garden Conservatory in Washington, DC, and on September 2, the conservatory will close for two years.

The \$33.5 million appropriation was part of the disaster relief bill. "We thought this was an emergency situation," says Rep.

James T. Walsh (R-NY), chairman of the House appropriations subcommittee on the District of Columbia, "because when the wind blows, the glass panels in the buildings just drop out, and they're not safety glass, so they shatter."

An earlier proposal would have closed the conservatory for four years and cost \$1.5 million more. The structure has not been renovated since it was built at First and Maryland Avenues, SW, in 1931. It is not in compliance with the Americans With Disabilities Act (ADA) and violates Office of Safety and Health Administration safety standards. The botanic garden is officially an agency of Congress and is overseen by the architect of the Capitol. There have been moves to transfer oversight of the garden to either the Smithsonian Institution, the U.S. National Arboretum, or the Department of Agriculture, but no one wanted to take on the conservatory without funds to renovate it.

Walsh says that when he became chairman of the appropriations subcommittee, he was determined to save the garden. "It's beautiful and it has a wonderful history," he says.

In addition to architectural changes and structural repairs, the bill will fund exhibits that support the botanic garden's expanded educational mission. "We will be focusing on the importance of plants to the environment, on conservation, biodiversity, and endangered species," says Jeffrey Cooper-Smith, executive director of the garden, "and branching out to talk about the therapeutic value of plants—plants as medicine and in aromatherapy. And we will talk about the cultural value of plants through history and as inspiration in the arts."

Exhibits in the west half of the building will focus primarily on the importance of plants to people, with displays of economic plants, plant discoveries, and the use of medicinal plants by indigenous peoples of the world, particularly in the rain forest. Those in the east half will relate to plants and the environment, with exhibits showing plant evolution and xerophytic (dry climate) plants.

The two halves will come together in a new version of the Palm House—that picturesque part of the building was demolished in 1992—which will be called the Jungle. Visitors will first see a very formalistic planting of palms and other vegetation around a pool area, but as they proceed through the exhibit, the plantings will become wilder and some of the manmade structures will be represented by ruins, ending with untouched natural growth.

There are tentative plans to convert one of the courtyards into a children's garden and the other into a meditation garden, says Cooper-Smith.

While the conservatory is shut down, plants from the current exhibits will be moved to the greenhouses near the botanic garden's production facility.

Major structural changes will include making all buildings comply with the ADA; installing air conditioning in the two display halls; improving air control systems, shade cloth, and fogging systems in the glasshouses; and adding a multimedia system in the east display hall, says Marc Tartaro, head of the botanic garden's architecture division. The Jungle building will have a mid-level walkway so that visitors can have a tree-canopy view.

Architectural changes will be made by the firm of Daniel Mann Johnson and Mendenhall, and the design of the new exhibits and glasshouses is by Rodney Robinson and CLR Design.





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◀ **38 EXTRA INCHES GROWTH ABOVE FERTILIZERS-ALONE. SEVEN MONTHLY USES.** Tucson, Arizona, City Parks.



◀ **TREE-SAVING RECORD OF 1/2 CENTURY.** California Polytechnic State University, Cal. Capitol, Cal Tech, U. of Cal., Cal. State U.



◀ **SAVED GIANT CACTUS TREES** authorized moved to desert botanic garden, Reported planted all famous and "world's biggest" Nevada hotels. Pushes back Africa desert.

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