**EXCLUSIVE SNEAK PEEK: The New USDA Hardiness Zone Map** 

# The American GARDENER

The Magazine of the American Horticultural Society

May / June 2003

10 Great Small Native Trees Vines for Shade All About Garden Edging

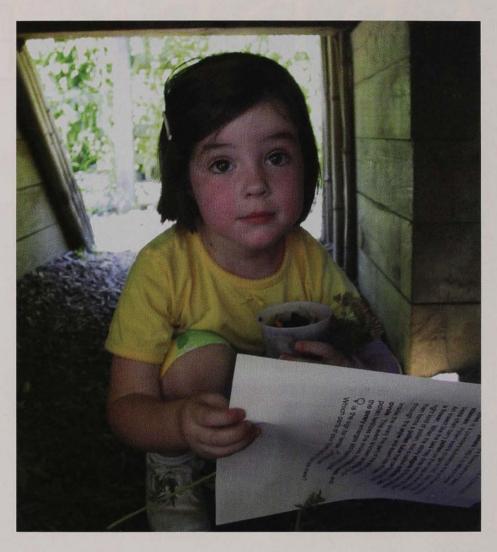
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# Sarah Doesn't Care that AHS has been Inspiring and Educating Gardeners for 80 Years.



Sarah isn't all that interested in our 80th Anniversary celebration. Who can blame her? She just planted her first seed and found out that it will need water and sunshine to grow. She also learned that worms are very good for the soil—and a lot of fun to play with. Sarah is one of many children whose introduction to the joys of gardening happened because of the caring people who have supported AHS for the past 80 years. Living Lab programs at River Farm, like the one Sarah is involved in, are just a part of our larger mission to educate and inspire gardeners of all ages. We think that's pretty special and want to thank you on behalf of Sarah for being a part of that history. Take our word for it: Your support is very important to her.

She'd tell you herself, but she just spotted a butterfly on a nearby black-eyed Susan and is very busy watching it and wondering what it is doing. Thanks to you, she's about to find out.



If you'd like to make a donation to the American Horticultural Society, please contact Joe Lamoglia at (800) 777-7931 ext. 115, or visit our Web site at www.ahs.org.

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ON THE COVER: Nepeta × faassenii is a hybrid catmint of which there are many cultivars available for the home gardener. Photograph by Rob Cardillo

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#### INTERN PROGRAM

To receive an application for the Society's Intern Program, write to Trish Gibson at the address above or e-mail her at tgibson@ahs.org. Intern application forms can be downloaded from the River Farm area of the Society's Web site at <a href="https://www.ahs.org">www.ahs.org</a>.

#### RECIPROCAL ADMISSIONS PROGRAM

The AHS Reciprocal Admissions Program offers members free and discounted admission to botanical gardens throughout North America. A list of participating gardens can be found in this year's AHS Member Guide and also in the Membership area of our Web site. For more information, call (800) 777-7931 ext. 127.

#### TRAVEL STUDY PROGRAM

AHS members and friends can visit spectacular private and public gardens around the world through the Society's exclusive arrangement with the Leonard Haertter Travel Company. For information about upcoming trips, call (800) 777-7931 ext. 117 or visit the Events section of our Web site.

#### WEB SITE: WWW.AHS.ORG

The AHS Web site is a valuable source of information about the Society's programs and activities. It is also an important resource for getting the answers to gardening questions, finding out about gardening events in your area, and linking to other useful Web sites. AHS members can reach the membersonly section of the Web site by typing in this year's password: sunflower.

#### NATIONAL CHILDREN AND YOUTH GARDEN SYMPOSIA

For information about the Society's annual Youth Garden Symposia (YGS), call (800) 777-7931, or visit the Events section of our Web site.

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# **NOTES FROM RIVER FARM**

ELCOME TO THE many new members of the American Horticultural Society who have joined in the past few months. We are growing, thanks to each of you. As AHS reaches out to gardeners in this great land of ours, we are pleased to have many new AHS Horticultural Partners joining us and taking advantage of the opportunity to offer membership in the American Horticultural Society as a special bonus to their own members.

In addition to our very first AHS Horticultural Partner, the Oklahoma Horticultural Society, we now add to the list the Colonial Williamsburg Garden Symposium, Cox Arboretum in Dayton, Ohio, Morris Arboretum in Philadelphia, the Center for Plant Conservation based in St. Louis, the International Master Gar-

dener Conference, and the Michigan State Master Gardener Conference.

For those of you who are new to AHS, we hope you enjoy this special issue of The American Gardener, which contains the 2003 update of the USDA Plant Hardiness Map featured prominently at the centerfold! We also encourage you to take advantage of the many benefits of membership and get actively involved in the various programs sponsored by the AHS.

As a long-time champion of youth gardening in America, AHS has for many years sponsored the annual National Children and Youth Garden Symposium. This year's symposium—to be held here in the Washington, D.C., area—will focus on ideas for anyone interested in teaching and learning in a garden setting. Whether you are an educator, a parent, or a community leader dedicated to making a difference for children, this is your moment for inspiration! Please join us. Turn to page 7 for more information and for registration instructions.

If you cannot physically be here for the symposium but believe connecting children and plants is important, consider "playing" with us through an exciting new AHS youth gardening initiative called The Growing Connection. Thanks to a unique partnership AHS has established with the Food and Agriculture Organization of the United Nations, NASA's Science Balloon Program Office, the EarthBox Co., the Ball Horticultural Co., and seed producers from around the world, young people in schools in America and abroad will be growing food for themselves and their families while at the same time discovering science and learning communications skills.

Some of the vegetable seeds they will be growing are being sent up into the stratosphere in a huge science balloon so that the effects of solar radiation, cold temperatures, and differential gravity can be explored. A team of educators are developing a series of innovative projects and lesson plans using a Growing Connection Kit.

How can you help and have a little gardening fun yourself? Well, if you buy a Growing Connection Kit for yourself (which will include all The Growing Connection seeds, soil, fertilizer, project sheets, and a specialized self-contained planter called an EarthBox<sup>™</sup>), your purchase will directly benefit the program. Turn to pages 10 and 11 to learn more about this creative program. Let's grow food together, encourage children everywhere, and then share our successes!

Happy Gardening!

Faty Mon Warner -Katy Moss Warner, AHS President

MAY/JUNE 2003

# **MEMBERS' FORUM**

#### BENEFITS OF MELALEUCA MULCH

In the January/February issue, there was a sidebar to a mulching article that recommended switching from cypress to melaleuca. Can you tell me the relative weed-suppressing qualities of the latter? I am more than willing to switch but would like more information.

Gerald R. Remme, Cincinnati, Ohio

Editor's response: Melaleuca mulch, sold under the names "Enviro-mulch" and "Florimulch," does not decompose as rapidly as other organic mulches—including cypress—and it holds its color well. In research conducted at the University of Florida, it was the only mulch tested that termites refused to eat. As far as suppressing weeds in your garden, melaleuca mulch offers little or no benefit over cypress or other organic mulches, but by using it you are supporting the eradication of invasive melaleuca and reducing the ecological damage associated with harvesting cypress trees.

#### **ROOT OF CONTROVERSY**

I was appalled to read Guy Sternberg's reply to a question about growing bur oak in the the January/February "Gardener's Information Service" section. He indicates that the bur oak in question will do well "once established and has its roots down into a dependable water table."

About 30 years ago, research in tree growth proved that trees are not carrots. While there are deep roots that aid in keeping a tree upright, the main nutrient- and water-absorbing roots of all woody plants remain about 18 inches below the soil surface. This revelation was perhaps not considered all that important east of the Mississippi River, where drought is seldom a problem.

However, there is a vast area of America west of the Mississippi. Those of us in this region cannot depend upon natural precipitation or a water table at any depth. Wells often don't reach water until 300 feet or more, so irrigation is a way of life in the Mountain West. We are very

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well aware of how to water the root zone of a woody plant and equally aware that this watering must continue throughout the life of the plant, not "once it has been established" as Mr. Sternberg suggests.

Barbara Hyde Boardman Littleton, Colorado

Guy Sternberg responds: Sorry, Barbara, my heart was in the right place, but I was too casual in using the term "water table" instead of "water source." You are correct in reporting that researcher Gary Watson found—working in the dense clay soils of the Chicago area—that trees seldom maintain deep taproots beyond the small sapling stage. However, tree roots develop differently according to species, soil, and regional climate.

Just 50 miles east of where Gary did his research, I have seen basswood trees (*Tilia americana*) with roots—exposed when the sand dunes in which they were growing eroded—extending down more than 50 feet. Those deep roots were not there to keep the tree upright, as you suggest; that anchorage is done by the tensile

strength of the lateral root system. The sandy soil allowed the roots to extend down and reach dependable moisture.

On dry upland sites in central Illinois, I have relocated relatively young bur oak trees that had taproots 15 feet down. As these trees grow older, the taproots are gradually supplanted by sinker roots (secondary tap roots) that descend vertically from the primary lateral root system. While most of the lateral roots are indeed within a few feet or inches of the surface, bur oaks do maintain these lifelines to water.

Bur oak is native as far west as a line from New Mexico north to Saskatchewan, and old planted trees can be found around abandoned home sites even farther west. They can even be found growing wild in eastern Colorado. These trees have survived for years without any supplemental irrigation. In reality, "dependable" moisture does not necessarily mean year-round soil saturation or a high summer water table. Oaks-and other drought-tolerant trees-do require adequate water during the spring growth flush. But they can survive on the minimal amount of water remaining in what seems to be very dry soil during the summer.

So plant those bur oaks, water them deeply and regularly for a few years, then gradually decrease the irrigation until they are thriving on their own. In severe drought, giving them a deep drink once in a while will keep them looking their best, but they don't need it to survive.

**Editor's note:** Guy Sternberg is a certified arborist and registered landscape architect who has worked with trees for more than 40 years. He is past president of the International Oak Society and coauthor of *Landscaping with Native Trees*.

**PLEASE WRITE US!** Letters should be addressed to Editor, *The American Gardener*, 7931 East Boulevard Drive, Alexandria, VA 22308, or you can e-mail us at editor@ahs.org. Letters we print may be edited for length and clarity.

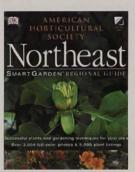


AHS Programs and Events

# New Book Releases from DK Publishing

THIS FALL, DK Publishing, Inc. will release its newest series of AHS books, including an updated edition of the popular AHS Encyclopedia of Gardening and two of the much anticipated SMARTGARDEN™ Regional Guides.

AHS President Emeritus **Dr. H. Marc Cathey** developed the SMARTGARDEN™ concept to simplify gardening tech-



niques and encourage gardeners to become better stewards of the land. Since then, this blueprint for gardening success has been introduced to American gardeners through an ongoing series of articles in *The American Gardener* as well as workshops and lectures presented by AHS horticulturists.

The core text for the new regional guides was written by **Rita Pelczar**, as-

sociate editor of *The American Gardener*, but each guide features a different regional coauthor. The Northeast and Northwest guides—by **Trevor Cole** and **Peter Punzi**, respectively—will be issued this year. The Southeast, by **Felder Rushing**, and Southwest, by **Pat Welsh**, will be issued in spring 2004.

Now tailored specifically to meet the needs of American gardeners, the revised edition of the AHS Encyclopedia of Gardening is better than ever. There will be updated plant nomenclature and the inclusion of hardiness zones based on the newly revised 2003 USDA Plant Hardiness Zone map as well as AHS heat zones.

Based on the past success of the *Encyclopedia of Gardening* and the popularity of the SMARTGARDEN™ articles in this magazine, these new books will become important additions to your gardening reference shelf. For more information about these books and other upcoming new releases from AHS and DK Publishing, stay tuned to *The American Gardener* and the AHS Web site (www.ahs.org).

# 2003 Children and Youth Garden Symposium at River Farm

THE RISING INTEREST in children's gardening programs over the last decade has led more and more schools and public gardens throughout the United States to develop attractions geared toward children and families. This summer, the AHS's 11th annual Children and Youth Garden Symposium will pro-

vide practical advice and strategies for anyone interested in developing a successful children's garden.

The 2003 symposium, to be held July 24 to 26, will focus on research and training for parents, teachers, and anyone else exploring the idea of teaching and learning in a garden setting in their school or community. River Farm, AHS's headquarters in Alexandria, Virginia, will serve as the symposium's home base, hosting various workshops and events and showcasing the awardwinning children's gardens on its historic grounds.

Attendees will also visit other innovative children's gardens in the Washington, D.C., area, including those at Tuckahoe Elementary School and Green Spring Garden Park. At each location, workshops will focus on how to start up and maintain successful children's garden programs.

The symposium will also provide information on how to get involved with The Growing Connection, an exciting new AHS

national educational program designed to teach middle school students the science of growing food plants from seed (see article on page 10).

At the conclusion of each day, mixers held in beautiful garden settings around the Washington, D.C., area will give attendees an inspirational forum to network and exchange ideas about children's gardening programs.

For more information about the 2003 Children and Youth Garden Symposium, contact **Mark Miller** at (800) 777-7931 ext. 117; e-mail: mmiller@ahs.org, or visit the AHS Web site (www.ahs.org) and click on "Youth Gardening."

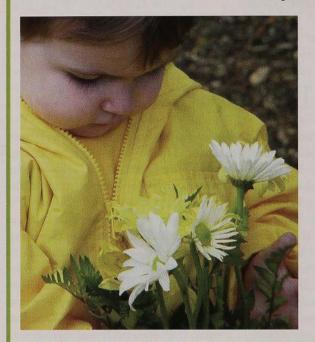
-Pia daSilva, Editorial Intern



Hands-on gardening activities for kids will be among the topics at the AHS Youth Garden Symposium.

# THE AMERICAN HORTICULTURAL SOCIETY'S 11th ANNUAL CHILDREN & YOUTH GARDEN SYMPOSIUM

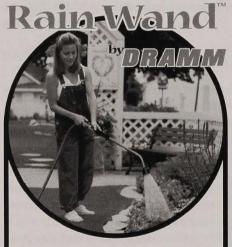
JULY 24-26, 2003



Join us at River Farm, AHS's headquarters in Alexandria, Virginia, for terrific tours, wonderful workshops, exciting events, and noteworthy networking! Besides the award-winning children's gardens on River Farm's historic grounds, attendees will visit many innovative children's gardens in the Washington, D.C., area, including those at schools, public gardens, community gardens, and inner-city sites.

Participate in a focus group to explore the future of children's gardens and gardening, see practical examples of how to integrate curriculum into an outdoor setting, learn how to garden with pre-schoolers, and find out more about the exciting new AHS children's gardening initiative—The Growing Connection. There are evening networking and social opportunities, including a twilight tour at Green Spring Garden Park, dinner on River Farm's beautiful grounds, and a reception at the newly renovated U.S. Botanic Garden.

To register or obtain more information about the symposium, contact Mark Miller at (800) 777-7931 ext. 117 or e-mail: mmiller@ahs.org. Or visit www.ahs.org and click on "Youth Gardening" and "National Youth Garden Symposium."



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# Five Books Earn 2003 AHS Awards

TIVE GARDENING books published in 2002 have earned the American Horticultural Society's Annual Book Award. The winning books, profiled below, are The American Woodland Garden by Rick Darke, An Encyclopedia of Shade Perennials by W. George Schmid, Grounds for Pleasure: Four Centuries of the American Garden, by Denise Otis, Melons for the Passionate Grower by Amy Goldman, and Native Trees, Shrubs, & Vines by William Cullina.

The award winners were selected by the AHS Book Award Committee. Marco Polo Stufano, former director of horticulture at Wave Hill in New York City, chaired this year's committee, which included Linda Askey of Birmingham, Alabama, formerly senior writer for Southern Living magazine; Dick Dunmire of Los Altos, California, a former editor of the Sunset Western Garden Book: Laurie Hannah, a horticultural librarian at Santa Barbara Botanic Garden; Rommy Lopat of Richmond, Illinois, former editor of The Weedpatch Gazette; Lucinda Mays of Chadron, Nebraska, a garden writer and former host of PBS's "The Victory Garden"; and Ray Rogers of North Brunswick, New Jersey, a freelance garden book editor.

AHS annual award-winning books can be distinguished by a gold seal on the cover embossed with the Society's name. Look for these books in your local bookstore or order them through a link to Amazon.com on the AHS Web site (www.ahs.org).

The American Woodland Garden: Capturing the Spirit of the Deciduous Forest by Rick Darke. Timber Press, Portland, Oregon. Price, hardcover: \$49.95.

DARKE'S ARTICULATE chronicle of eastern woodlands and the lessons in design and ecology we can learn from them struck a chord among committee members. "I live in California now, but I grew up in Pennsylvania," said Dick Dunmire, "and this book is so good it almost made me want to move back."



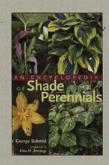
"It's one of the best gardening books

to come along in the last 20 years," said Ray Rogers. "The author's passion for his subject comes through both in his writing and his photography." Laurie Hannah said, "Even though its primary focus is on woodlands in the East and Midwest, anybody could apply the lessons and philosophy behind it."

An Encyclopedia of Shade Perennials by W. George Schmid. Timber Press, Portland, Oregon. Price, hardcover: \$49.95.

SCHMID'S opinionated writing style and authoritative advice earned high marks. "I used the book as a reference in some design work," noted Lucinda Mays, "and in every case the information was sound and accurate."

Dick Dunmire said, "He does a marvelous



job of bringing you up to date with shade plants by covering a lot of the newer discoveries that have been made in Japan and China."

"The book contained the most thoughtful guide to differentiating degrees of shade that I've ever seen," said Linda Askey.

Grounds for Pleasure: Four Centuries of the American Garden by Denise Otis. Harry N. Abrams, Inc., New York, New York. Price, hardcover: \$75.

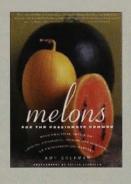
OTIS'S HISTORY of the evolution of the private American garden was praised for its audacious scope, readability, and photography. "The scope of the book is huge, but the thing that most impressed me about it is that her voice is consistent throughout," Lucinda Mays said. "To cover that much ground and not lose her narrative train is very impressive."



"The prose is so readable," said Linda Askey. "I found it an intellectually tickling presentation of gardening history."

Melons for the Passionate Grower by Amy Goldman. Artisan, New York, New York. Price, softcover: \$25.

GOLDMAN'S BOOK was praised for "mouthwatering" photography and for the author's ability to inspire interest in a under-appreciated plant group. "Victor Schrager's photography deserves special kudos," said Ray Rogers, "and the book covers everything you could possibly want to know about melons." Rommy Lopat said, "The photography is very entertaining, and the author did her homework and got around her subject matter."



Lucinda Mays shared the book with nongardening friends and said they got excited about trying to grow melons. "Any book that creates a call to action like that has made an impact," she said.

Native Trees, Shrubs & Vines by William Cullina. Houghton Mifflin, Boston, Massachusetts. Price, hardcover: \$40.

"THERE ARE relatively few good books on how to grow and propagate natives," said Laurie Han-

nah. "This book really fills a gap."

"It is useful for exactly what its subtitle says—as a guide to using, growing, and propagating American woody plants," said Lucinda Mays.

"It's written by someone who really has done all this stuff," noted Marco Polo Stufano. "Cullina has been working with natives for years and it shows."



# AHS NATIONAL PROGRAMS

# THE GROWING CONNECTION

# Cultivating Food, Connecting Minds, and Harvesting Hope

by David J. Ellis and Pia daSilva

STICK A VEGETABLE seed in the soil, water, wait a little while, pick and eat. It's almost that simple, yet despite great advances in agriculture there are people—mostly children—the world over who are malnourished or starving due to environmental, economic, or political factors outside their immediate control. While food is plentiful in our country, many American children don't realize how delicious fresh vegetables are and how important they are in a healthy diet.

The American Horticultural Society (AHS) and the Food and Agriculture Organization of the United Nations (FAO) believe children can be part of the solution to both problems. Along with several other partners, AHS and FAO have launched The Growing Connection, a project designed to teach children around the world about the science behind growing food plants. Ten schools in the United States and ten schools in the West African nation Ghana will be the first growing connection. The schools will be linked through state-of-the-art information technology so that child to child, child to scientist, and teacher to teacher exchanges of information will be possible.

"This project will open literally thousands of windows from this country to the world," says Bob Patterson, FAO's senior liason officer in Washington, D.C. "For us to partner with AHS, an organization that reaches so many gardeners, is a natural."

Felder Rushing, a Mississippi-based garden writer and member of the AHS Board of Directors, recently traveled to Ghana to visit the schools that will be participating in The Growing Connection. "The people I met are very excited about this program," says Rushing. "Whether in Ghana or the United States, students will be able to study science and grow food on a level playing field."

The Growing Connection has generated so much interest already that an early phase of the program has been developed to allow more schools and community youth groups in America and abroad to join in the fun this year. Participants in this early phase of the pro-



Middle school students in Ghana gather around pepper plants growing in an EarthBox™.

gram will be encouraged to share their learning experiences through the AHS Web site, and the results will be used to guide development of the formal curriculum for The Growing Connection.

# HIGH ADVENTURE FOR SEEDS

The Growing Connection will be, literally, launched this summer when a giant National Aeronautics and Space Administration (NASA) science balloon carries thousands of packages of vegetable seeds to an altitude of 120,000 feet in the stratosphere.

After returning to Earth, the seeds from the balloon will be distributed, along with packages of "control" seeds that were not sent up in the balloon. Participants will conduct experiments on how solar radiation, cold temperatures, and differential gravity affect plant growth.

To ensure the experiments are consistent no matter where they are done, each participant will also receive The Growing Connection Kit. Each kit contains a specialized, self-contained growing unit called an EarthBox™ (see box), seeds, and project sheets describing how to grow and experiment with the plants.

The seeds chosen for the project include five different kinds of sunflowers as well as tomatoes, eggplants, lettuces, and peppers. "Sunflowers play a special role in The Growing Connection," says AHS President Emeritus Dr. H. Marc Cathey, "because they are used for their food value and also to produce oil, they have tremendous genetic diversity, they are native to

North America, and their beautiful flowers bring joy to anyone who grows them."

# **GETTING INVOLVED**

For now, schools and community youth groups are encouraged to participate in the first phase of the program. To help schools and youth groups that would like to join in, a special program has been set up to allow donations of The Growing Connection Kits (see below for details).

"Growing food is fun and it also teaches us important lessons about nutrition and sustainability," says AHS President Katy Moss Warner. "We are hoping that more than 1,000 schools will get involved in the first phase of The Growing Connection so we can use what they learn to make the program even more exciting."

To learn more about participating in The Growing Connection, call AHS at (800) 777-7931, e-mail: thegrowing connection@ahs.org, or visit the AHS Web site at www.ahs.org.

David J. Ellis is editor of The American Gardener. Pia daSilva is the magazine's editorial intern.

# Why EarthBox™?

One of the key elements to the success of The Growing Connection program was finding a growing unit that would allow experiments to be conducted in a scientifically consistent framework. The Earth Box™—developed by a unique partnership of a scientist, a farmer, and a plastics manufacturer—was chosen because it is a revolutionary, sustainably designed planter that can be used to grow plants successfully almost anywhere with minimal input of water and fertilizer. In addition, the EarthBox is self-contained, portable, and simple to use.



Young tomato plants planted in EarthBoxes thrive at the EarthBox Research Center in Ellerton, Florida, To ensure the success of the project, the company that manufactures EarthBoxes has already donated more than 100 of the planters to program partners for testing in Ghana and in the United States.

# share THE GROWING CONNECTION

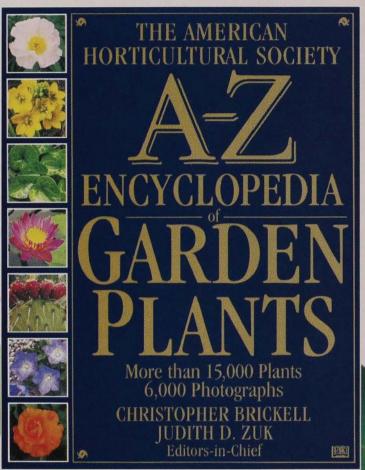
Buy The Growing Connection Kit for yourself or for the children in your life and one-third of your purchase amount will be donated to AHS for The Growing Connection. The kits purchased with those donations will be passed along to schools or community youth groups who want to join in the learning experience.

The Growing Connection Kit contains everything you need to get started growing these special vegetable seeds, including project sheets that will provide directions for experimenting with the seeds that went up in a NASA science balloon.

Buy one kit for yourself for \$59.95 plus \$15 shipping and one-third of your purchase will go towards an additional kit for the program. You can also donate your kit to the program or make a tax-deductible gift in any amount. To order, visit the AHS Web site at www.ahs.org or call AHS at (800) 777-7931.







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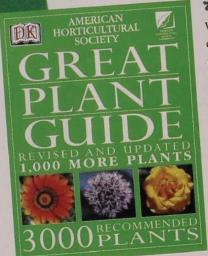
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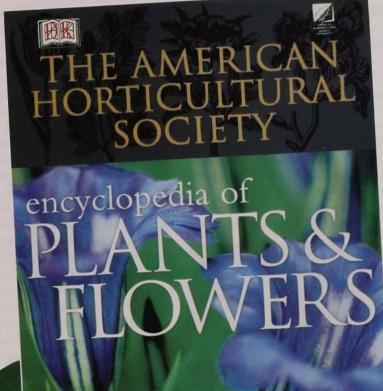
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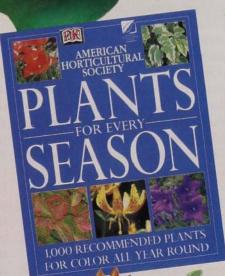
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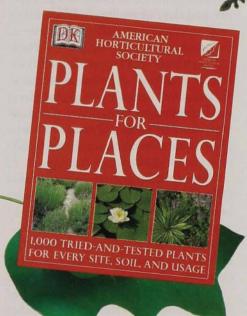
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# AHS 2003 GREAT AMERICAN GARDENERS NATIONAL AWARD WINNER

# JANE G. PEPPER—LIBERTY HYDE BAILEY AWARD

# Making Philadelphia Bloom

by Mary Yee

The Liberty Hyde Bailey Award is given to an individual who resides in North America and has made significant contributions in at least three of the following areas of horticultural activity: teaching, research, writing, plant exploration, administration, art, business, and leadership.

the American Horticultural Society 2003 Liberty Hyde Bailey Award—the Society's highest award—means to her, Jane G. Pepper replies modestly, "I'm delighted to be recognized by such an old and venerable institution and to be recognized by my peers."

Recognition is nothing new to Pepper, president of the Pennsylvania Horticultural Society (PHS), itself a venerable institution with more than 12,000 members that was founded in 1827. She has received awards from many organizations, including the Royal Horticultural Society, National Council of State Garden Clubs, Greater Philadelphia Chamber of Commerce, and AHS's 1992 Professional Award.

Pepper's business savvy and penchant for working with people at all levels have been instrumental in helping PHS achieve world renown with the Philadelphia Green community program and the Philadelphia Flower Show—the largest indoor flower show in the world.

J. William Mills III, president of The PNC Financial Services Group, Philadelphia and Southern Jersey, a major corporate sponsor of the flower show, says Pepper's "skill as a manager and businessperson is equal to her skill as a horticulturist, which is necessary for a not-for-profit organization to be successful in today's world." It was this winning combination of skills that, more than 12 years ago, prompted PNC to sign on as the first corporate sponsor of the Philadelphia Flower Show.

#### SERENDIPITY MAKES A HORTICULTURIST

A native of Scotland, Pepper only discovered a passion for horticulture a year before she came to America, after her mother suffered a physical disability that spring and could not plant out the annuals she had grown in her greenhouse. Although both her parents "always gardened," Pepper claims she had no particular interest in plants until she began caring for her mother's garden.

After coming to America in 1967 and marrying the following year, she found a job as a secretary at Haverford College in



Haverford, Pennsylvania. It was there that the college landscaper opened her eyes to the possibility of making a career of working with plants. After receiving degrees in horticulture and landscape design at Temple University and the University of Delaware, she returned to Haverford as a horticulturist. Volunteer work with PHS eventually led to a position as PHS's public information coordinator in 1979 and chief executive officer in 1981—"a job," she says, "beyond my wildest dreams."

# A WORLD-CLASS SHOW WITH A SOCIAL CONSCIENCE

PHS has made huge strides in the 20-plus years since Pepper became its president. "When I took over, we had 35 people on staff," says Pepper. The staff now exceeds 100, and one of the satisfying changes, she

says, is in how the Philadelphia Flower Show has become a valuable asset for the city. "We have made it a national and international show," she says, "whereas it had been more of a local event. We've also tied the show to the economic development of the local community, making it a civic investment for the good of all."

According to Pepper, the show attracts over 250,000 visitors from the United States and abroad and brings in about \$30 million for the city of Philadelphia during its weeklong run each spring, and it also makes money for PHS. "My interest is plants with people," says Pepper. The flower show is about providing "a wonderful spring event for the city and generating revenue to put back into the city through the Philadelphia Green program."

Philadelphia Green, PHS's acclaimed neighborhood and public landscape greening program, works with community groups in economically disadvantaged neighborhoods to plant trees and gardens in neglected and vacant spaces. The program also helps revitalize green spaces around public sites such as the Philadelphia Museum of Art. The largest such program in the United States, Philadelphia Green serves as a model for similar programs in cities throughout the country.

Successfully implementing programs like Philadelphia Green would be impossible without cooperation from the city, notes Morris Cheston Jr., former chair of the Council of the Pennsylvania Horticultural Society and former chair of the Philadelphia Flower Show Executive Committee. "Jane," says Cheston, "is as known and respected in the board rooms of financial institutions and the mayor's office and city council as she is by people who live in the rowhouses"-all of which makes her something of a local hero in and around Philadelphia. Cheston says jokingly, "I told her she should move to the city and run for mayor."

# AHS 2003 GREAT AMERICAN GARDENERS NATIONAL AWARD WINNER

# P. ALLEN SMITH—HORTICULTURAL COMMUNICATION AWARD

# Spreading the Joy of Gardening

by Mary Yee

The Horticultural Communication Award recognizes effective communication using media and research techniques for the purpose of expanding horticultural awareness.

HANCES ARE you've seen P. Allen Smith at some point on I television, whether it was in a guest segment on the "CBS Early Show" demonstrating to viewers how to plant containers or on the Weather Channel providing exclusive gardening reports. Perhaps you've read his gardening articles in Woman's Day or browsed the pages of his Web site, pallensmith.com.

If you haven't heard or read of P. Allen Smith before, you will soon. The winner of this year's AHS Horticultural Communication Award is about to launch a new gardening series on PBS, "P. Allen Smith's Garden Home," that ties in with his newly published book of the same title from Clarkson Potter.

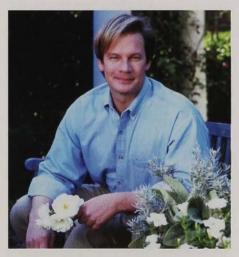
Getting the word out about gardening using various media has been Smith's objective for the past 20 years. "My mission is to inspire as many gardeners as I can to get outside and connect with their immediate environment through their own gardens," says Smith.

Aside from its potential to produce beauty for the eyes, Smith believes that gardening is also good for the soul—especially now that his extremely busy schedule often keeps him away from his own garden for long periods of time. "I know what a few hours of planting and pulling weeds can do to restore me," he says, "and being away so much only increases my resolve to encourage people to find the time to get out in the garden."

#### **LESSONS FROM THE PAST**

Although he now lives and gardens in Arkansas, Smith, who is a fourth-generation nurseryman, developed his green thumb while growing up in Tennessee. "I credit my grandparents for instilling in me the love of plants," he says. "From an early age, I was amazed that my granddad knew the name of every plant and could tell me a fascinating story about each one."

In the mid-1980s, Smith had an opportunity to study garden history and design as a post-college Rotary Scholarship student at the University of Manchester in England. While there, he met two people who would have a profound influence in shaping the way he gardens today: teacher David Baldwin and the Viscountess Elizabeth Ashbrook.



"Dr. Baldwin encouraged me to study great gardens the same way student artists study paintings by the fine masters," says Smith. During a visit to one such garden, Arley, in Cheshire, Smith met and struck up a friendship with its owner, Lady Ashbrook. "Lady Ashbrook helped me understand that good design principles could be applied any time, any place, and on any scale," says Smith. Lessons gleaned from visits to Arley and other great gardens in England convinced Smith that American gardens could be equally beautiful.

#### **ALL AMERICA'S A GARDEN**

After returning to the United States, Smith ran a retail garden center in Little Rock, Arkansas, for a decade, all the while designing gardens for clients and educating the public about horticulture through lectures, garden tours, and on local television and radio. Hortus Ltd., the television production company he founded in 1993, enabled Smith to deliver his message to a national audience in 90-second news inserts covering a variety of gardening topics, and later in a half-hour syndicated television program, "P. Allen Smith Gardens."

In April 2002, Smith formed a promotional partnership with The Flower Fields, an alliance of major plant producers, which provides Smith with The Flower Fields brand plants for his media work. "We and Allen have a shared philosophy of demystifying gardening," says Donna Greenbush, marketing manager for The Flower Fields. "People feel comfortable with him right away; he's down to earth."

Susan Sims-Smith (no relation), an Episcopal priest who lives in Little Rock, Arkansas, and has had two gardens designed by Smith, attributes his success as a horticultural communicator to his ability to approach his clients and audience as individuals. "Allen can relate as well to a country farmer," says Sims-Smith, "as he can to a grand duchess in England."

Even after years of lecturing, television appearances, and writing, Smith contends delivering gardening information to the public is not always easy. "I am extremely honored to receive the American Horticultural Society's 2003 Horticultural Communication Award," he says. "At times, when I'm in front of the camera or sitting down to write, I often feel tongue-tied and struggle to find the right words. This award helps me realize that my desire to share my love for gardening and plants comes through in a way others can understand and enjoy."

Mary Yee is managing editor and designer of The American Gardener.

# Ethylene: The Good, the Bad, and the Ugly

by Dr. H. Marc Cathey

ETHYLENE (C2H4) is a colorless, odorless gas naturally produced by many plants as they mature. It may, therefore, come as a surprise that this same compound is considered a hazard both to plants and the environment. The explanation: It is all a matter of quantity, and a little ethylene goes a long way.

Agricultural ethylene—that produced by plants or applied to plants—comprises only a small fraction of what is released



into the environment. By far, the most is generated by the incomplete combustion of fossil fuels and the breakdown of a number of industrial chemicals. Scientists are concerned

that although they have been able to slow the rate of accumulation of ethylene in the atmosphere, it continues to rise gradually.

# PLANT RESPONSES

Ethylene is a plant growth compound that regulates specific physiological processes. Ethylene-triggered reactions vary from species to species and are further influenced by level of maturity, temperature, and other environmental conditions. Responses to ethylene run the gamut from ripening fruit to causing leaf or bud drop (abscission), and from stimulating flowering to delaying flowering. Ethylene also stimulates the elongation of stems and roots of aquatic plants and promotes the germination of some seeds.

#### UNDERSTANDING ETHYLENE

Understanding how different plants respond to ethylene has many material benefits for gardeners and the horticultural industry.

The flower buds of gardenias are extremely sensitive to ethylene and often drop before they open if plants are stressed and ethylene levels rise. One simple way to reduce bud drop is to spray all developing leaves and flower buds daily

with ordinary tap water. This reduces the temperature and water stress, effectively slowing the natural generation of ethylene. As a result, more buds survive to develop into flowers.

Increasing the concentration of ethylene around plants, on the other hand, is widely used by the plant industry to stimulate desirable responses on certain plants. Because ethylene reduces apical dominance—the phenomenon whereby the terminal bud exerts a dominant influence that suppresses the development of lateral buds—it is used to stimulate lateral branching and create bushier, more floriferous plants. For this reason, many common bedding plants—including New Guinea impatiens, bacopas, petunias, and fuchsias—are treated with ethylene-generating compounds.

A similar approach is used with gar-



To induce a bromeliad to flower, enclose it with an apple in a plastic bag.

den chrysanthemums. Monthly foliar applications of ethylene-generating compounds during the summer cause side shoots to develop all over young garden chrysanthemums. Treated plants do not require any hand pinching, and flowering is delayed until fall.

#### LESSONS FROM HISTORY

During a trip to Israel in 1970, I visited with a senior horticulturist whose research indicated that the growth regulating characteristics of ethylene have been in use in the Middle East for centuries. He said that in ancient times, immature figs would be coated with rancid olive oil, which caused ethylene to build up inside the fruit, thus accelerating maturity.

At the end of the 19th century, ranchers in Cuba found that smoking pineapple fields accelerated flowering and fruiting. Subsequently, scientists learned that smoke contains ethylene, and today, ethylene is regularly applied to pineapples to induce uniform flowering and fruiting.

You can test this out at home by placing an apple—make sure it's not covered with wax—beside a non-flowering bromeliad and enclosing both with a large clear plastic bag. The apple naturally releases ethylene. After four days, remove the apple; the bromeliad will flower within six weeks to nine months, depending on genus.

So you can see that plants are complex organisms that differ greatly in how they respond to different stimuli. Determining these responses, and how they can be used to our advantage will keep scientists extremely busy for years to come.

Dr. H. Marc Cathey is AHS president emeritus.

# **GARDENER'S INFORMATION SERVICE**

# Our Experts Answer Your Gardening Questions

# **MULCHING WITH EUCALYPTUS**

I am seeing eucalyptus mulch newly available for sale this spring in our nurseries and am unfamiliar with its use. Are there plants that should not be mulched with it, and does it have any special properties like repelling insects?

-R. O., PETALUMA, CALIFORNIA

One can find claims that eucalyptus mulch repels insects and inhibits weeds—a phenomenon in living plants known as allelopathy—but most researchers agree this is a temporary phenomenon at best.

"Phytochemical or allelochemical residues in eucalyptus are toxic to seedlings, and thus we would like to think that eucalyptus chips make nice bioherbicidal barriers," explains California Extension advisor Jim Downer. "But it turns out that these are quickly leached and lost, and the weed control effect from eucalyptus mulches is about the same as that of other organic materials."

Mary L. Duryea, assistant director of the Institute of Food and Agricultural Sciences at the University of Florida, has conducted research comparing several organic mulches, including eucalyptus. "Our studies show that all fresh mulches had some allelopathic effects maybe for the first three months in the landscape."

Regardless of its phytochemical traits, eucalyptus makes an excellent organic mulch that discourages weeds, moderates soil temperatures, and promotes water conservation.

#### NON-FLOWERING COFFEE PLANTS

About four years ago, I bought two small coffee (Coffea arabica) plants. Now they are about three feet tall and bushy. I keep them under grow lights, and they are healthy but have not bloomed. Do they need a special nutrient to encourage them to do so?

- J. D., LINCOLN, NEBRASKA

Coffee plants are native to cool, sunny,

WE'RE READY TO HELP: For answers to your gardening questions, call Gardener's Information Service at (800) 777-7931, extension 131, between 10 a.m. and 4 p.m. Eastern time, or e-mail us anytime at gis@ahs.org.

tropical highlands, where—even under ideal conditions—it usually takes three to five years for them to flower and fruit. In the average home, it's difficult to replicate the perfect combination of temperature, soil pH (slightly acidic), humidity, light exposure, and daylength that coffee plants thrive on.

Mark Fisher, foreman of the conservatories at the Brooklyn Botanic Garden. says it took four or five years for their coffee tree to begin to bloom, but now "the plant blooms a couple of times a year and sets fruit." He advises that the closer your conditions are to those in a greenhouse,

As for fertilizer, Fisher says, "I feed the plant every other week with a mild concentration of 15-0-15 fertilizer from October through March, and a 20-20-20 during the warmer months."

So you may just need to wait another year or so; in the meantime, give Fisher's fertilizer regime a try.

# PRUNING CHINESE JASMINE

I have a Jasminum polyanthum that is in bloom. It is also putting out runners. When and how do I prune it?

- J. C., HARTFORD, CONNECTICUT

Whether you are growing your Chinese jasmine as a houseplant, or outdoors in the landscape (the latter is only possible in USDA Hardiness Zone 8 or warmer), the best time to prune it is right after flowering. For regular maintenance, thin out overcrowded growth, removing weak shoots, and cutting shoots that have bloomed back to strong buds or to a lateral branch. If the plant has completely overgrown its space or otherwise become unmanageable, you might want to cut it back hard to within two feet of the base to allow it to rejuvenate.

If you provide it with a support for climbing, prune to direct growth. Though vigorous, Chinese jasmine is not a strong climber, and some branches may need to be tied to the support.

# CONTROLLING RABBITS IN THE GARDEN

I live in the country and last year rabbits took over my backyard, eating almost all the ornamentals and gnawing on the trunks of my crape myrtle trees. Is there anything I can do to deter rabbits from my yard?

-M.E., SHIPPENSBURG, PENNSYLVANIA

"Rabbits generally gnaw on trunks and buds only in the winter, when leafy plant food is not available," says Maggie Brasted, assistant director with the Humane Society of the United States. "In bad winters, such as the one that just ended, gardeners are more likely to notice this type of damage to trees."

Bob Lyons, director of the JC Raulston Arboretum in Raleigh, North Carolina, says, "I have to rely on the old stuff, like collaring the lower trunk with fine mesh fencing, spraying urine-based repellents, and keeping dogs and cats roaming the yard." In addition to mesh fencing, gardeners can use commercial barriers such as plastic or metal tree wraps-but not fabric wraps, which can promote disease.

Because rabbits prefer twigs and buds to trunk bark, Brasted says one wildlifefriendly option is to place trimmings from your fall pruning on the ground well away from your ornamentals as a food source. With luck, rabbits will concentrate their feeding on these.

William May, Gardener's Information Service Volunteer, and Marianne Polito, Gardener's Information Service Manager.

# Nursery Tales

by Heather Lockman

A HHH," sighed my friend Dana, with more than a touch of envy. "You know you've landed my dream job."

Dana and I are both writers. The work is mostly rewarding, but sometimes, when we'd get fed up with deadlines and sparring with editors, we'd joke about getting jobs at a garden center—spending a summer outdoors amid flowers and getting in touch with our souls. Now, to Dana's astonishment, I'd actually gone and done it.

"Lucky you," she said.

I pictured myself counseling thoughtful customers, suggesting lesser-known bulbs and perennials for their borders. I would help beginning gardeners discover the joys of texture and foliage. I would share bits of gardening folklore. My days would be very peaceful and Zenlike.

Alas, I soon discovered there is nothing even remotely Zenlike about a nursery in springtime. In spite of appalling May weather, customers stormed the garden center to fill their shopping carts with common-as-dirt petunias and fought over which hanging basket to buy and who got the last white lobelia. I didn't have time to share folklore. I barely had time to breathe.

Every 20 minutes or so, Annabel, the nursery's chief grower, zoomed up from the growing fields and greenhouses behind the property in a golf cart hauling a trailer full of plants. She had waistlong blond hair, piercing Icelandic blue eyes, a wiry frame fueled by coffee, and the mouth of a stevedore. Annabel wouldn't have recognized Zen if it crawled off the back of her cart.

"Help me unload this trailer, sister, or I'm gonna break your fingers!"

Somehow I'd never imagined the backstraining, knee-bending, shin-bruising tasks involved in this line of work. I ran like a rabbit unloading trailers and restocking empty tables. I wrestled sacks of potting soil and bales of peat moss into cars full of groceries and golf clubs. I swept and reswept the greenhouse floors.

"What a great place to work," at least one customer said to me every day. "There's nothing more peaceful than being around plants."



I had always thought of gardening as a democratic pastime open to everyone. But I soon began to suspect there were people who simply shouldn't be permitted to garden—people who asked questions like, "Do you have a spray that will kill all the weeds but won't hurt the flowers I planted?" "What's wrong with the basket of annuals I bought here a month ago? It was beautiful, but now it looks like rubbish." These were the folks who wanted to garden without ever bending over. They were looking for lawns that didn't need mowing and trees that changed color in autumn but wouldn't drop their leaves.

Even the veteran staffers could be stumped by customer questions. "What do you call those tiny containers plants come in?" one woman asked earnestly. My coworkers gave it their best guess. Flower pots? Cell packs? Nursery flats? No, she said, none of those sounded right. Exasperated, someone offered, "Seeds?"

"That's it!" the woman cried happily. "Have you got any of those?"

In spite of the grueling physical chores, grumpy customers, and endlessly goofy questions, there were some sweet surpris-

es. A tattooed man with a ponytail bought six different hardy fuchsias because, he told me cheerfully, they reminded him of his auntie. A gardener who'd lost his vision fell in love with chocolate cosmos because of their candy-box fragrance. Elderly shoppers often asked which summer flowers were best to grow for cemetery bouquets.

Best of all were the wild things that lived on the grounds. "When customers really get to me," a long-time employee admitted, "I go out and pet a frog." Dozens of bronze tree frogs lurked beneath the benches and in the buckets of pond plants. We found garter snakes snoozing inside sun-warmed pots, chipmunks behind the gift-wrapping counter, and dim-witted killdeers nesting in the parking lot.

In August, the last bedraggled petunias were replaced with chrysanthemums, fall pansies, and flowering kale. By September, tulip and daffodil bulbs spilled from the retail shelves. Soon Annabel was shouting for help with the Christmas poinsettias and threatening us with bodily harm if we busted so much as a stem. The days grew shorter and colder. Finally it started to rain. I wasn't made of stern enough stuff to slog through a nursery winter. It was time to give up the dream job and find my way back to my desk.

Before I left the garden center, I rang up an order of fall bedding plants for a woman who owned a local historic inn overlooking the bay.

"I'm so jealous!" she told me. "I've always wanted to work here!"

"Be careful what you wish for," I said.
"It's not nearly as rosy and idyllic as everyone seems to think."

The innkeeper signed her credit card slip and flashed me a knowing smile.

"Yeah?" she said good-naturedly. "Try running a bed-and-breakfast."

Heather Lockman is a free-lance writer living in Olympia, Washington.

# **GARDENER'S NOTEBOOK**

# Horticultural News and Research Important to American Gardeners

# MAGNIFICENT ACQUISITION

The Chicago Botanic Garden's (CBG) June Price Reedy Horticultural Library has acquired a priceless collection of 18th century (and earlier) botanical, horticultural, and gardening works from the Massachusetts Horticultural Society.

The collection includes 2,000 journal titles and 2,219 rare books, including Theophrastus' *De Historia Plantarum*, the

oldest book in the collection, published in 1483. Other gems in the collection are su-

An illustration of a cucumber from one of the newly acquired rare books at the CBG.



perb examples of hand-colored botanical illustration such as Basilius Besler's *Hortus Eystettensis*, first editions of Darwin's journals, and seminal works on landscape architecture and American horticulture. "It's the sort of collection you dream about having access to and being able to work with," says Edward J. Valauskus, manager of CBG's Library and Plant Information Office. The new acquisitions are sure to make the Chicago Botanic Garden's library a Mecca for garden historians.

# SOYBEAN SUNSCREEN

Soybeans are best known in their culinary forms such as tofu and miso, but they are also the basis of hundreds of products from poultry feed to adhesives and concrete building materials. The soybean industry generates an estimated 800 million pounds of excess oil each year, and researchers have eagerly sought ways to utilize this surplus.

Now this oil is being turned into SoyScreen<sup>™</sup>, an additive formulated to block the sun's ultraviolet light.

# Phlox Get Humidity Test

"Phlox is the backbone of the summer garden, and it should dominate the borders," wrote southern garden writer Elizabeth Lawrence. The Perennial Plant Association (PPA) and The Georgia Green Industry (GGI) agree, having

bestowed, respectively, the 2002 Plant of the Year on *Phlox paniculata* 'David' and Gold Medal Winner for 2000 on *Phlox paniculata* 'Robert Poore.'

Both winners were chosen for their alleged resistance to powdery mildew, most commonly caused by the fungus *Erysiphe cichoracearum*. Trials under conditions in the North—at the University of Vermont by Leonard Perry, on

Long Island by Margery Daughtrey, and at Chicago Botanic Garden by Richard Hawke have demonstrated real differences in powdery mildew resistance among garden phlox cultivars.

Recognizing that regional conditions

have enormous bearing on plant performance, researchers at North Carolina State University's Mountain Horticultural Research and Extension Center (MHREC) in Fletcher set up a trial to determine which cultivars per-

form best in the humid southeastern United States. In April 1999, 33 different cultivars of garden phlox were planted in a simulated garden situation and maintained for three years without chemical pesticides.

After the second winter, cultivars that were weakened by disease and died in significant numbers were dropped from the trials.

No plant remained mildew free through three seasons at the Fletcher test site, but some showed great resistance (see the box below for results).

—Dick Bir, Extension horticulture specialist, North Carolina State Univesity at Fletcher



Phlox carolina exhibited good powdery mildew resistance.

#### MILDEW RESISTANCE OF TESTED PHLOX

Garden phlox (mostly cultivars of *P. paniculata* or *P. maculata*) showing differing degrees of powdery mildew disease resistance at MHCREC, Fletcher, North Carolina.

HIGHLY RESISTANT (11 percent or less foliage mildew)

'David', 'Delta Snow', 'Natascha', Phlox carolina, 'Robert Poore', 'Speed Limit 45'

MODERATELY RESISTANT (25 to 50 percent foliage mildew)

'Fairest One', 'Magnificence', 'Miss Jo-Ellen', 'Katherine', 'Nora Leigh', 'Rosalinde'

POORLY RESISTANT (over 50 percent foliage mildew)

'Franz Schubert', 'Miss Jill', 'Miss Karen', 'Miss Margie', 'Miss Mary', 'Mt. Fuji', 'Nicky', 'Russian Violet', 'Sir John Falstaff', 'Starfire', 'Tenor', 'The King', 'White Admiral'

USDA research chemist Dave Compton came up with the idea of using soybean oil as a sunscreen in the course of looking for value-added uses for commodity crops. He and colleague Joe Laszlo formulated SoyScreen by using an enzyme to combine ferulic acid—an anti-oxidant commonly found in plants—and soybean oil.

Unlike conventional petroleum-based sunblocks, SoyScreen is also gentler on the environment. "Both the product and the process we use to make it are environmentally friendly," says Compton. "Soybean oil makes it water insoluble, and ferulic acid absorbs the light—both UVA and UVB. SoyScreen is biodegradable and won't bioaccumulate."

In Sun Protection Factor (SPF) tests, SoyScreen offered the best overall protection against both UVA and UVB wavelengths compared with conventional sunscreen chemicals. "Currently a company is negotiating a license for the patent," says Compton. "They are hoping to test market early next year and the products could be out in late 2004 or early 2005."

## **GOURDGEOUS ART**

Interest in gourds has been burgeoning. The American Gourd Society (AGS) is 16 chapters strong and growing. Gourd fanciers attend gourd festivals around the country and read gourd publications such as AGS's magazine, The Gourd. Two other magazines, Gourd Art Today and Through the Gourdvine, and the online



Utah artist Mary Hogue's sculpture is carved from a seven-inch cannon ball gourd.

Gourdzette publish gourd-related articles.

The growing interest in gourds is due in part to the fact that gourds provide superb raw material for crafters. Burning tools, paints, and dyes can transform gourds into objets d'art.

Gourd art isn't new. In Peru, it's been an art form for 4,000 years. In other parts of the world, gourds are routinely turned into useful and/or decorative objects.

One place where gourd artists can exhibit their work is at the 7th Annual International Gourd Art Festival, to be held June 21 and 22, 2003, at Welburn Gourd Farm in De Luz Canyon, Fallbrook, California. "There will be over 50 talented gourd artists from around the world displaying and selling their masterpieces," says festival director Patti Diaz. "We expect over 10,000 visitors from all parts of the world."

For information about the festival, e-mail info@welburngourdfarm.com or call (760) 728-4271. To learn more about gourds and gourd-related activities, visit the AGS Web site: www.americangourd society.org/join.html.





# People and Places in the News

#### PANAYOTI KELAIDIS WINS NATIONAL AWARD

Panayoti Kelaidis, curator of plant collections at Denver Botanic Gardens, has received the National Garden Club's 2003 Award of Excellence, granted annually to an individual whose contributions to the field of horticulture have national or worldwide significance. Creator of Denver Botanic Garden's award-winning Rock Alpine Garden, Kelaidis speaks and writes prolifically on a wide range of horticultural topics.

#### PEDALING FOR PLANT RESEARCH

Gordon Bailey Jr., chairman of the board of Bailey Nurseries in Newport, Minnesota, is expected to complete the third and last leg of a cross-country bike trip this summer. Bailey's odyssey began in 1999, when he biked from Fort Clatsop, Oregon, to Newport, Minnesota. The first leg of the "tour de hort" raised more than \$350,000 for The Horticultural Research Institute (HRI), the research arm of the American Nursery and Landscape Association (ANLA). In 2001, Bailey cycled from Minnesota to Cleveland. The third leg is scheduled to begin this summer in Cleveland and end in Boston for ANLA's 2003 Convention and Learning Re-

# People and Places in the News

treat. For more information, visit www.bailevnurserv. com/bnf/bnf-bikeride2001.asp.

#### LAWRENCE HALPRIN RECEIVES NATIONAL MEDAL OF ARTS

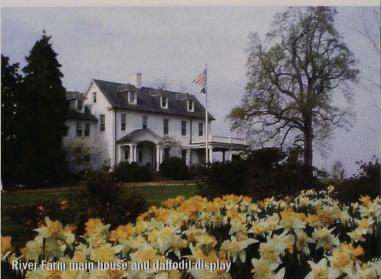
In a ceremony at the Oval Office on March 6, 2003, President George W. Bush and First Lady and Honorary Chairman of the President's Committee on the Arts and Humanities Laura Bush presented landscape architect Lawrence Halprin with the National Medal of Arts. Halprin's designs, known for their organic, free-flowing quality, include Seattle's Freeway Park, San Francisco's Ghirardelli Square, and the Franklin Delano Roosevelt Memorial in Washington, D.C.

#### TEXAS PLANTSMAN'S LEGACY LIVES ON ONLINE

Benny J. Simpson, a pioneer in the use of Texas natives in landscaping and co-founder of the Texas Native Plant Society, died in 1996, but his work lives on in a new Web site: Benny Simpson's Texas Native Shrubs (http://aggie-horti culture.tamu.edu/ornamentals/nativeshrubs) launched this February. It is a companion to Benny Simpson's Texas Native Trees (http://aggie-horticulture.tamu.edu/ornamentals/ natives/tamuhort.html), launched in 1999.









# A H S

# Washington Blooms!

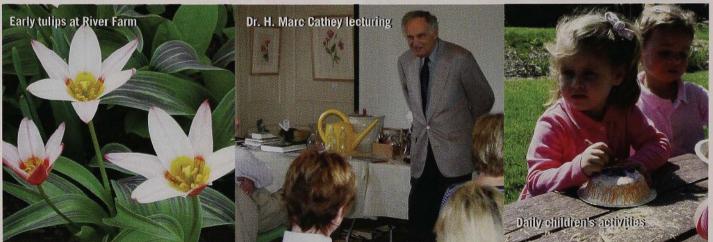
HE AMERICAN HORTICULTURAL SOCIETY'S first annual Washington Blooms! spring celebration took place March 29 to April 5 and provided gardening enthusiasts of all ages a whirlwind week of fun and educational events both at AHS headquarters at River Farm and on guided field trips in and around the nation's capital. While the world-famous cherry blossoms were in full glory around the Tidal Basin in Washington, D.C., the grounds of River Farm were bursting with spring bulbs in bloom.

The celebration started off with the launching of the important Growing Connections program (see the story on page 10) and presentation of the newly revised USDA Plant Hardiness map (see page 30).

During the week, AHS President Emeritus Dr. H. Marc Cathey and AHS Horticulturist Peggy Bowers gave informative lectures on various aspects of gardening. Experts from around the country also participated in a variety of workshops. Renowned landscape architect James van Sweden spoke about "New American Garden Design." R. Blake Whisenant, Florida inventor of the EarthBox™ and this year's co-winner of AHS's G. B. Gunlogson Award, was on hand at River Farm to demonstrate container gardening techniques.

There was plenty to see and do at River Farm. A bulb maze and daily craft activities delighted the younger set. Tours of the gardens at River Farm highlighted key plants in our collection, including a venerable osage orange tree and a franklinia grove. An educational "Green Garage" exhibit emphasized environmentally responsible gardening products and practices. And botanical paintings and sculptures were on show in River Farm's main house.

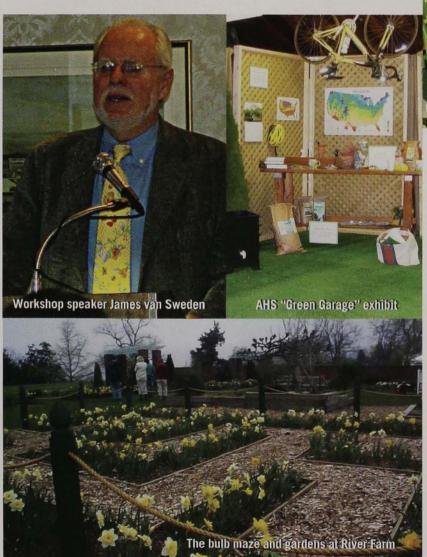
So if you didn't get a chance to come to this year's Washington Blooms! festival, plan on coming next spring!





2003

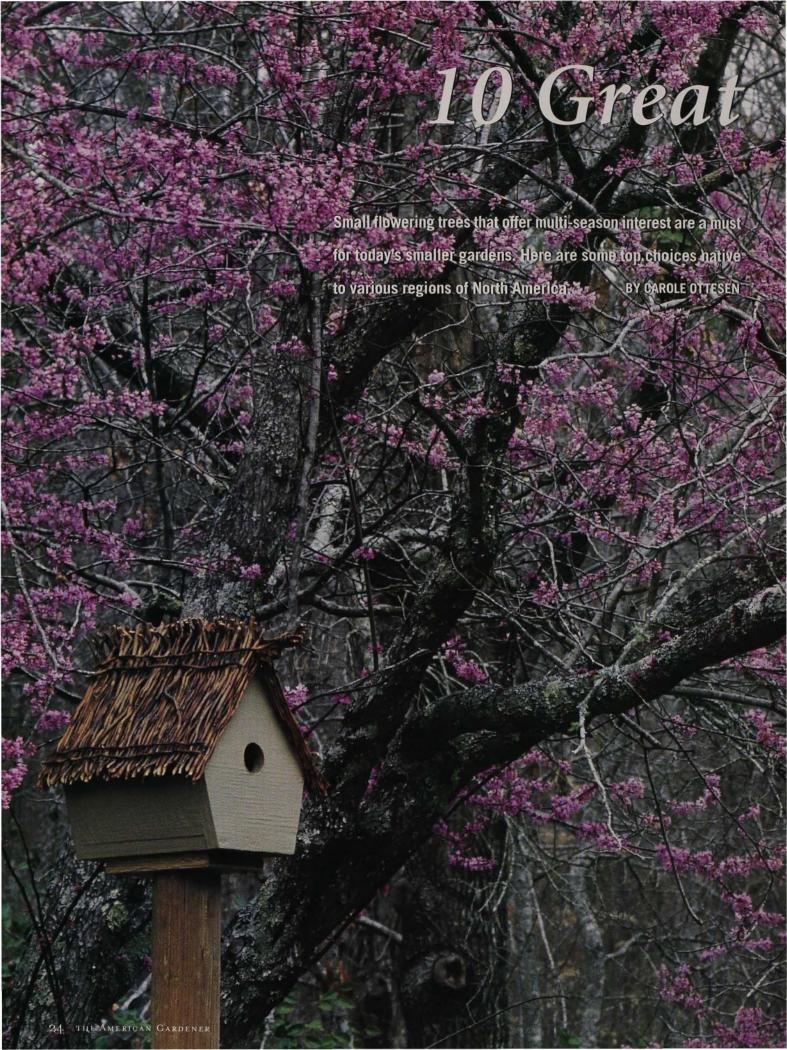
Photographs by AHS staff, K.K. Ottesen, and Andrea Ottesen

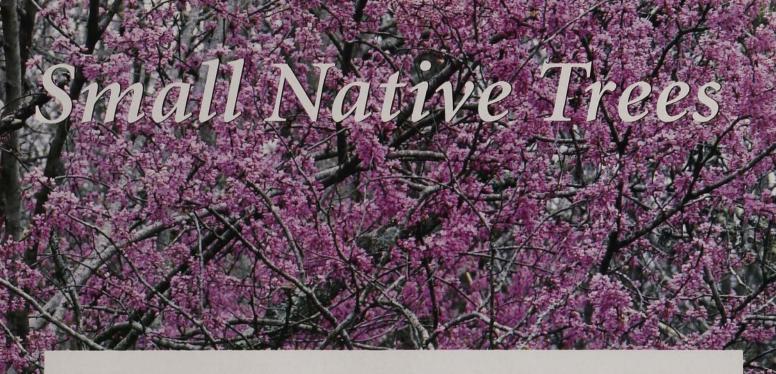




# THANK YOU to the following Washington Blooms! sponsors

American Daylily and Perennials Ball Horticultural Company Bell Nursery Brent and Becky's Bulbs Collingwood Garden Club EarthBox™ Food and Agriculture Organization of the United Nations Friends of River Farm Gardener's Supply Company Homestead Gardens Horticulture Gardening Institute K. Van Bourgondien & Sons, Inc. Mt. Vernon Estate & Gardens NASA Balloon Program Office National Capital Area Federation of Garden Clubs Old House Gardens Royal Dutch Wholesalers Association for Flowerbulbs and Nurserystock The Care of Trees





has long been everybody's darling. It does everything right. On a small, elegantly articulated frame—just the right size for a residential landscape—it produces a spectacular show of large, white flowers in April or May. In fall, its glowing crimson foliage contrasts with the season's

dominant golds and yellows. Earth-friendly, this native tree also produces food for native wildlife: Its shiny scarlet fruits are swiftly taken by birds and squirrels.

The dogwood has one glaring fault: For all the right reasons, it has dominated the limelight and popular imagination for too long. In the wings a score of beautiful, ornamental flowering native trees languish, waiting to be more widely grown. Here are 10 that richly deserve a place in the sun.

All of them produce delightful flowers, but not all their flowers appear in spring. And the bloom of each tree is unique. Taken together, their array of flower forms, colors, and scents appeal to a widely divergent and discriminating group of pollinators.

All of these trees stay small, averaging about 20 feet tall at maturity. As such, they cast smallish shadows—just enough to cool

off a portion of the garden without changing site conditions everywhere. Unlike their giant cousins, these diminutive trees won't deplete the entire yard of moisture.

Another benefit of smaller trees is that they won't dwarf a house. They remain in scale in the more compact residential landscapes that are so common today. And if you site them just right, they will grow to exactly the size that lets you look into and enjoy their flowering branches from inside the house.

Many of them color brilliantly in fall. And, if grown in an appropriate region, all fit well into the landscape, support wildlife, and live on the economy. Whether you live in the desert Southwest or the rainswept coast of New England, one of these graceful natives will fit right into your garden.

Carole Ottesen is an associate editor of The American Gardener.

# Eastern redbud (Cercis canadensis, Zones 4-9, 9-2)

Redbuds are like Darwin's sparrows: There is a species or variety that has adapted to almost every part of North America. In addition to eastern redbud there is Texas redbud (*C. canadensis* subsp. *texensis*, Zones 4–9, 9–6) and California redbud (*C. occidentalis*, Zones 7–9, 9–7). While the cultural demands of these forms differ, their appearances are remarkably consistent. In spring, the bare stems are outlined in magenta or, rarely, white flowers ('Alba'). Heart-shaped leaves follow on a broadly-spreading tree that grows 15 to 20 feet tall and nearly as wide. Native throughout most of the eastern and central United States, eastern redbud's leaves turn yellow in fall. The foliage of 'Forest Pansy' opens deep purple, becoming muted as the leaves mature.



# Fringe tree

(Chionanthus virginicus, Zones 4-9, 9-1)

The fringe tree is a treat for the senses—all the more so because it breaks dormancy later than you think it should and after you have begun to fret that it might be dead. For a couple of weeks in late spring, it becomes a veritable cloud of flower and fragrance. The flowers' long, dangling petals enhance the ethereal effect as does the fringe tree's habit—usually as round and wide as it is tall, although pruning will keep it more treelike. There are male and female fringe trees-with the males having the showier flowers. Native from the mid-Atlantic south to Florida and Texas, fringe tree grows 10 to 20 feet tall. It tolerates a bit of shade and it is fairly indifferent to soil moisture conditions.

# Red buckeye

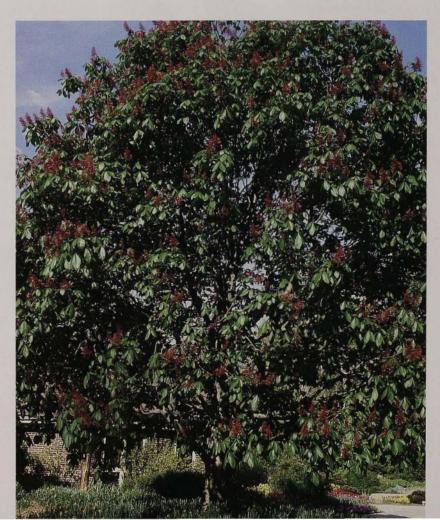
(Aesculus pavia, Zones 5-9, 9-1)

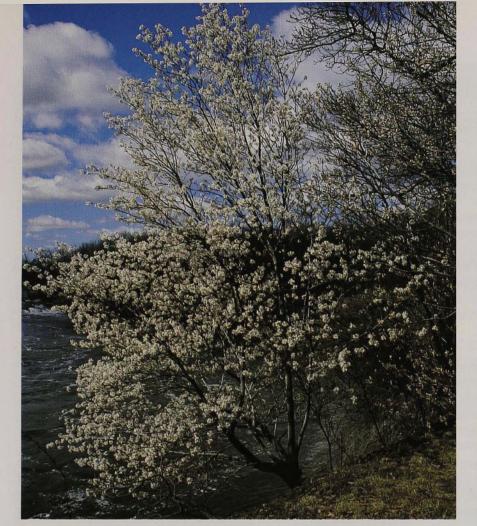
Plant a red buckeye near your office or kitchen window or wherever you spend time and you'll have years of pleasure watching hummingbirds throng to upright, red-orange, waxy flowers that are so big, they look unreal. They appear in spring along with bright green new leaves and, together, the flowers and leaves are perfect color complements. Red buckeyes are understory trees that thrive with plenty of moisture in the soil, but they bloom better if planted in a sunny site. Native from Virginia south to Florida and west along the Gulf Coast into Texas, red buckeyes grow slowly to 20 feet tall and nearly as wide.



# Ashe magnolia (Magnolia ashei, Zones 6–9, 9–7)

The Ashe magnolia produces the same primitive, tropical-leaf effect of its taller relative, the bigleaf magnolia (M. macrophylla), on a much more manageable, residentially friendly 20 feet. Spreading nearly as wide as tall, the Ashe magnolia tends to produce rather brittle, multiple stems draped with huge, two-foot-long leaves that are dusty white below and a soft, avocado green above. In fall, their upper surfaces turn bright yellow. Ashe magnolia blooms at a young age and the flowers are spectacular—fragrant and six to eight inches across. Native from Florida to Texas but surprisingly hardy, it thrives in moist, well-drained acid soil and will tolerate light shade.







# Mescal bean (Sophora secundiflora, Zones 7–11, 12–7)

Mescal bean, also called Texas mountain laurel, is a member of the pea family that is indigenous to Texas, New Mexico, and Mexico. It has glossy, deep evergreen foliage and, in spring, produces wisterialike clusters of quietly purple flowers. While demure in color, these are impossible to miss for their intense grape Kool-Aid or bubble gum fragrance. Attractive silvery, velvet seed pods follow the flowers. These are packed with red seeds that are frequently made into jewelry, but are extremely poisonous. Mescal bean grows 10 to 15 feet tall; it tolerates alkaline soils and intense heat.

# Downy serviceberry

(Amelanchier arborea, Zones 4-9, 9-4) In the wild, serviceberries signal spring in all parts of the country with clouds of transient, white blossoms ever so slightly reminiscent of tousled, single, wild roses—no surprise as the genus belongs to the rose family. Native to the Northeast and upper Midwest, downy serviceberry grows 20 to 25 feet tall, blooming in late April to early May. Smaller serviceberries like shadblow (A. canadensis, Zones 3-7, 7-1) and cultivars of A. ×grandiflora (Zones 3-7. 7-1)—such as 'Autumn Brilliance' and 'Ballerina'-make superb patio trees, exhibiting the genus's smooth gray bark, cumuluscloudlike bloom, and edible deep purple fruits. Many serviceberries also exhibit striking yellow to orange to purple fall color, but this varies by selection and region.



# Silky stewartia

(Stewartia malacodendron, Zones 7-9, 9-6) If you live in USDA Zone 7 to 9 and have a spot in moist, fertile, acid soil, don't wait another year. Go right out and plant a silky stewartia-sometimes called silky camellia. You won't have to wait long before it grows quickly, spreads widely, and flowers at a young age. Flower buds balance on top of the branches like a row of pure white eggs. The virginal blooms open to reveal sensual, deep purple sexual parts. In fall, silky stewartia's leaves color a bright, clear yellow. When they drop, a graceful network of horizontally spreading, zig-zagging branches forms winter sculpture. Native from Virginia to Arkansas and south to Florida and the Gulf Coast, silky stewartia grows only about 10 to 12 feet tall and equally wide. The similar mountain stewartia (S. ovata) is slightly hardier (Zones 5-8, 8-1).

# Other Small Native Trees

Name	Height (feet)	Flower	Other Attributes	Native Range	Hardiness/ Heat Zones
Blue palo verde (Cercidium floridum)	20–30	yellow masses in spring	bluish green foliage and stems	desert California and Southwest	8–11, 12–8
Feltleaf ceanothus (Ceanothus arboreus)	to 20	deep blue to lavender in April	evergreen, drought resistant	California	8–10, 10–8
Pagoda dogwood (Cornus alternifolia)	15–25	white clusters in spring	horizontal branching, purple fruits	Midwest, Northeast	4–8, 8–1
Parsley haw (Crataegus marshalli)	to 20	white in spring	tiny, parsleylike leaves, exfoliating bark, red fruits	Southeast	6–9, 9–1
Pawpaw (Asimina triloba)	15–30	purple in early spring	lush, tropical, foliage, edible fruits	East, Midwest, and South	4–8, 9–5
Screwbean mesquite (Prosopis pubescens)	to 20	yellowish white spikes in late spring to early summer	-	Texas west to California	8–10, 12–1
Sweet bay magnolia (Magnolia virginiana)	20–30	fragrant white in early summer	graceful, multi-stemmed tree	Northeast, Midwest, South, Northwest	4–9, 9–1

# Two-winged silverbell

(Halesia diptera, Zones 5-8, 8-5)

Of the silverbells, H. diptera, is perhaps the best suited for the garden, staying smaller than the mountain silverbell (H. monticola) or the Carolina silverbell (H. tetraptera, formerly H. carolina). In a landscape, its ideal site is over a patio or right outside a first floor window, so that one can look up into the dangling white bells that arrive in late spring. The two-winged silverbell (named for having two-rather than four-wings on its ornamental, dangling seed capsules) grows 15 to 20 feet tall with a rounded habit and yellow fall color. Native from the Southeast into Texas, it grows best in moist soil and tolerates light shade. A botanical variety, H. diptera var. magniflora, is sought after for its larger flowers.





# Franklinia

(Franklinia alatamaha, Zones 6-9, 9-6)

Franklinias are trees of legend, discovered only once in the wild in Georgia by the also legendary Quaker plant explorer John Bartram. Their mysterious disappearance thereafter has been blamed on a root disease, Phytophthora, possibly brought in to this country along with cotton. It is thought that all existing franklinias are the progeny of a tree that grew in Bartram's Philadelphia garden. Even without the mystique, franklinias are intriguing. They grow into multi-stemmed trees that sporadically produce big, white camellialike flowers with tufted, golden centers in late summer to early fall. Franklinias grow 15 to 20 feet tall in moist, but well-drained acid soil. When planted in sun, the shiny dark green leaves turn orange to crimson in fall.

# Sources

Fairweather Gardens, Greenwich, NJ. (856) 451-6261. www.fairweathergardens.com. Catalog \$4.

Forestfarm, Williams, OR. (541) 846-7269. www.forestfarm.com. Catalog \$5. Free if ordered online.

Plants of the Southwest, Santa Fe, NM. (505) 438-8800. www.plantsofthesouthwest.com. Catalog free.

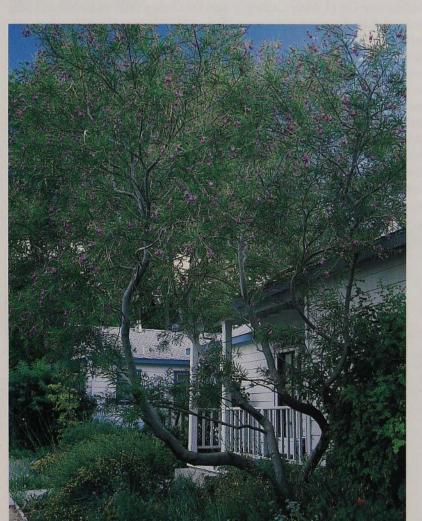
Woodlanders, Inc., Aiken, SC. (803) 648-7522. www.woodlanders.net. Catalog \$3.

# Resources

Manual of Woody Landscape Plants by Michael A. Dirr. Stipes Publishing Co., Champaign, Illinois, 1998.

Native Trees, Shrubs, and Vines by William Cullina. Houghton Mifflin Co., Boston, Massachusetts, 2002.

Sunset Western Garden Book edited by Kathleen Norris Brenzel. Sunset Publishing Corp., Menlo Park, California, 2001.





# Desert willow

(Chilopsis linearis, Zones 8-9, 9-8)

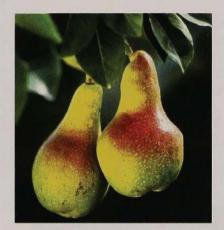
Lucky are those who garden in the Southwest and can grow this elegant tree. It blooms in flushes during summer as long as there is moisture available to its deep-ranging roots. The fragrant flowers look like a cross between small cattleya orchids and pansies and are set off by the foot-long, deep green, willowlike leaves that give this tree its name. Easterners may admire it, but they will have to settle for ×Chitalpa tashkentensis—an intergeneric cross between desert willow and Catalpa bignonioides—which will tolerate more humidity and moisture. Native from southern California west to Texas, desert willow grows 10 to 20 feet tall in sun and well-drained soil.

# The USDA Plant Hardiness Map

2003 Edition

The updated USDA hardiness zone map reveals warmer zones for many gardeners and new zones for the subtropical regions. Here's an introduction to the new map and guidelines for using it in combination with the AHS Plant Heat Zone map.

BY DAVID J. ELLIS



T'S CLEAR at first glance that the draft version of the 2003 USDA Plant Hardiness Zone Map bears little resemblance to its most recent predecessor, the 1990 map. For starters, it has more zones, 15 rather than 11, each of which represents a 10 degree Fahrenheit (F) difference in average annual minimum temperature. And all the zones bear colorful plant names like "Apple," "Cornflower," and "Papaya" to help recognize them.

The "a" and "b" intra-zone divisions used on the 1990 map have been dropped, so each zone is broader and easier to follow as your eye moves westward and the mountains make climatic gradients more complex. West of the Rocky Mountains, more discrete, rounded divisions have replaced the crazy tangle of zones that marked the 1990 map. And although the draft map printed on pages 33 and 34 has had county names removed to make it easier to read, the digital version of the 2003 map includes county boundaries and county names to help gardeners identify

their precise zone. If you can't tell from this map exactly what zone you live in, don't despair; you can find your zone through a database on the American Horticultural Society (AHS) Web site (www.ahs.org) that is searchable by zip code.

Unlike previous maps, the 2003 map was created digitally. "It has a higher level of resolution and shows smaller areas of change called microclimates," says AHS President Emeritus Dr. H. Marc Cathey, who coordinated development of the updated map. "These microclimates include warmer areas around major cities, which tend to hold more heat because they have a high density of buildings and large areas of concrete and blacktop. You can also see cooler areas that may indicate higher elevations."

The map has also been improved because it does not include Canada or Mexico, as the 1990 version did. "By concentrating on the United States," says Dr.



Cathey, "we are able to make the map easier to read and reproduce on the Web."

And thanks to the updated temperature records that were used to create the 2003 map, it reflects regional variances in temperature that have occurred in the last 20 years. "In North America, the ranges of temperature and moisture for the past decade were much wider than those recorded for the 1940s through the 1960s," says Dr. Cathey, "and we have been losing from our landscapes plants that apparently thrived in the zones they were assigned during that time period, including gardenias, crape myrtles, and azaleas."

# HAS MY ZONE CHANGED?

The major questions everyone has been asking as the release date for the map approached have been, "Has my zone changed and, if so, what does that mean for the way I garden." The answers are: maybe and probably not much.

That's not to say that the map doesn't show changes—it does. The map is based on temperature information collected between July 1986 and March 2002, which corresponded to a period of warmer temperatures in many areas of the United States. As a result, many areas have experienced zone creep, with zones edging northward slightly (see chart on page 35 for a list of some cities that are in new zones).

Even if the new map indicates your zone has changed, experts advise against making radical changes in your plant

continued on page 35

# THE 2003 USDA PLANT HARDINESS ZONE MAP

The American Horticultural Society is pleased to be able to offer you an early peek at a draft version of the 2003 edition of the USDA Plant Hardiness Zone Map in this special pullout section of *The American Gardener* magazine. The four central pages of this issue of the magazine are designed as a self-contained unit that can be used as a reference to the updated USDA hardiness map and the AHS Plant Heat Zone map.

# WHAT'S NEW WITH THE MAP?

The updated USDA hardiness map shows in detail the lowest temperatures that can be expected each year in the United States. These temperatures—referred to as "average annual minimum temperatures"—are based on the average of the lowest temperatures recorded for each of the winter seasons from 1986/1987 to 2001/2002.

The 2003 edition of the USDA hardiness map has 15 zones (four more than the 1990 version of the map), each of which represents a 10 degree Fahrenheit (F) difference in average annual minimum temperature. The expansion of the map to 15 zones is making it possible for the first time to assign hardiness codes to sub-tropical and tropical plants, which previously had to be listed by the minimum temperatures at which they would survive.

The draft map is currently under review by the USDA's Agricultural Research Service. A digital version of the new map can be seen on the AHS Web site (www.ahs.org).

#### HOW THE MAP CAME ABOUT

The American Horticultural Society was awarded a grant from the USDA's Agricultural Research Service (ARS) to update the cold hardiness map. AHS President Emeritus Dr. H. Marc Cathey coordinated development of the map, which was compiled by Meteorological Evaluation Service Co, Inc. (MES) of Amityville, New York, using temperature data from the archives of the National Climatic Data Center.

The revised USDA hardiness map will complement the AHS heat map, which was introduced by AHS and Dr. Cathey in 1997 to help gardeners select plants based on their tolerance of, and requirements for, high temperatures.

#### STANDARDIZED CODING SYSTEM

Used in combination with the AHS heat map, the updated US-DA hardiness map now allows plants to be assigned four codes—two hardiness codes and two heat

codes. "The four-number code can be applied to all plants," says Dr. Cathey, "including many that have never been coded before, such as vegetables, annuals, aquatic plants, and even turf grasses."

The first two numbers in the series indicate hardiness: the initial number is the coldest zone to which the plant is rated and the second number is the "least" cold zone in which a plant will thrive—this often reflects how intense a period of "chilling" or dormancy a plant such as an apple tree or daffodil needs in order to grow successfully.

The second set of numbers indicate heat tolerance and requirement: The initial number in the series indicates the hottest zone in which a plant will thrive, while the second number reflects the "least heat" zone in which the plant will grow—this is often an indication of the minimum number of warm days a plant needs to fruit or flower successfully.

The zone ratings have always been intended to indicate excellent adaptability of the plants. Many plants may survive in warmer or colder zones, but survival alone is not considered sat-

isfactory garden performance. The zones also assume that plants will be provided with the other essential needs for plant growth—compatible soil type and pH, adequate water, proper exposure to sun or shade, nutrients, etc.

#### ABOUT THE REVISED MAP

Here are answers to some of the most common questions about the 2003 USDA Hardiness map.

### How can I get a copy of the map?

For the time being, the draft map published in this issue of *The American Gardener* is the only printed version of the map. The map can also be seen on the AHS Web site and a digital version of the map is expected to be eventually available through the U.S. Department of Agriculture Web site.

# What happened to the a and b zone divisions?

The zones in the 1990 edition of the hardiness map were subdivided into a and b sections that indicated 5-degree Fahrenheit increments in average annual minimum temperatures. "Given the year-to-year fluctuations in average annual minimum temperature," says AHS President Emeritus H. Marc Cathey, "we believe zones divided into 10-degree increments will be more consistent and useful to gardeners."

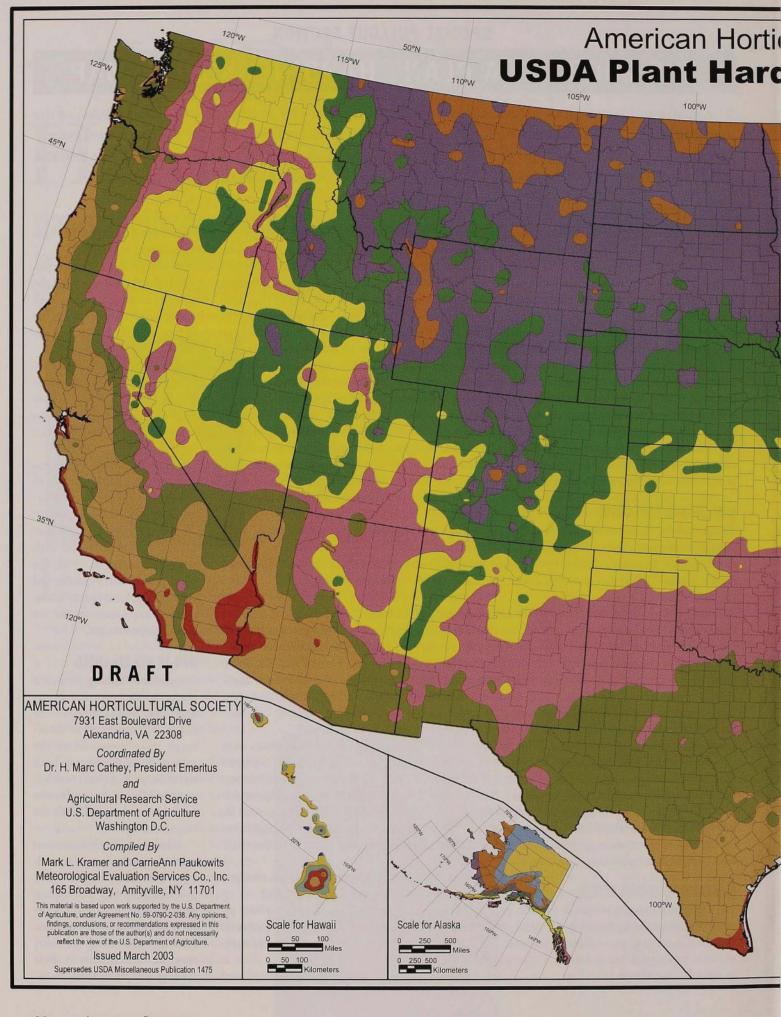
# According to the revised map, the region I live in has changed zones. How does this affect the way I should garden?

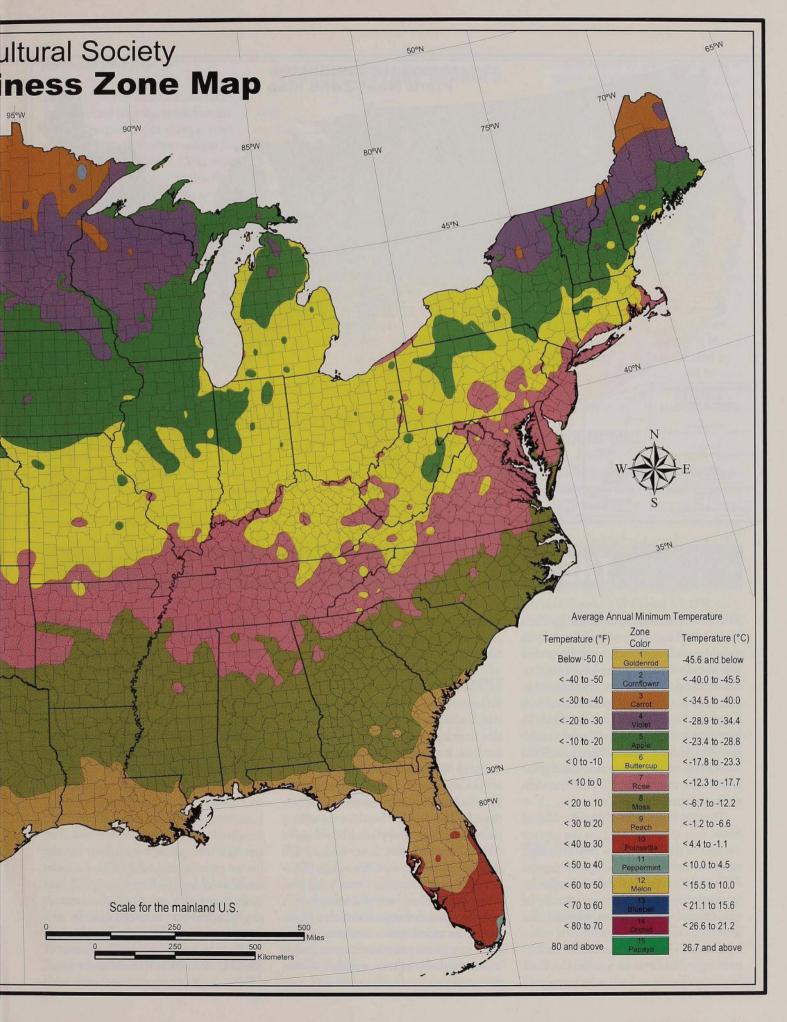
The change of zones should not have a major effect on your gardening practices. It may be fun to experiment with plants rated to your new zone, but don't start radically changing your plantings.

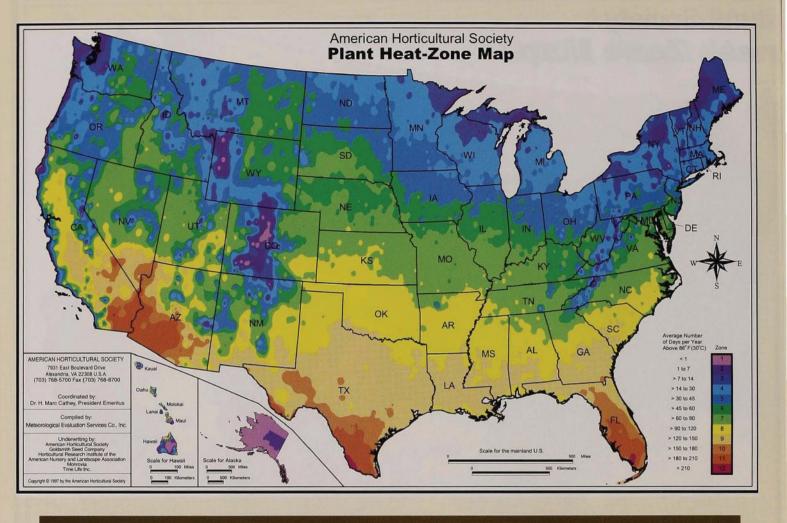
#### **HOW TO USE THE CODES**

Start by determining your own zone numbers for hardiness and heat by looking at the maps. If it's difficult to determine your zones from the printed maps, databases of both hardiness and heat codes, searchable by zip code, are available on the AHS Web site (www.ahs.org).

Then look for publications that contain the four-zone coding system, such as AHS books published by DK publishing and magazines such as *The American Gardener*. Many nurseries are now using the four-number zone system in their catalogs and plant labels.







# THE AHS PLANT HEAT ZONE MAP

The American Horticultural Society Plant Heat Zone Map was developed in 1997 to provide gardeners with guidelines that would help them choose plants suited to the summer temperatures experienced in their region. Conceived by AHS President Emeritus Dr. H. Marc Cathey, the AHS heat map was designed to be used in conjunction with the USDA Plant Hardiness Zone Map so that gardeners could grow plants that would flourish year round in their gardens.

The AHS heat map divides the United States into 12 zones based on the average number of days in the year that daily high temperatures reach or exceed 86 degrees Fahrenheit (30 degrees Celsius). The 86-degree point was chosen because that is the temperature at which plants begin to suffer physiological damage from heat.

The AHS heat map was created by Meteorological Evaluations Services Co., Inc., in Amityville, New York, which analyzed and compiled temperature data for the years 1974 to 1995 from the archives of the National Climatic Data Center.

#### **HEAT CODES**

To learn what AHS heat zone your garden is in, look at the map on this page. You can also determine your heat zone by using a database, searchable by zip code, located on the AHS Web site (www.ahs.org).

Once you have determined your zone, you can identify plants suited to your heat zone by looking for books, magazines, nursery catalogs, and plant labels that list AHS heat zone codes. Every issue of The American Gardener includes a page ("Pronunciations and Planting Zones") that provides the hardiness and heat zones for the plants covered in that issue's articles. Plants should be coded with a heat zone range; make sure plants you select for your garden include your heat zone number within their zone range.

The first number of the heat zone range indicates the southernmost or warmest zone in which that plant will thrive. The second number shows the "least" heat zone, which indicates plants that may have a minimum heat requirement to flower or fruit successfully. For example, some tomato and okra cultivars won't set fruit in northern regions of the United States, where the warm season is simply too short.

Coding of plants for heat tolerance has been going on since the AHS heat map's release in 1997. To date, thousands of plants have been coded by growers and and plant scientists throughout the country, and the list continues to expand. As with the codes established for hardiness, assigned heat codes assume that each plant's standard cultural requirements are met, especially adequate watering during the growing season.

To order a two-by-three-foot poster of the AHS Plant Heat Zone Map for \$9.95, call (800) 777-7931 or visit www.ahs.org.

# continued from page 30

choices. "Just as there are microclimates created by geographic features such as mountains or valleys, your garden may feature mini-microclimates," says Dr. Cathey. "You may have pockets within your garden that are warmer or cooler than the general zone for your area." So experiment with a few new plants if you like, but don't replant your rock garden with banana trees just yet.

The draft map is currently under review by the USDA's Agricultural Research Service (ARS). Eventually the map is expected to be available on the ARS Web site (www.usda.ars.gov) as well as on the AHS Web site (www.ahs.org).

# HOW THE MAP CAME ABOUT

For more than 40 years, American gardeners have relied on the USDA hardiness map as a standard guide to plant cold tolerance. The 2003 update was coordinated by Dr. Cathey, who also spearheaded development of the 1990 version of the map during his tenure as director of the U.S. National Arboretum.

The American Horticultural Society was awarded a grant from the ARS to update the cold hardiness map. The data used to create the map came from the archives of the National Climatic Data Center in Asheville, North Carolina. The map shows in detail the expected lowest temperatures each year throughout the United States. These temperatures-referred to as "average annual minimum temperatures"—are based on the average of the lowest temperatures recorded for each of the winter seasons from 1986/1987 to 2001/2002.

The temperature information on which the map is based came from approximately 7,000 weather stations that could be identified by latitude and longitude. Of those stations, about 4,600 were able to provide a valid average annual minimum temperature based on at least 12 years of data. "The zone number is higher at approximately 40 percent of the weather stations used in the map," says meterologist CarrieAnn Paukowits of Meteorological Evaluation Service Co., Inc., (MES) of Amityville, New York. MES, the company that created the map, also created the AHS

# HARDINESS ZONE CHANGES

City	Old USDA Zone	New USDA Zone
Chicago, Illinois	5	6
Columbus, Ohio	5	6
Nashville, Tennessee	6	7
Phoenix, Arizona	9	10
St. Petersburg, Florida	9	10
Tulsa, Oklahoma	6	7

Plant Heat Zone Map in 1997 (see page

The revised USDA hardiness map will complement the AHS heat map, which was introduced by AHS and Dr. Cathey to help gardeners select plants based on their tolerance of, and requirements for, high temperatures.

### STANDARDIZED CODING SYSTEM

The expansion of the map to 15 zones makes it possible for the first time to assign hardiness codes to subtropical and tropical plants, which previously had to be listed by the minimum temperatures at which they would survive. New zones 12 through 15 represent areas that have average annual minimum temperatures above 50, 60, 70, and 80 degrees Fahrenheit, respectively.

Used in combination with the AHS heat map, the updated USDA hardiness map now allows plants to be assigned four zone codes-two hardiness codes and two heat codes. "The four-number code can be applied to all plants," says Dr. Cathey, "thus setting up a national system that can be used to code many plants that have never been coded before, such as vegetables, annuals, aquatic plants, and even turf grasses."

The zone ratings have always been intended to indicate excellent adaptability of the plants. Many plants may survive in warmer or colder zones, but survival is not necessarily satisfactory garden performance. "The zone rating should indicate where plants will thrive," says Dr. Cathey, "not just survive." The zones also assume that plants will be provided with the other essential needs for growth—compatible soil type and pH, adequate water, proper exposure to sun or shade, etc.

The first two numbers in the series indicate hardiness: the initial number is the coldest zone to which the plant is rated, and the second number is the "least" cold zone in which a plant will thrive—this often reflects how intense a period of "chilling" or dormancy a plant needs in order to grow successfully.

The second set of numbers denotes heat tolerance: the initial number in the series indicates the hottest zone in which a plant will thrive; the second number reflects the "least heat" zone in which the

plant will grow—this is often an indication of the minimum number of warm days a plant needs to fruit or flower successfully.

Plants considered "true" annualsthose that complete their life cycle in a year or less and die-are indicated by a hardiness rating of o-o followed by two heat code numbers. For instance, a marigold (Tagetes spp.) is coded 0-0, 12-1.

# **HOW TO USE THE CODES**

Start by determining your own zone numbers for hardiness and heat by looking at the maps. If it's difficult to determine your zones from the printed map, databases of both hardiness and heat codes, searchable by zip code, are available on the AHS Web site (www.ahs.org).

Then look for publications that contain the four-zone coding system, such as AHS books published by DK publishing, and magazines such as The American Gardener and Garden Gate. Many nursery catalogs are now also using the four-number zone system, and some plants at nurseries are labeled with the four-number code.

AHS's River Farm headquarters in Alexandria, Virginia, for instance, is in USDA hardiness zone 7 and AHS heat zone 7. So, plants that include 7 in both number series—such as (7-9, 9-1), (3-7, 7-1), (4-15, 12-1)—will thrive here as long as their other cultural needs are met.

# **MORE TO COME**

In upcoming issues, we'll focus in on a variety of topics relating to the USDA hardiness and AHS heat maps and the standardized coding system that will help guide your plant selection.

David J. Ellis is editor of The American Gardener.

# West Nile Virus

What you need to know to stay safe in the garden this summer.

BY RITA PELCZAR

HE BUZZ of insects and chirping of birds confirm that another gardening season is underway. But their music delivers another, more ominous message as well: West Nile disease season is back, and it's likely to be even worse than last year. Gardeners and all those who spend time outdoors need to take precautions to reduce mosquito infestations and risk of infection.

# A VIRUS ON THE MOVE

West Nile virus (WNV) is causing serious illness in an increasing number of individuals in the United States. Identified in Uganda in 1937, it first appeared in the Western Hemisphere in August 1999, in the New York City vicinity. Of the 62 people with confirmed WNV infections in 1999, seven died.

Since then, the virus has continued to spread rapidly. In 2000, it was reported in 12 states along the East Coast; by 2001, it had moved south and west and was positively identified in 16 additional states. From 1999 through 2001, there were 149 confirmed human cases of the virus in the United States, resulting in 18 deaths.

Last year, the virus was identified, either in humans, mosquitos, or birds, in all but four of the 48 contiguous states. Confirmed human infections in 2002 increased alarmingly to 4,161, with 277 fatalities. There were corresponding increases in animal infections.

Experts confirm the virus has become established in North America. "Where West Nile has been, it stays," says Lyle Petersen, deputy director of the Center for Disease Control and Prevention (CDC), based in Atlanta, Georgia. The CDC anticipates the virus's



Above: A blood-engorged female mosquito feeds on a human finger. This specimen is a member of *Culex quinquefasciatus*, a proven vector for the transmission of the West Nile virus.

continued spread and even greater numbers of infection in 2003.

# **CONTRACTING THE VIRUS**

This virus is not particularly discriminating about who or what it infects; but not all those infected become ill. The National Wildlife Health Center (NWHC) is striving to monitor WNV infection in wildlife by testing for antibodies in the blood of dead animals. WNV-specific antibodies are produced by a host in response to the virus's presence in the blood. "It seems that just about all species of wildlife that has been tested in large enough numbers to date have shown WNV antibody," says NWHC researcher Robert Dusek.

The virus's primary hosts are birds—over 160 species according to Dusek (see Project FeederWatch, opposite page). Humans are secondary or incidental hosts, as are many animals—both domestic and

wild. Although mosquitos are by far the most common method of transmission, last year WNV transmission by blood transfusions and organ transplants was confirmed. And in one case it was passed from an infected mother to her baby in breast milk.

# **VARIABLE RESPONSES**

Most people infected by the virus display no noticeable symptoms. About 20 percent of those infected develop flulike symptoms: headache, fever, and occasionally a skin rash and swollen lymph nodes. After a few days, they recover. Most of these relatively benign infections probably go undiagnosed.

Only about one in 150 infected individuals become acutely ill, developing encephalitis or meningitis (inflammation of the brain or of the membrane surrounding the brain and spinal cord).

# PROJECT FEEDERWATCH

The impact of West Nile virus (WNV) on North American bird populations is being monitored by more than 16,000 "citizen-scientists" in the United States and Canada. From November through early April, bird watchers record the numbers and kinds of birds that visit their feeders and submit the data to the Cornell Laboratory of Ornithology for analysis.

Birds are the primary host of the virus, so tracking changes in bird populations may help to determine its effect on various species. "With 16 years of data, we have a solid baseline of information against which we can compare future counts," says project leader David Bonter.

Although preliminary analysis of the data received thus far shows no widespread population declines, monitoring continues. "We will be conducting more thorough analyses in the coming months," explains Bonter. "The more data that we receive, the more confidently we can track the impact of an event—be it West Nile or any other factor that may impact populations."

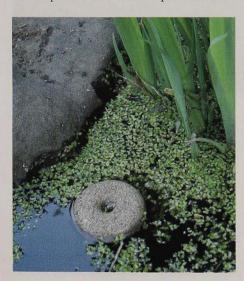
For more information on Project FeederWatch, including how you can get involved, visit its Web site: http://birds.cornell.edu/pfw/. —R.P.

Symptoms include high fever, disorientation, convulsions, coma, and can result in permanent neurological damage or death. The risk of a serious reaction significantly increases with age over 50. Presently, the only treatment for WNV infection is supportive care.

# FIGHTING BACK

The best methods to reduce the spread of WNV and prevent infection focus on controlling and avoiding its vector. Reducing the mosquito population starts in your own yard.

■ Eliminate potential breeding sites. At least twice a week, empty water from flowerpots, bird baths, pool covers,



Larvacides to control mosquitos in garden ponds are available in floating disk form.

splash pools—any place water collects. Keep gutters clean. Dispose of old tires—if you have a tire swing, drill holes in the bottom so that water drains out.

- Consider using larvacides. These are growth-regulating chemicals or biological controls that are aimed at the larval stage of the mosquito and are effective in garden ponds and rain barrels (see "Resources and Sources").
- Use insect repellents, and reapply as needed. The CDC recommends repellents containing DEET (N, N-diethylmeta-toluamide), which are particularly effective against biting insects, and are longer lasting than many other types of repellents. These should be used whenever you spend time outdoors and can be applied to skin and clothing.

A higher percentage of DEET in a product does not improve protection, but does increase the length of time it is effective. For children ages two to 12, the American Academy of Pediatrics recommends using products with no greater than a 10 percent concentration of DEET. Never apply repellents near the eyes or on children's hands, which often find their way to their eyes or mouth. For children under two, consult your doctor, and always follow the label instructions.

■ Wear loose-fitting, protective clothing. Wear long-sleeve shirts and long pants whenever possible outdoors. Hats fitted with mosquito netting can be used to protect the face and neck.

# Resources

American Mosquito Control Association www.mosquito.org/mosquito.html

Center for Disease Control and Prevention (State and local West Nile virus related Web sites): www.cdc.gov/ncidod/dvbid/west nile/city states.htm

# National Wildlife Health Center West Nile Virus Project

www.nwhc.usgs.gov/research/west\_ nile/west\_nile.html

# Sources

# MosquitoSafe

www.mosquitosafe.com/website/

■ Mosquito protection gear, repellents

Safety Central, 1370 Highway 10 West, Livingston, MT 59047. (406) 222-3171 http://store.yahoo.com/safety

■ Mosquito hats, netting, repellents, larvacides

central/mosnetrepbug.html

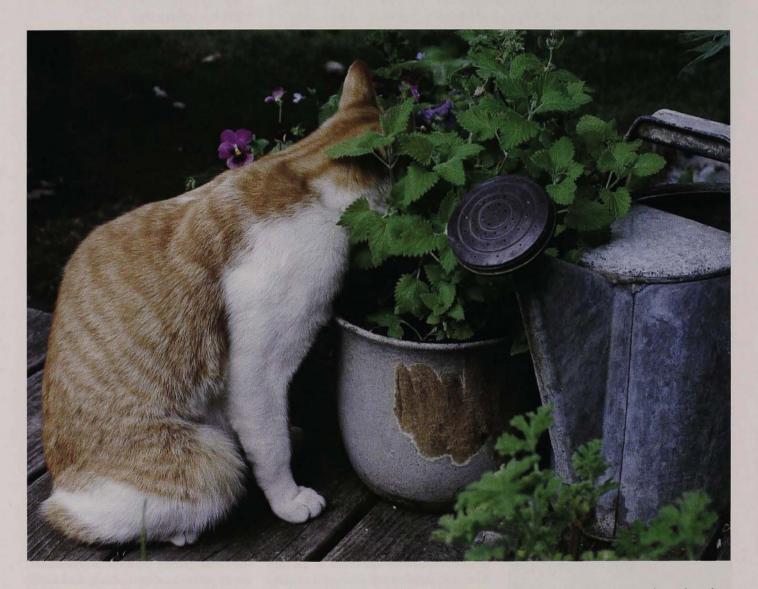
- Use screens and netting. Cover baby strollers and playpens located outdoors with mosquito netting, and be sure the window screens in your home are in good repair.
- Avoid being outdoors during certain times of day in areas where mosquito populations are high. Mosquitos tend to congregate near their breeding grounds, so limit your time around wetlands or untreated ponds. Because mosquitos are most active at dawn, dusk, and early evening, try scheduling outdoor activities at other times.

Municipalities nationwide have developed programs to monitor and reduce the further spread of WNV by focusing on mosquito control (see "Resources and Sources"). A vaccine is being developed and tested. Pending results, it may be ready for use in 2006.

Rita Pelczar is an associate editor for The American Gardener.

# Crazy for Catmints

Flowering in a range of cool to vibrant hues, catmints are a boon to almost any border—as long as you can keep the neighborhood felines in check. BY RAND B. LEE



ATELY I HAVE BEEN suffering the overpowering urge to collect ✓ catmints. This is perhaps unfortunate, because I have, as we say in Santa Fe, bad karma where the genus Nepeta is concerned. Consider my first attempt to grow Nepeta cataria, the common catnip (Zones 3-8, 8-1). Charmed by its soft, fragrant, gray-green leaves and summer spikes of bi-lipped, white, blue-violetspotted flowers, I bought a plant, placed it in a sun-drenched, well-drained spot at

the front of my perennial border, watered it, and went indoors for about five seconds. That's approximately how long it took for the black-and-white Persian from across the street to sense, locate, attack, and devour my catnip, lock, stock, and barrel. N. cataria is said to attain three feet tall in the wild, but mine never got the chance to try.

Undaunted, I tried again, this time with the lavender-flowered lemon-scented catnip cultivar 'Citriodora', thinking that its scent signature might make it less attractive to catnip predators. I was vigilant, scanning the yard frequently for signs of cat, and consequently this one lasted a day. The third time, thinking that a catmint might fare better than a catnip, I planted the standard every-catalog-andnursery-sells-at-least-one-cultivar catmint N. xfaassenii 'Mussinii'. I put a wire cage

Above: Even when not in bloom, catnip (Nepeta cataria) attracts feline admirers.



Resinous Siberian catmint (Nepeta sibirica) blooms indigo-blue and sometimes succeeds just a bit too well in the garden.

around it, so that one lasted the better part of a week. And then I gave up, resigning myself to a catmintless life.

In the meantime, to console myself, I read up on the genus, and was surprised to find it contains around 250 species, some of them quite unlike the gray-leaved lavender-spiked catmints I had thus far encountered. As members of the mint family (Lamiaceae), the catmints share many typical mint characteristics: blossoms composed of two "lips" (bilabial), aromatic leaves, squarish stems, and a reproductive exuberance that can express itself via self-seeding, root-spread, stoloncreep, or all three.

Their tendency to drought-tolerance, however, made the nepetas more attractive to me than other mints, for in those days I was having a hard time finding English cottage garden-style plants that could survive the summer-scorched alkaline soil of my Santa Fe yard. "If only," I thought, "I

could find a catmint the cats wouldn't bother."

My wish came true—and how—some years later. While scanning a plant society seed list, I came across mention of one *N. sibirica*, the Siberian catmint (Zones 3–8, 8–1). I couldn't find mention of it in my



Blooming in summer, catnip's spikes of white flowers are flecked with purple spots.

plant books and I thought, "Surely if this catmint can survive a Siberian winter, it can survive a Santa Fe tomcat." The seed, when it arrived, sprouted readily, and grew into a plant that I never would have recognized as a nepeta had I stumbled over it at a nursery. For one thing, it was three feet tall. For another, it was a resinously fragrant dark green all over, with heart-shaped leaves, and its many straight, upright stems ended in racemes of rather widely spaced puffs of large flowers that were nearly indigo-blue rather than the wishy-washy lilac that so often mars this genus.

Enchanted, I planted it in my Mediterranean plot in full sun, where my Mexican agastaches do so nicely. It promptly wilted in the summer heat, unlike the agastaches, which do not wilt at anything short of a thermonuclear blast. I watered it and it perked right up again. As long as I kept watering it, it kept perking right up, and it charmed my blue-starved eyes out-

# **CARING FOR CATMINTS**

Except where noted in the article, most catmints grow best in a wellaerated, neutral to alkaline soil in full sun-they will perish swiftly in soggy clay or any soil that stays wet in winter. In regions at the upper edge of their heat tolerance, plant them where they will receive some shade on summer afternoons.

Most are extremely drought-tolerant, but as with any other perennial, they must be watered regularly in their first year to give their root systems a chance to become well established. Use stone or gravel mulch in place of organic products because catmints are prone to fatal fungal infections if moisture is allowed to collect near their crowns.

Once the first flush of blossoms fade in summer, cut plants back by half or prune faded flower stems to promote rebloom. Catmints should be cut back to the ground in winter or early spring before new growth begins. You can also divide catmints at this time to start new plantings.

-R.B.L

doors and in-for the stems made wonderful bouquet-fillers-all that summer. And the cats didn't bother it!

Next spring, while checking the Mediterranean bed for signs of attrition, I noticed an awful lot of dark green shoots peeping up from the snowmelt. My initial reaction was excitement: My beautiful new Siberian had root-spread during the winter! My excitement turned to horror, however, when I realized the full extent of this catmint's vigor. In one season, my little four-inch pot had covered an area some two feet square.

Calculating rapidly, I realized that if it were left unchecked, and continued to spread at its present rate, by season three it would have taken over half of my back yard. Regretfully, I dug out every stem and root I could find. Pieces must have broken off and rooted in the soil, because three years later, I was still doing so. The year no N. sibirica showed itself I heaved a sigh of mingled relief and regret, for it really is a



Nepeta × faassenii 'Walker's Low' has a murky pedigree but abundant deep blue flowers.

gorgeous creature. If I ever plant it again, I will give it a half-barrel all its own, like my Monarda 'Croftway Pink'.

As long as we're on the subject of Siberian catmint, I must mention Nepeta 'Souvenir d'André Chaudron' (sometimes listed as 'Blue Beauty'), which most references list as a dwarf cultivar of N. sibirica. It grows to only 18 inches tall, but has the big dark violet-blue blossoms of the true Siberian, and, like N. sibirica, can be quite invasive. It is also as cute as all get out. Don't say I didn't warn you.

# MANNERLY CATMINTS

Much better behaved are the cultivars of the aforementioned N. × faassenii (Zones 4-8, 8-1), which is a hybrid of N. racemosa (Zones 4-9, 8-1) and N. nepetella (Zones 6-9, 9-1).

The former is a lolling, densely furry, foot-high Iranian species bearing spikes of violet-calyxed, deep violet to lilac-blue flowers; the latter is a two-and-a-half-foot catmint native to North Africa and Iberia that bears whorls of pink to white blossoms the calyxes of which are frequently tinged pink or blue.

Both species, by the way, are worth growing in their own right, if you can find a reliable source. I have yet to find a source for N. nepetella, and references indicate that most of the plants labeled N. racemosa turn out to be N. × faassenii. This kind of nomenclatural confusion is typical with catmints, by the way; even experts have trouble telling the species and cultivars apart.

For instance, the adorable Nepeta cultivar 'Little Titch' is listed variably as a cultivar of N. racemosa or of N. ×faassenii. Whatever its true birthright, 'Little Titch' is distinctive for its height—at only six inches tall, it makes a tight, gray-green mat smothered in rich bluish blossoms all summer. It looks unutterably charming in the rockery, or planted between flagstones with companions such as the double, clove-scented, rose-flowered Dianthus 'Tiny Rubies'.

Two other worthy cultivars with murky pedigrees are 'Superba' and 'Walker's Low'. 'Superba' is a compact, small-leaved, finely textured mat-former bearing abundant dark blue blossoms from May to October. 'Walker's Low' is something of a puzzle. Some references indicate it gets 30 inches tall with "arching" stems—it is named for a place in Britain, not for its height-others call it a low-mounding 18-incher bearing deep lavender-blue blossoms from June to September. It appears there may be two or more forms sold under this name.

# LITTLE GRAY LAVENDER JOBBIES

Among the undisputed N. xfaassenii hybrids are many cultivars that, to be perfectly frank, look a lot alike to me; they are what we sophisticated garden writers like to call "LGLJ's" (Little Gray Lavender Jobbies). This is not necessarily a bad thing, of course, for in a world of shrieking red

pelargoniums and hot pink petunias, LGLJ's are much needed for soothing sore eves and softening border-edges.

N. ×faassenii 'Blue Wonder' is a compact, 14-inch-tall catmint that has the usual aromatic gray-green foliage and spikes of lavender-blue flowers starting in late spring and extending throughout the summer into fall if deadheaded faithfully. Its blooms are said to be particularly longlasting, a useful characteristic in a member of this bee-mobbed genus.

Growing one and a half to two feet tall, 'Dropmore' bears blossoms of a deeper lavender-blue than some faasseniis, and its flowers are notable for their size: each is nearly a half inch long. The blooms of 'Select Blue' are said to be more blue than lavender. This cultivar grows to 15 inches, and as it is a sterile, cutting-propagated hybrid it will not reseed and make a nuisance of itself. 'Blue Whisper' is much shorter, reaching only 10 inches.

The popular 'Six Hills Giant' (Zones 4-8, 8-1) is a tough, rather sprawling



The hybrid cultivar 'Joanna Reed' is a cross between Siberian catmint and N. xfaassenii.

three-footer that makes billows of lavender blossom from April to September. It has a reputation for tolerating damp climates and sites better than other catmints. And when 'Snowflake' (14 inches) and 'White Wonder' (18 to 24 inches) are in

full bloom, they remind me of low-hanging clouds of eiderdown. Both are suited to Zones 3-9, 8-1.

# OTHER HYBRIDS

Aside from the cultivars of N. × faassenii described above, there are a number of other interesting hybrid catmints available and worth seeking out. One of them is Nepeta 'Joanna Reed' (Zones 5-9, 8-1). Named for the great Pennsylvania plantswoman, who died last year, this cultivar was born in Michigan's Stonehouse Nursery from unplanned midnight shenanigans between N. sibirica and N. xfaassenii. Big, upright, and graygreen, it gets three feet by two feet at maturity, and it is adorned from late May to September with spikes of pink-throated, blue-violet blossoms that one nursery catalog describes as "iridescent."

A new one called 'Pool Bank' sounds exquisite, too. I haven't grown it yet, but it is said to make an upright, three-foot bush spired from July to September with laven-



Robust 'Six Hills Giant' tolerates damp climates better than other catmints. Growing to three feet with an open habit, it makes a dramatic statement whether planted by itself as a long border against a fence or a wall, as shown here, or in the middle of a mixed border.

# COMPANION PLANTS AND CULTURE FOR CATMINTS

Depending on the cultivar, nepetas can fit winsomely into a number of garden design niches. Gray-green-leaved plants diffuse harsh light, soften hardscape edges and planes, calm the assertive colors of surrounding plants, render formal borders more emotionally accessible to the casual stroller, and can weave together a garden given over to differing greens. In general, nepetas act as garden harmonizers. Good companion plants include yarrows (Achillea spp.), agastaches, alliums, wormwoods (Artemisia spp.), delphiniums, pinks (Dianthus spp.), coneflowers (Echinacea spp.), beardtongues (Penstemon spp.), sages (Salvia spp.), lamb's-ears (Stachys spp.), and veronicas.

Nepetas' various habits can also serve as foils for contrasting plant shapes. Mat-forming catmints, like 'Little Titch', look good planted en masse, either fronting taller plants at border's edge or making large pools around specimen perennials and shrubs. The mounding nepetas, like N. 'Longipes', can—if kept neatly clipped—lend substance and a touch of dignity to an informal planting, The taller, stiffer-stemmed nepetas, like 'Pool Bank', are good mid- to back-border foils for blobby plants. And any of the spiky catmints, when in flower, look good with plants that carry their blossoms in flat umbels, spheres, masses, or mists. -R.B.L.



Blooming in mid-border, the deep blue flower spikes of N. 'Six Hills Giant' provide a pleasing contrast to the lighter flowers and more rounded forms of gray lamb's-ears and variegated sage in the foreground, and yellow santolina and bright pink mallow in the background.

der-blue flowers calyxed in soft mulberry. Slightly shorter, at two feet tall, is Nepeta 'Longipes' (Zones 5-9, 8-1). It forms soft, largish-leaved, gray-green mounds abristle from July to September with branched, densely clothed, lilac bloom-spikes.

# SPECIES CATMINTS

Once you start petting nepetas, it's hard to stop. Fortunately there are a number of interesting species available if you cultivate a serious interest in this genus. Perhaps the most fashionable at the moment, and deservedly so, is N. nervosa (Zones 5-8, 7-5), a 16-inch-tall native of the Kashmir region that is known as veined nepeta on account of its slender, veiny, dark-green leaves. These are carried on an open, bushy plant that in summer puts up four-inch spikes of

violet-blue flowers so densely packed upon their stems that to my romantic gaze they appear hyacinth-like. In very hot summer climes, plant this species where it will get some afternoon shade.

One of the most distinctive catmints I've discovered is N. subsessilis (Zones 4-8, 8-1), which bears large, serrated, deep green leaves on a bush 24 to 30 inches tall. From July to September it is adorned with







Not all catmint flowers are blue. N. grandiflora 'Dawn to Dusk', left, bears tall spikes of bicolored pink-and-purple flowers. Heat-loving N. tuberosum, center, produces bright purple, densely packed flower spikes. The flowers of N. govaniana, right, are an exceptional soft yellow.

very large blue-purple bells, each spotted maroon. Unlike most nepetas, it prefers moist soil in sun to part shade.

Also well worth growing is the eastern European N. grandiflora (Zones 3-8, 8-1), which bears half-inch blue flowers on a plant 16 to 32 inches tall. Its exquisite cultivar 'Dawn To Dusk' (Zones 4-8, 8-I) grows to 30 inches and bears elongated pink blossoms with persistent rose-purple to smoky violet calyces, delicious against its aromatic gray-green foliage. It is particularly long-blooming, too, from June to September.

N. tuberosa (Zones 6-9, 8-1), one of the few tuber-bearing plants in the mint family, comes from the Iberian Peninsula and Sicily. A heat-lover, it can get up to three feet tall in the wild, though it is somewhat hard to tell, since its stems tend to loll about unless staked. Its gray leaves are some of the largest of the genus, to three inches, and from late spring to summer, it waves unbranched spikes of bright purple to violet flowers.

The catmint I most lust after, however, is N. govaniana (Zones 5-8, 7-1), a three-foot Himalayan species that, unfortunately for me, craves cool condi-

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Digging Dog Nursery, P.O. Box 471, Albion, CA 95410. (707) 937-1130. Catalog free except to Florida and outside the U.S., \$4.

Joy Creek Nursery, 20300 N.W. Watson Road, Scappoose, OR 97056. (503) 543-7474. www.joycreek.com. Catalog \$3; free online.

Roslyn Nursery, 211 Burrs Lane, Dix Hills, NY 11746. (631) 643-9347. www.roslynnursery.com. Catalog \$3.

Well-Sweep Herb Farm, 205 Mt. Bethel Road, Port Murray, NJ 07865. (908) 852-5390. www.wellsweepfarm.com. Catalog free.

tions and lots of supplemental water. It's my favorite because its flowers, which open from midsummer to fall on their loose bloom-spikes, are colored a soft, sigh-evoking, pastel yellow rather than the traditional pinky purple. I am determined to grow it this year, but in my Southwestern garden I will have to plant it (like my monardas) in yet another half-barrel, protected from the afternoon sun, and water it constantly. But it'll be worth it. Now if someone would only cross it with N. sibirica, there'd be no telling how far we could extend our catmint madness!

A free-lance writer and author, Rand Lee gardens in Santa Fe, New Mexico. His most recent book is Pleasures of the Cottage Garden, published in 1998 by Friedman/Fairfax.

# ines for Shade

Don't neglect the vertical element in your woodland garden—a few select climbers can add an extra dimension to shady areas.

BY MARTY WINGATE

ECAUSE MANY of our most familiar vines thrive in sunny spots, we don't often think of planting vines in areas that receive low light. But in doing so we are neglecting an opportunity to add texture and substance on the vertical plane in our woodland gardens, where the effects of color and form are subtle. Shade-tolerant vines can add interest and dimensionality through a combination of flowers, fruit, and foliage.

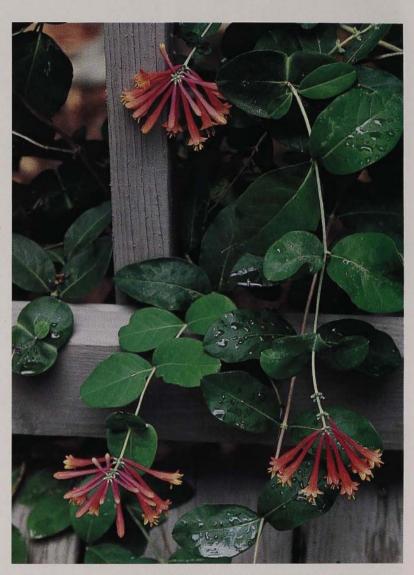
Vines are a versatile choice for any site and, as long as cultural requirements are met, the gardener can play with form and texture by manipulating how the vine is grown. Twining vines need the support of something slender, around which their stems can twist and hold onto, while clinging vines require a more solid surface upon which to adhere. And a few vines are described as recumbent or "lax"—these need to be actively supported by use of ties.

We typically think of all vines as growing up, but many can double as ground covers or drape themselves gracefully over rock walls quite admirably. If this is the growth habit you desire, supports are unnecessary.

### TWINERS

Many vines twine. Either stems or petioles (the leaf stalk) begin to turn around any appropriately sized object that it encounters. That means that a twiner can twine around itself— as anyone who has dealt with a wad of clematis can tell you—or around another plant's stem, or the support of a slender frame on an arbor or trellis.

Twiners find it difficult, but not impossible, to twine around large trunks. Grow the western trumpet honeysuckle (Lonicera ciliosa, USDA Hardiness Zone 6-9, AHS Heat Zone 9-1) through shrubs and trees and it will scramble its way up, over, and between stems that it cannot actually twine itself around. This evergreen honeysuckle may lack the fragrance of some of its relatives, but it does well in shady woodland situations, handling even coniferous shade typical of Pacific Northwest forests.



Lonicera sempervirens bears clusters of unscented tubular red-orange flowers.

Western trumpet honeysuckle's clusters of bright orange, tubular flowers open in summer just above two fused leaves that form a lovely collar for the blooms. Red fruit follows, again set off by the blue-green leaves. Its eastern equivalent is coral honeysuckle (L. sempervirens, Zones 4-9, 9-3), which also has unscented coral flowers. Cultivars with yellow to orange flowers are available, too.

From the eastern half of the country come two shade-tolerant twiners that share a family. Coralbeads or Carolina snailseed (Cocculus carolinus, Zones 5-9, 9-5) and common moonseed (Menispermum canadense, Zones 5-8, 8-5) are both from the moonseed family (Menispermaceae), named for its seeds' resemblance to the crescent-shaped quarter moon.





This climbing hydrangea (H. petiolaris) has grown up the wall of this building by means of its aerial roots, forming a flowering green blanket.

Growing to 12 feet, coralbeads produce drooping clusters of light green flowers in summer, followed by more showy clusters of pea-sized, red fruit that can persist into winter. Coralbeads are dioecious—male and female flowers occur on separate plants so only female plants produce fruit.

Moonseed grows 10 to 15 feet and is distinguished by rounded, shallowly lobed leaves that are peltate; that is, the leaf stem is attached to the lower surface of the leaf blade, rather than its base or edge. Like coralbeads, it bears large clusters of greenish-white flowers in mid- to late summer. Its fruits, in contrast, are glossy

blue-black, and hang in grapelike clusters. Be forewarned that these are toxic, and poisonings have resulted because they have been mistaken for wild grapes.

If plants that verge on bizarre intrigue you, consider pipevines (Aristolochia spp.), which are so named for their odd, striped flowers that resemble calabash pipes. These appear in spring, just before the leaves, as miniatures of themselves, and enlarge as time goes on.

Native to northern California, the Sierra pipevine (A. californica, Zones 7-9, 8-4) grows 10 to 15 feet tall and has creamy, two-inch flowers highlighted by crimson markings. Hardier pipevines include Dutchman's pipe (A. macrophylla, Zones 5-8, 8-4), an East Coast native, and woolly pipevine (A. tomentosa, Zones 5-9, 9-3), native from Illinois to eastern Texas and the Florida Panhandle. Their flowers are slightly smaller than those of A. californica, but both have large, attractive heart-shaped leaves and will grow up to 30 feet.

Provided with wires or other sturdy supports, all three will provide an excellent summer privacy screen on a porch or fence. The flowers and bruised foliage of pipevines can give off an unpleasant odor, but don't plant them too far away or you might

miss seeing pipevine swallowtail butterflies, which use these vines as an important larval food source.

The three most common garden representatives of the lardizabala family (Lardizabalaceae) are evergreen or semi-evergreen woody vines suitable for part shade. These are five-leaf akebia (Akebia quinata, Zones 5-9, 9-5), Holboellia coriacea (Zones 10-11, 12-10) and its cultivar 'China Blue', and Stauntonia hexaphylla (Zones 9–11, 10–8). These vines make short work of twining around fencing and slender supports. Each blooms with clusters of smallish lavender or white flowers. When the fruits-sausageshaped, lavender cylinders hanging among



The bold leaves of Aristolochia macrophylla dwarf the odd-looking small flowers.

the foliage—develop in late summer, they cause a stir.

# CLINGING VINES

Clinging vines adhere in various ways, but most often by means of aerial roots or their own form of sticky pads. Both the climbing hydrangea (Hydrangea petiolaris, syn. H. anomala var. petiolaris, Zones 4–9, 9–1) and its look-alike, the Japanese hydrangea vine (Schizophragma hydrangeoides, Zones 6–9, 9–6) have aerial roots, which allows them to climb up a tree with rugged bark or a creviced wall quite easily. These deciduous woody vines can create a coat of green—in essence another layer of foliage—on walls or trunks. Even after their leaves drop in winter these vines are attractive, because their bark, especially as it matures, exfoliates, taking on a rugged appearance.

Climbing hydrangea and Japanese hydrangea grow more slowly and manageably than vines such as English ivy, and with annual pruning can be kept smaller than climbing hydrangea's 80 feet or Japanese hydrangea's 30 feet. In the absence of little nooks and crannies in which the vines' roots can take hold, install hooks or Velcro tape to secure stems.

There are several cultivars of *Schizophragma* worth seeking out, including 'Moonlight', which has a silvery sheen to its foliage; 'Platt Dwarf', a selection smaller than the species; and 'Roseum' in which the usually white lacecaps are pale pink with rosy pink bracts.

The genus *Parthenocissus* includes several species that may be just the ticket in your corner of shade. Virginia creeper (*P. quinquefolia*, Zones 4–9, 9–5) and Boston ivy (*P. tricuspidata*, Zones

3–8, 8–1) will grow best with a little sun in cooler regions, but the silver-vein vine (*P. henryana*, Zones 8–9, 9–1) doesn't mind shade even in areas with cool summers. These vines grow to 30 feet, or more, clinging by means of sticky pads. If you don't provide any means of support, they will accommodatingly creep over the ground, covering it attractively.

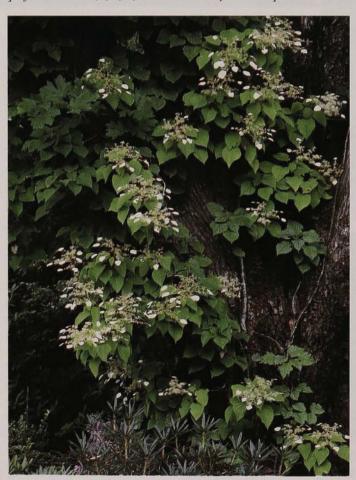
The way these vines adhere means they can be grown on a brick wall without fear that aggressive aerial roots will invade the mortar. However, they do leave "footprints" when pulled off, so think twice about allowing them to grow up a white painted surface.

These deciduous vines are at their best in fall, when their foliage turns crimson to purple and bluish fruits peek out from behind the leaves. As always, beauty is in the eye of the beholder, and not everyone considers Virginia creeper garden-worthy. If left unchecked, it can be quite invasive, spreading both by roots and through seeds dropped by birds.

# RELUCTANT CLIMBERS

Some vines are more recumbent than climbing, so if you want them to grow tall, they will need a little coaxing. A case in point is tree ivy (×Fatshedera lizei, Zones 8–11, 12–8), a cross between English ivy (Hedera helix) and Fatsia japonica. The cross resulted in a plant that neither tries to take over the garden nor grows big, round, and coarse. Neither does it hold on to anything, so it must be propped or tied up. But the effect in full shade of one of its variegated cultivars—'Variegata' or 'Media-Picta'—is as if a light were turned on.

Another reluctant climber is Decumaria barbara (Zones 6–9,





The light-reflecting leaves of *Schizophragma hydrangeoides* 'Moonlight', left, and *Parthenocissus quinquefolia* 'Star Showers', above, can brighten a corner of a shady garden.

### More Shade-Tolerant Vines Type of Climber **Attributes** Height Name USDA/AHS (feet) **Zones** 6-9.9-6 Alpine clematis deciduous twiner nodding, blue, spring flowers, 6-10 (Clematis alpina) feathery seed head Clematis macropetala deciduous twiner blue or violet-blue spring to 6-10 6-9, 9-6 summer blooms Chinese magnolia vine deciduous twiner pale to deep pink flowers, 20-30 7-9, 9-7 (Schisandra chinensis) red fruit on female plants Variegated Confederate jasmine evergreen twiner fragrant summer flowers, 20 - 288-11, 12-8 (Trachelospermum jasminoides variegated leaves 'Variegatum')

9-6), a deciduous southeastern native that goes by the delicious name of wood vamp. Prized most for its shiny, dark green foliage and reddish-brown stems, it also has fragrant, creamy white flowers that bloom in loose, flat clusters in late spring. It will climb into a tree if given some encouragement, but seems naturally more inclined to drape itself over a rock pile or tree stump in a site that offers filtered shade and moist, organic soil.

# CLIMATE AFFECTS SHADE TOLERANCE AND VIGOR

The degree of shade tolerance for most plants hinges heavily on the climate of the region in which you garden. For instance, a vine that will only survive in full shade in the heat and humidi-

ty of the American Southeast may languish in full shade in the cool Pacific Northwest. Two good examples of this are cup-and-saucer vine (Cobaea scandens, Zones 11-13, 12-6), a tender perennial with lavender or white flowers, and cypress vine (Ipomoaea quamoclit, Zones 12-13, 12-10), a tender perennial prized for its ferny foliage and scarlet tubular flowers. Where summers are hot, both plants will grow best in a site that receives afternoon shade, but in a region that experiences



Cypress vine is a shade-tolerant annual vine with bright red flowers.

cool summers they will thrive in full sun.

Climate can also affect how well a plant adapts to its surroundings. Sometimes, they adapt all too well in one place, while staying a polite garden guest in another. One example of this is five-leaf akebia, which is a pest in the eastern half of the United States, but merely a fast-grower in much of the Pacific Northwest.

On the other hand, English ivy, one of the most frequently recommended vines for shade, has become infamous for its ability to

# Sources

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Fairweather Gardens, Greenwich, NJ. (856) 451-6261. www.fairweathergardens.com. Catalog \$4.

Forestfarm, Williams, OR. (541) 846-7269. www.forestfarm.com. Catalog \$5. Free if ordered online.

Missouri Wildflowers Nursery, Jefferson City, MO. (573) 496-3492. www.mowildflowers.net. Catalog \$1.

Roslyn Nursery, Dix Hills, NY. (631) 643-9347. www.roslynnursery.com. Catalog \$3.

Woodlanders, Inc., Aiken, SC. (803) 648-7522. www.woodlanders.net. Catalog \$3.

# Resources

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Native Trees, Shrubs, & Vines by William Cullina. Houghton Mifflin, Boston, Massachusetts, 2002.

escape gardens and invade natural areas on both the East and West coasts and many places in between. Check with your local Extension office or local botanical garden to see if they can provide a list of the thuggy plants in your region.

So think vertically and consider brightening up your shade garden with a vine. The selection is broader than you think.

Marty Wingate writes a weekly garden feature for the Seattle Post-Intelligencer.

# NATURAL CONNECTIONS

# Tent Caterpillars

by Branley Allan Branson and Mary Lou Branson

OF ALL THE unsightly byproducts of insect pests that affect trees, those created by the tent caterpillar are probably the worst. Not only do these creatures spin unsightly "tents" in the trees, but those tents continue to enlarge as the caterpillars reach full size, collecting all sorts of dust, twigs, caterpillar excrement, and other debris. And the caterpillars are capable of denuding trees of their leaves.

Several species of tent caterpillars are native to different regions of North America, including the eastern tent caterpillar (Malacosoma americanum), the forest tent caterpillar (M. disstria), the western tent caterpillar (M. pluviale), and the California tent caterpillar (M. californicum). The eastern tent caterpillar is the most widespread, ranging throughout eastern North America to the Rocky Mountains, and is considered one of the biggest insect pests of ornamental trees.

Tent caterpillars tend to select host trees in the rose family—especially fruit trees such as cherries, apples, and pears—but they occasionally infest birches, oaks, hawthorns, sycamores, and other shade trees. The preferred host for the eastern tent caterpillar is the wild black cherry (*Prunus serotina*), while the California tent caterpillar favors the coast live oak (*Quercus agrifolia*).

One or two moderately sized colonies of tent caterpillars can completely defoliate small trees; a large colony can devour most leaves of a large tree. The leaves will grow back, so trees are not permanently damaged, but a great deal of energy is required to produce a second set of leaves. If a drought coincides with caterpillar attacks, weakened trees may succumb.

# LIFE CYCLE

To properly identify and control tent caterpillars, a familiarity with their life cycle is helpful. The larvae are easily recognized when they build their silken tents in the crotches of branches or at points where large limbs meet the trunks. Eastern tent caterpillars are



Eastern tent caterpillars congregate on a tent they have spun on the branch of an apple tree. Apples and cherries are favored targets for infestations.

black with tan hairs along their sides. A broad, longitudinal white stripe runs down the middle of the back, flanked by a series of round blue spots, outlined in intense black. Forest tent caterpillars have keyhole-shaped spots along their backs rather than a solid stripe.

In early spring, just as new leaves emerge from tree buds, these hairy, wormlike larvae hatch from eggs that were deposited the previous summer. All tent caterpillars overwinter in the egg stage: masses of 150 to 350 eggs are deposited in foamlike pads that are

wrapped around small limbs and twigs and then covered with a shellac-like substance that protects the enclosed eggs.

Migrating to the crotch of branches, the caterpillars leave a trail of almost invisible threads that serve as a pathway to guide other caterpillars to the tent site. As the caterpillars grow, so do the tents. A single tent may be home to hundreds of writhing larvae that leave only to feed.

The caterpillars continue feeding and growing for six or seven weeks. When they reach their full size of about two inches, they leave the tent for good and search for places to pupate. During this migration, thousands of the caterpillars may be seen crawling across streets, driveways, and even the walls of houses. Each caterpillar eventually attaches itself to a tree limb, windowsill, or other object, and spins a silken cocoon about itself. Pupation lasts 10 to 14 days, after which a mature moth emerges.

The tent caterpillar moth is about two inches long with two pairs of warm brown wings that cover the body. The forewings are marked by a pair of diagonal whitish stripes. Soon after emerging from the cocoons, these adults mate, deposit their eggs, and die.

# POPULATION VARIATIONS

There is only one generation per year, but there are significant differences in population size from one year to the next. The number of tent caterpillars may be relatively small for several years, followed by a year with an extraordinarily large population. The year 2001 was one such year. Thousands of large tents appeared, infesting nearly every wild cherry tree. Many wild cherry trees are located on the thoroughbred horse farms in the blue grass section of Kentucky, especially in the vicinity of Lexington, and it is this region where the caterpillar—cherry tree combination had lethal consequences. During the spring foaling season of 2001, more than 5,100 foals died on farms around Lexington. These included thoroughbreds as well as other breeds, and resulted in an estimated loss of approximately \$336 million by the thoroughbred industry. A massive and frantic investigation to determine the cause of such an unprecedented loss ensued.

Tent caterpillars, during the population outbreak of 2001, fed heavily upon young wild cherry leaves. These leaves contain a substance called prunasin, which breaks down into a type of cyanide when acted upon by the digestive enzymes of the caterpillars. The cyanide does not affect the insects, and it is eventually changed into an inactive material that is stored in special cells, much as some butterflies store poisons derived from their food plants.

When the unusually large numbers of caterpillar larvae made their usual migra-

tions across the ground that spring, many were incidentally swallowed by pregnant mares grazing on grass. Apparently the cyanide in the caterpillars caused the tragic loss of many foals. But veterinary investigators suspect that something else may be interacting with the caterpillar—cherry complex, such as certain fungi or fungal derivatives. Further research is underway, but whatever the cause, it is hoped this horrible incident will never recur.

# **CONTROL METHODS**

The foal deaths stimulated the racing and breeding farms to seek ways to control tent caterpillars. Many of the owners opted for clearing out all the wild cherry trees on their properties, but there are less radical methods to achieve control. A few small nests can be removed by hand (or a broom) early in the morning or late afternoon—when most of the caterpillars are inside—and dropped into soapy water or tossed onto the ground and crushed.

For more widespread infestations, a bacterial insecticide containing BTk, (Bacillus thuringiensis var. kurstaki) is very effective if sprayed on host vegeta-

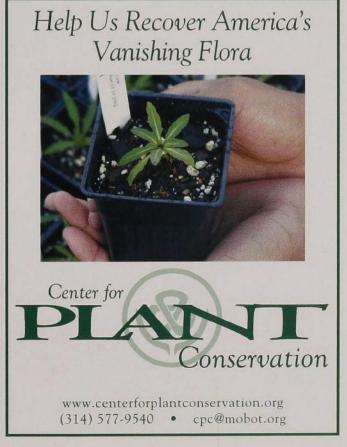
tion before much defoliation has occurred—do this in late afternoon on a cloudy day because BT's effects deteriorate when exposed to sunlight. The bacteria must be ingested by the caterpillar to kill it, and it is most effective when the caterpillars are young. Horticultural oils and insecticidal soaps can also be used to control tent caterpillars. Before using any pesticide, read the label carefully and follow all precautions.

# AIDED AND ABETTED

Tent caterpillars are part of the natural environment, but humans have helped expand their populations in urban settings by planting the trees they most prefer to feed upon—ornamental cherries, crabapples, and plums. Thus we mount an annual battle against these insects, but they return each spring, building tents in the branches and consuming the foliage of our trees.

Branley Allan Branson is professor emeritus of zoology at Eastern Kentucky University. He and his wife, Mary Lou, live in Richmond, Kentucky.





# SMARTGARDEN™—Maintaining an Edge

Edges define garden spaces and also helps control the spread of plant growth

Whether your landscape is large or small, it consists of different areas such as walkways, paths, beds, lawn, driveway, patio, etc. Defining these areas and maintaining their integrity helps keep your landscape looking neat and well tended. Both objectives can be accomplished with an effective edging.

### UTILITY AND VISUAL APPEAL

Edgings are both practical and aesthetic. By preventing grass from encroaching into areas where it's not desired, weeding is reduced. Along frequently traveled routes, steep inclines, and after heavy rains, loose pathway materials like gravel, shredded bark, or pine needles tend to stray into beds or lawn if not confined by an edging. The

outer edge of a paved walkway—particularly one set in sand—is protected and given integrity by a solidly constructed edging.

Beyond utility, attractive edgings highlight the spaces they enclose, and by framing individual beds and paths, they contribute definition and style to the overall landscape. Edgings can help unify a design, by echoing colors, lines, or materials used elsewhere. They are also helpful for distinguishing areas intended for foot traffic from those that are

not—unfortunately children and pets don't always pick up on this distinction!

Edgings can be subtle or bold, depending on the style and material you choose. Installation can involve considerable cost and effort, or can be accomplished simply and inexpensively using a sharp edging tool. The style you select has a significant impact on the level of maintenance. Some edgings require occasional primping; others, once installed, rarely need further attention. Some edgings, though attractive, require frequent hand trimming of the adjacent lawn, actually increasing maintenance chores—these types should be avoided. A "smart" edging should harmonize with the rest of your landscape, suit your budget, and help reduce landscape maintenance.

There are two basic types of edging. The first is an installed barrier that prevents the mingling of material in adjacent areas, with numerous options for style and ma-

terial. The second is a simple cut edge that requires no installation of hardscaping material; rather a narrow trench is cut along the periphery of a bed, surgically ensuring separation of lawn and garden.

# **BUILDING A BARRIER**

Barrier edges can be made of a variety of constructed and natural materials like rock, concrete, brick, timber, and plastic. Selecting material that is used in other areas of the yard, such as the brick of the house, the railroad ties of a retaining wall, or the flagstone of a path, can promote a sense of continuity with the overall landscape.

To install a barrier edging, excavate a channel just slightly wider than the width of the edging material to

a depth of two inches deeper than you plan to set the edging. Spread about two inches of stone dust in the bottom of the channel to prevent settling and set the edging material as desired. Fill in with stone dust or soil to hold the edging firmly.

Barrier edgings can either be raised or set in the ground so that the upper surface is approximately level with the soil. This distinction is important, and the best style for any particular edging depends on its intended use.

To separate a path or walkway from a mulched bed, a raised edge effectively prevents erosion and contains the mulch. If the walkway is constructed of flagstone, pavers, or brick set in sand, the raised edging also provides support to its perimeter.

Raised edgings often contribute attractive detail to the landscape, and, because they are visible, both material and style are important considerations. For a formal look, bricks can be set diagonally in a dog-tooth pattern, vertically for a taller edge, or end to end horizontally for a smooth, low border. A wider, more prominent edging can be constructed using two or more rows of bricks, in a variety of patterns.

For a more informal look, short round logs or bamboo sections can be set on end at equal or varying heights. Landscaping timbers or railroad ties are effective for straight edges on level ground, while stone more easily accommodates grade changes and curves. Other mate-



This informal brick edging separates lawn from border and is low enough to serve as a mowing strip.

rial options include pre-cast concrete blocks or pavers, forms manufactured from recycled plastic, bender boards, or cedar shakes.

For segregating a sweep of lawn from another area on the same grade, opt for an edging that is flush with, or only slightly raised from the soil level. The critical height is one that is below the cutting blade of your mower. This type of edging, often referred to as a mowing strip, is usually constructed of railroad ties, flagstone, brick, or a band of concrete. A bit of excavation and precision is required for installation, but once in place, maintenance is a snap. By riding one wheel of the mower along the edging surface, you can have a neatly mowed lawn that requires no additional trimming.

A raised edging, on the other hand, requires frequent hand trimming of adjacent turf, either with a pair of grass shears or a string trimmer, to maintain a neat appearance. Remember that an effective edging should reduce maintenance, not add to it.

Plastic and steel edging strips are relatively inexpensive, but are not visual assets, so they should be installed so only the top of the barrier is exposed. Plastic edging is also available in short, vertical sections that are hammered into place with a rubber mallet. These edgings easily conform to the curves of your bed or walk. Frost may cause them to heave up out of the soil, however, and may cause plastic edgings to crack over time. And given the minimal separation that these strips provide, ground covers and grass often spread over them, defeating their purpose.

### THE CUTTING EDGE

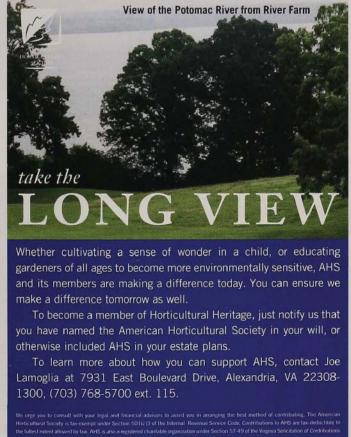
You can create an edge for a garden without installing any hardscaping material simply by cutting a shallow trench around the periphery of the bed. The result is an elegant edge that suits any landscaping style. Although less expensive than a barrier, it does need to be renewed regularly.

To construct the edge, use lime or a garden hose to outline the area and an edger or a flat blade spade for digging the trench. By ensuring the blade of your cutting tool is sharp, you will expend less effort and have a crisper edge. Following the outline, dig a three- or fourinch trench, keeping the lawn side of the trench vertical, and angling the inside edge of the trench toward the bed. Shake clumps of turf or weeds to get loose soil off, then put them in your compost pile. Extra soil can be raked back into the bed. To keep the edge crisp, re-cut the edge once or twice per growing season.

Rita Pelczar, Associate Editor

An assortment of edging materials and products are profiled in "Seasonal Garden Goods," on the next page.





# SEASONAL GARDEN GOODS

Edging and maintaining an edge in your lawn and garden just got easier with the tools and products featured below.



The Steppin' Edger has a curved stainless steel cutting blade and uses a rocking motion to create clean borders along sidewalks and garden beds. A window on the stepping edge allows you to visually guide the tool. Retails for \$29.95 from Charley's Greenhouse & Garden Supply. (800) 322-4707. www.charleysgreenhouse.com.



Cut through grass with ease with this Heirloom Lawn Edging Knife. The 81/2-inch polished stainless steel blade resists rust and cleans quickly. The 37-inch ash handle is stained in deep walnut and features a T-grip. Sells for \$29 from Smith & Hawken. (800) 940-1170. www.smithandhawken.com.

Protect young trees from electric trimmers and lawn mower blades with Arbor Edge, a rimmed plastic disk with a hole for the tree's trunk. Cover the disk's center with mulch for a natural look. Available in 27-inch and 38-inch sizes at many hardware stores for between \$6.99 and \$9.99. ADCO Products. (800) 666-8191. www.adcoproducts.com.



Fiber Edge is a flexible, lightweight border made from durable, UV-resistant green fiberglass. Easy to install with steel stakes (included). A 20-foot roll retails for \$29.99; a 100-foot roll for \$129.99. Available in many hardware stores and garden centers. For more information or to locate a retail supplier near you, call Easy Gardener at (800) 327-9462.

Products profiled are chosen based on qualities such as innovative design, horticultural utility, and environmental responsibility; they have not been tested by the American Horticultural Society. Send new product information to New Products, The American Gardener, 7931 East Boulevard Drive, Alexandria, VA 22308, or e-mail to editor@ahs.org.

# CONSERVATIONIST'S CORNER

# CPC Provides a Lifeline for Native Plants

by Pia daSilva

Recently, the American Horticultural Society and the Center for Plant Conservation forged a partnership to foster the preservation of native plants. This is the first of an ongoing series of articles that will explore issues in plant conservation relevant to American gardeners.

WHEN YOU hear the term "endangered species," you probably think of animals like alligators or whales. But did you know that one in 10 native American plants are at risk of extinction? The Center for Plant Conservation (CPC) knows this and has been working hard at its mission to conserve and restore our country's rare native flora.

Established in 1984, the CPC was one of the first American organizations dedicated solely to saving endangered plants. Its staff of six works out of the Missouri Botanical Garden in St. Louis, which is one of 33 institutions working with the CPC to save more than 1,000 species at risk for extinction. These organizations help collect and maintain rare plants and germplasm for the National Collection of Endangered Plants, which is composed of more than 600 of the country's most imperiled species.

"Through research, propagation, and replanting in the wild, the CPC and our network of partnering institutions are working tirelessly to restore the sum of these endangered species throughout the United States," says Kathryn Kennedy, CPC president and executive director.

With the help of federal agencies such as the U.S. Fish and Wildlife Service, the CPC determines which species are most at risk. Hawaii, for example, has more than 400 vulnerable plant species, the most of any state, followed by California and Florida, two of the CPC's other biodiversity "hot spots." The agencies and the CPC work together to create a recovery plan that out-

lines the actions necessary to recover a species in the environment.

# **SUCCESS STORIES**

Despite the bleak outlook for so many of our native plants, there are some inspirational success stories. Robbins' cinquefoil (Potentilla robbinsiana), an herbaceous perennial that grew along hiking trails on New Hampshire's Mt. Washington, was near extinction two decades ago. The hiking trails were eventually relocated around cinquefoil populations, making the habitat less vulnerable to disruption. With the support of the New England Wild Flower Society, the cinquefoil population has grown from 3,700 individuals to more than 14,000, which led to its removal from the federal Endangered Species list in August 2002.

Another cause for optimism is Florida ziziphus (Ziziphus celata), one of Florida's most imperiled plants. The shrubby native suffered from a loss of genetic diversity, and by 1987 it grew wild in only six sites along Lake Wales Ridge



Conservation efforts are currently underway to help save the imperiled *Florida ziziphus*.

in Central Florida. Through off-site experiments, conservationists produced more robust, viable plants and have begun to reintroduce them in the wild.

Robbins' cinquefoil, which has come full circle from the brink of extinction to now flourishing populations, is a shining example of effective conservation practices. As for the ziziphus, scientists are hopeful it will recover, but there are many years of work remaining before it is out of danger.

# PLANT CONSERVATION UNDERFUNDED

The availability of funds to support conservation research is vital to the survival of our vanishing flora. According to Kennedy, the U.S. government's budget for protecting and conserving endangered species is about \$131 million. Even though there are more endangered plants than animals in this country, plants get less than five percent of all federal expenditures for endangered species.

"People tend to identify more with things that have faces," Kennedy says, "but they also need to realize that plants play a vital role in supporting life on this planet." Gardeners and gardening organizations need to speak out, she adds. "We have to let the government know that the welfare of our native flora is a priority. We must work together to save it, or else it will be lost for future generations."

Through the partnership between AHS and CPC, AHS members can join CPC at a discounted rate. For more information on this, and to learn how you can help with plant conservation efforts in your area, contact the CPC at (314) 577-9450 or visit its Web site: www.centerforplant conservation.org.

Pia daSilva is editorial intern for The American Gardener.

# **BOOK REVIEWS**

# Recommendations for Your Gardening Library

# The Gardener's Palette: Creating Color in the Garden.

Sydney Eddison. Photography by Steve Silk. Contemporary Books, New York, 2003. 233 pages. Publisher's price, hardcover: \$29.95.

"In a long gardening life, nothing has given me more pleasure than playing with color schemes in flower beds and containers."

-Sydney Eddison

COLOR IS THE MOST compelling and least understood aspect of garden design. It provokes strong emotions, draws us to certain plants and creates intriguing gardens, yet our color preferences are as unique as our fingerprints. Many gardeners struggle when it comes to employing color wisely and effectively. Thankfully, Sydney Eddison comes to the rescue.

Eddison is an avid gardener with a painter's eye and a set designer's sense of the theatrical. Who better to lead fellow garden-



ers through the often daunting labyrinth of color theory and to instruct in the artful execution of color schemes for the garden. I had heard Eddison's excellent lecture on color, so was thrilled when she decided to put her nononsense approach into a book. The Gardener's Palette does not disappoint.

The book unfolds with a gentle discussion of color theo-

ry based on the primary and secondary colors of the color wheel. Using shades, tints, and tones of the six basic hues, Eddison explains how artists combine colors for dramatic or subtle effect. Borrowing from nature, master painters such as Monet and Gauguin, and even fabrics, Eddison offers a wealth of examples of successful color schemes that inspire garden combinations.

The book is far from theoretical, however. Each page is filled with practical advice. Using vignettes from her own garden, Eddison compares complementary and harmonious schemes, hot and cool colors, and the visual effects they create. She provides sound advice on how to use popular yet difficult colors such as white and gray, while reminding us that green is a color, too.

Beautiful photographs by Steve Silk deftly illuminate the points made by the eloquent yet practical text. If you want a book to delight your eyes, soothe your soul, and enrich your mind, look no further than The Gardener's Palette.

-C. Colston Burrell

Landscape designer and author C. Colston Burrell wrote Perennial Combinations (Rodale Press, 1999). He owns and operates Native Landscape Design and Restoration near Charlottesville, Virginia.

# Consider the Leaf: Foliage in Garden Design.

Judy Glattstein, Timber Press, Portland, Oregon, 2003, 327 pages. Publisher's price, hardcover: \$24.95.

EXCEPT FOR A FEW perpetually blooming annuals, flower displays in the garden are ephemeral. Once the blossoms have faded, what you've got left is the foliage. A well-designed garden focuses as much attention on foliage as it does on any floral display. In Consider the Leaf: Foliage in Garden Design, author Judy Glattstein teaches readers how to combine fo-

> liage plants so that the garden will look great whether or not

plants are in bloom.

Consider the Leaf Foliage in Garden Design

Glattstein outlines principles for combining plants: contrast, balance, color, and textural variation. Her authoritative prose is embellished with over 110 color photographs, illustrating the dramatic and varied effects that can be achieved with foliage combinations.

My one complaint as a great user of indexes is that this one falls short. Plants mentioned in

the book are listed by both their common and botanical names. But if you want to find, for example, the passage explaining the terminology for describing leaf shapes—very helpful if you find such descriptions as "hastate with pinnate venation," to be incomprehensible—you'll have to leaf through the book to locate it. Other gems of information are also buried within the text in unexpected places. A more detailed index would have been invaluable.

Much of the advice offered in the book is based on Glattstein's personal experience or that of her friends, colleagues, and acquaintances, so it has both the ring of authority and the charm of anecdote. The book is rich with examples of visually arresting leafy plant combinations, and information is given about each plant's growth habit and overall size; its leaf color, shape, and texture; as well as tidbits on care. Readers of Consider the Leaf will find themselves well armed with information and ideas for using foliage as an effective and critical design element in their garden.

—Catriona Tudor Erler

Catriona Tudor Erler's most recent garden books are Poolscaping: Gardening and Landscaping Around Your Swimming Pool and Spa, The Frugal Gardener, and Complete Home Landscaping. She writes and gardens in Vienna, Virginia.

# **GARDENER'S BOOKS**

# Noteworthy New Titles with a Regional Twist

ARDENING BOOKS that focus on a particular region can home in on the climate, soil, and indigenous plants of their specific locale with a lot more detail than most general references. This regional orientation is extremely helpful to both gardeners and visitors who share an interest in the trials and joys of gardening and nature in that part of the country. Whether you live in the cool Northwest or the sultry Southeast there are new books that address your corner of the world, its natural environment, and gardening possibilities.

Our tour of titles begins out West, with Marty Wingate's Big Ideas for Northwest Small Gardens (Sasquatch Books, 2003, \$21.95). Wingate, a Master Gardener and weekly garden columnist for the Seattle Post-Intelligencer, explains how gardeners can make the most of small spaces, from front and side yard landscapes to balcony, rooftop, and patio gardens, all with a dis-

Landscaping Without a Backhoe or a Big Budget for Northern California Kate Anchordoguy

tinctly Northwest perspective. The 80 color photographs by Jacqueline Koch illustrate garden concepts and specific plants.

Another book that West Coast gardeners may want to check out is Dig This: Landscaping without a Backhoe or a Big Budget for Northern California and Beyond (Sasquatch Books, 2003, \$19.95) by landscape designer and contractor, Kate Anchordoguy, who offers readers the benefit of 25 years of

landscaping experience in Northern California. In her easy prose, which is often spiked with humor, she presents a downto-earth approach to design, construction, and maintenance. The step-by-step advice is punctuated with lots of practical tips and helpful line drawings.

Midwest gardeners and naturalists will find Randy Hoffman's Wisconsin's Natural Communities: How to Recognize Them, Where to Find Them (University of Wisconsin Press, 2002, \$24.95), a useful reference to understanding and appreciating the habitats of indigenous plants, birds and other wildlife. The ecology of each community is accompanied by detailed maps, and lists of characteristic species of plants, mosses and lichens, mushrooms, insects, reptiles, mammals, and birds. Whether you live or plan to travel in Wisconsin, this volume will enhance your exploration of its natural environment.

With the Pennsylvania Gardeners Guide (Cool Springs Press, 2002, \$24.99) by Liz Ball, Cool Springs Press continues to expand its list of regional gardening titles. Offering both garden history and current plant selection and gardening advice, the guide serves as a useful reference. Ball addresses endangered

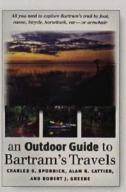
and threatened native plants as well as invasive non-natives. Also included are Pennsylvania "Gardens to Visit." Following



a similar format, the Mid-Atlantic Gardener's Guide (Cool Springs Press, 2002, \$24.99) by Jacqueline Heriteau and André and Mark Viette, includes details on growing the best plants for USDA Hardiness Zones 5, 6, 7, and 8.

Our tour heads southward and back in time, with a book that will appeal to naturalists and history buffs alike. An Outdoor Guide to Bartram's Travels (University of Georgia

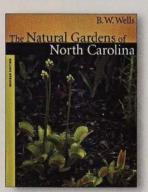
Press, 2003, \$19.95), by Charles D. Spornick, Alan R. Cattier, and Robert J. Greene reconstructs William Bartram's journey



through the American South from 1773 to 1777, as he documented the flora, fauna, cultures, and topography of that then-unexplored part of the world. From the Carolinas to Florida and west to the Mississippi River, the authors invite today's travelers to follow the same route—by car or bicycle, or as Bartram traveled, by foot, canoe, or horseback. Divided into discreet tours, the guide offers details on the natural environment as well as man-

made modifications that have changed the southern landscape over the past two centuries.

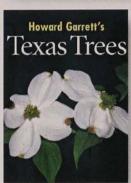
Natural Gardens of North Carolina (University of North Carolina Press, 2002, \$21.95) by B. W. Wells is the re-release of a classic about North Carolina's native plants, their habitats, and communities. Originally published in 1932, it has been updated with new line drawings, color photographs, botanical nomenclature, and an introduction and afterword.



Wells was a pioneer in the concept of plant communities and conservation. This volume identifies and discusses the major natural gardens in North Carolina ranging from the seaside community to the high mountain boreal forests. It also includes detailed descriptions of the wildflowers found within the state.

Incorporating indigenous southern wildflowers, ferns, vines, shrubs, and trees into your garden is the subject of Gardening with Native Plants of Tennessee: The Spirit of Place (University



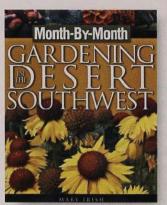


of Tennessee Press, 2002, \$34.95), by Margie Hunter. In Part I, Hunter discusses Tennessee's geographic regions, plant communities, and wildlife. She also covers endangered native plants and exotic pests. Part II focuses on gardening with Tennessee natives. Descriptions, cultural information, and natural distribution of plants are provided in detail. Small but helpful color photographs accompany plant descriptions. Appendices include organizations, nurseries, botanical gardens, and plant conferences through which interested readers can obtain further information.

Our tour proceeds to Texas with *Howard Garrett's Texas Trees* (Lone Star Books, 2002, \$29.95). Garrett provides thorough descriptions of native trees as well as what he considers the best introductions, with details on natural habitats, preferred sites, planting and maintenance, culture,

problems, and propagation. For each tree he offers personal insight, both positive and negative. Appendices list trees with various qualities, as well as "Worst Texas Trees." Also included are organic remedies and treatments for disease and pest

problems and a glossary.



Winding up our tour is *Month-by-Month Gardening* in the Desert Southwest (Cool Springs Press, 2002, \$19.99) by Mary Irish. Irish presents basic gardening practices that will produce successful results in desert landscapes, as well as chapters that feature annuals; bulbs, corms, rhizomes, and tubers; cacti, succulents, and other desert perennials, grasses, shrubs,

trees, vegetables, and herbs. A similar title for an entirely different gardening locale is *Month-by-Month Gardening in Mississippi* (Cool Springs Press, 2002, \$19.99) by Bob Polomski, edited by Felder Rushing.

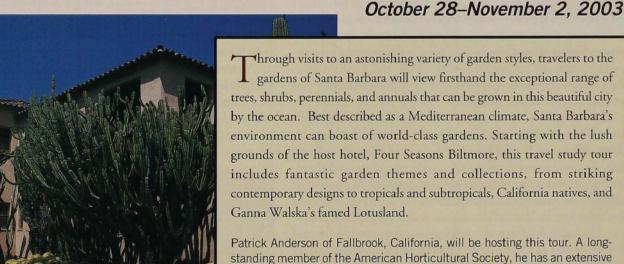
The above books represent just a few of the wonderful regional resources available to gardeners and naturalists. There are certainly many more, both old and new, that will help your gardening endeavors wherever you live.

-Rita Pelczar, Associate Editor



2003 American Horticultural Society TRAVEL STUDY PROGRAM

# Gardens of Santa Barbara



knowledge of plants and a keen interest in California gardens. His own garden has been featured on the PBS series "Victory Garden." It is through his personal contacts that many of these visits have been made possible.

For complete details of the exciting 2003 schedule, visit the AHS Web site at www.ahs.org, or call the Leonard Haertter Travel Company at (800) 942-6666.

# REGIONAL HAPPENINGS

# Horticultural Events from Around the Country

# NORTHEAST

CT, MA, ME, NH, NY, RI, VT

JUNE 1-29. Rose Month. Celebration of Cranford Rose Garden's 75th anniversary. Brooklyn Botanic Garden, New York. (718) 623-7220. www.bbg.org.

JUNE 6 & 7. Perennial and Shade Plant Sale. Lyman Estate Greenhouse. Waltham, Massachusetts. (781) 891-1985. www.SPNEA.org.

JUNE 7. Herb Fest 2003. Connecticut Herb Association, Topmost Herb Farm, Coventry, Connecticut. (860) 742-2226. www.topmostherbfarm.com.

JUNE 7. NEWFS Plant Sale. New England Wild Flower Society, Garden in the Woods. Framingham, Massachusetts. (508) 877-7630. www.newfs.org.

JUNE 12. Art in the Garden. Garden tour. Montgomery Pinetum, Garden Education Center of Greenwich. Cos Cob, Connecticut. (203) 869-9242. www.GECGreenwich.org.

JUNE 14. A Summer Tour of Andover Gardens. Andover Historical Society. Andover, Massachusetts. (978) 475-2236. www.andhist.org.

JUNE 28-JULY 1. 2003 American Association of Botanical Gardens and Arboreta Annual Conference, Boston, Massachusetts. (302) 655-7100. www.aabga.org.

JULY 12. Hidden Treasures of the Berkshires 2003: 13th Annual Tour of Gardens and Houses. Lenox Garden Club. Williamstown, Massachusetts. (413) 298-3089.

### MID-ATLANTIC

PA, NJ, VA, MD, DE, WV, DC

MAY 12-17. American Iris Society's National Convention. Fairview Park Marriott. Falls Church, Virginia. (703) 893-8526. www.irises.org/conventions.

MAY 15 & 16. The Annual Gillette Forum: Elements of Design in the Residential Landscape. Lewis Ginter Botanical Garden. Richmond, Virginia. (804) 262-9887 ext. 322. www.lewisginter.org.

MAY 16 & 17. May Market. Lectures and plant sale. Phipps Garden Center in Mellon Park.

Events sponsored by or including official participation by AHS or AHS staff are identified with the AHS symbol.

Pittsburgh, Pennsylvania. (412) 441-4442. www.phipps.conservatory.org.

MAY 21-23. Marvelous Mayapples. Program for children. Green Spring Gardens Park. Alexandria, Virginia. (703) 642-5173. www.greenspring.org.

MAY 24-JUNE 1. Satsuki Azalea Bonsai Exhibit. U.S. National Arboretum. Washington, D.C. (202) 245-5898. www.usna.usda.gov.

MAY 25-31. Rose Week. Workshops and programs. Tudor Place, Washington, D.C. (202) 965-0400. www.tudorplace.org.

JUNE 7. Open Gardens Day Tour 2003. Tours of gardens in Allegheny County. Horticultural Society of Western Pennsylvania. Pittsburgh, Pennsylvania. (412) 361-8677.

AHS JUNE 14. Saturday Hort-Takes: Roses, the Organic Way. Demonstration and workshop. The American Horticultural Society. River Farm. Alexandria, Virginia. (800) 777-7931. www.ahs.org.

JUNE 25-29. Deciduous Flowering Shrubs II. Weeklong class. Longwood Gardens. Kennett Square, Pennsylvania. (610) 388-1000. www.longwoodgardens.org. (Registration required.)

JUNE 27 & 28. Asian Plants for Virginia Gardens. Lecture and demonstration. Lewis Ginter Botanical Garden. Richmond, Virginia. (804) 262-9887. www.lewisginter.org.

# Herbarium Specimens on Display at the U.S. National Arboretum

THE PRIMARY mission of the U.S. National Arboretum's Herbarium in Washington, D.C., is to support taxonomic research and identification of cultivated plants and their

wild relatives. However, not many people outside of the fields of botany and horticulture are aware of the diverse resources the Herbarium has to offer, so the arboretum is displaying some of the Herbarium's contents in its lobby for the general public to see.

The exhibit, which opened in February and is scheduled to run until this fall, includes 15 dried plant specimens vital to the study of agriculture, medicine, science, and education-fields where it is essential to document and identify plants correctly.

The Herbarium's archives of agricultural and ornamental plants, which includes one of the most extensive compilations of willow (Salix spp.) specimens in the country, spans the history of American agricultural and horticultural research and serves as a permanent reference for future taxonomic studies.



A pressed specimen of crape myrtle

Since its inception in 1951, the Herbarium's collection has more than doubled in size to 650,000 specimens, thanks in part to an exchange program between the National Arboretum and more than 75 institutions worldwide. For more information about the Herbarium and the exhibit, contact Kevin Conrad at (202) 245-4513, or visit the U.S. National Arboretum Web site at www.usna.usda.gov.

—Pia daSilva, Editorial Intern

# Big Bugs at Minnesota Landscape Arboretum

BEGINNING MAY 3, 2003, the Minnesota Landscape Arboretum in Chanhassen will become the backdrop for an art exhibition featuring a gardener's most unnoticed, underappreciated contributor—the insect. Artist Dave Rogers pays homage to these not-

so-creepy critters with his show, "Big Bugs," featuring gigantic insect sculptures made from natural materials.

As most gardeners know, insects play a vital role in maintaining healthy garden ecosystems. With "Big Bugs," the arboretum hopes to educate visitors about the importance of insects by displaying them in a larger-than-life setting. Seen previously in arboreta nationwide, including Walt Disney World's Epcot Center, "Big Bugs" is making its first showing in Minnesota and the surrounding five-state area.



Artist Dave Rogers' lady bug sculpture at the Minnesota Landscape Arboretum.

For more information about the sculpture exhibit, contact the Minnesota Landscape Arboretum at (952) 443-1400, or visit www.arboretum.umn.edu.

# 10th Van Dusen Flower and Garden Show

VANDUSEN BOTANICAL GARDEN has reached a milestone this year. From June 12 to 15, the garden, located in scenic Vancouver, British Columbia, will celebrate the 10th anniversary of its acclaimed flower and garden show. The theme of this year's show—"Ten"—conjures up notions of perfection, which will surely inspire theme-display garden designers to new heights as they create their own "top 10" lists of plants and flowers to exhibit.

This is the largest outdoor exhibition of its kind in North America. Unlike many shows of this nature that are confined to indoor venues, the VanDusen show's outdoor setting makes it unique. The natural environment also ensures that everything



VanDusen's laburnum walk at peak bloom during last year's annual show.

you see growing at the VanDusen show is in season and in "real time."

The VanDusen show is a participant in the American Horticultural Society's reciprocal admissions program, so AHS members carrying a valid membership card will receive a \$2 discount on admission to the show. For more information about the show, contact VanDusen at (604) 878-9271 or visit www.vandusengarden.org.

-Pia daSilva, Editorial Intern

AHS JUNE 28. Saturday Hort-Takes: The Good, the Bad, & the Not-So-Ugly. Learn how insects affect your garden. The American Horticultural Society. River Farm. Alexandria, Virginia. (800) 777-7931. www.ahs.org.

**Looking Ahead** 

AHS JULY 12. Saturday Hort-Takes: Shade Gardening. Lecture. The American Horticultural Society. River Farm. Alexandria, Virginia. (800) 777-7931. www.ahs.org.

AUG. 6 & 7. Invasive Plants Conference. Philadelphia, Pennsylvania, (215) 247-5777 ext. 159. www.upenn.edu/paflora.

## SOUTHEAST

AL, FL, GA, KY, NC, SC, TN

MAY 17. Landscape and Floral Design with Native Materials. Callaway Gardens. Pine

Mountain, Georgia. 1-800-CALLAWAY. www.callawayonline.com.

MAY 20-JUNE 24. Design Tips for Small Urban Gardens, Atlanta Botanical Garden. Atlanta, Georgia, (404) 876-5859. www.atlantabotanicalgarden.org.

MAY 31-JUNE 1. Fern and Exotic Plant Show and Sale. Tropical Fern and Exotic Plant Society, Fairchild Tropical Garden, Coral Gables, Florida. (305) 667-1651. www.ftg.org; www.tfeps.org.

MAY 31-JUNE 2. Medicines from the Earth 2003: 11th Annual Symposium on Botanical Medicine. Blue Ridge Assembly. Black Mountain, North Carolina. (800) 252-0688. www.botanicalmedicine.org.

JUNE 7. Xeriscaping. Class. Daniel Stowe Botanical Garden. Belmont, North Carolina. (704) 825-4490. www.dsbg.org.

JUNE 8. Bamboo Show and Sale. Caribbean Chapter of the American Bamboo Society. Fairchild Tropical Garden. Coral Gables, Florida. (305) 667-1651. www.ftg.org.

JUNE 8-10. 116th Annual Meeting of the Florida State Horticultural Society. Sheraton World Resort, Orlando, Florida, (407) 261-5420. www.fshs.org.

JUNE 13-15. 5th Annual All-Miniature Rose Show and Conference. Charleston Lowcountry Rose Society. Holiday Inn Mt. Pleasant, Mt. Pleasant, South Carolina. (843) 757-3716. www.carolinadistrict.org.

AHS JUNE 18-21. 2003 International Master Gardeners Conference. Co-sponsored by AHS. Northern Kentucky Convention Center. Covington, Kentucky. (513) 946-8986. http://mastergardener.osu.edu/imgc2003/.

# **NORTH CENTRAL**

IA, IL, IN, MI, MN, ND, NE, OH, SD, WI

MAY 4-JUNE 29. Aspects of the Garden. Art exhibit. Olbrich Botanical Gardens. Madison, Wisconsin. (608) 246-4550. www.olbrich.org.

MAY 16-18. A Bloomin' Sale. Plant sale. Chicago Botanic Garden. Glencoe, Illinois. (847) 835-8261. www.chicagobotanic.org.

MAY 17 & 18. MayFair. Flower show and antique and craft festival. Stan Hywet Hall and Gardens. Akron, Ohio. (330) 836-5533. www.stanhywet.org.

MAY 17 & 18. Rhododendron Show and Sale. Midwest Chapter of the American Rhododendron Society. Chicago Botanic Garden. Glencoe, Illinois. (847) 835-5440. www.chicagobotanic.org.

MAY 29. **English Gardening.** A lecture by Christopher Lloyd and Fergus Garrett. Chicago Botanic Garden. Glencoe, Illinois. (847) 835-5440. *www.chicagobotanic.org.* 

MAY 29 & 30. Greening Rooftops for Sustainable Communities Conference. Congress Plaza Hotel. Chicago, Illinois. (416) 971-4484. www.greenroofs.ca.

MAY 31–JUNE 1. **10th Annual Garden Fair Extravaganza**. Klehm Arboretum and Botanic Garden. Rockford, Illinois. (815) 965-8146. www.klehm.org.

JUNE 19. A Rare Affair: A Collectors' Auction of Rather Unique Plants. Chicago Botanic Garden. Glencoe, Illinois. (847) 835-8213. www.chicagobotanic.org.

JUNE 27. **Grand Re-opening Celebration of Cleveland Botanical Garden.** Eleanor Armstrong Smith Glasshouse. Cleveland, Ohio. (216) 721-1600. *www.cbgarden.org.* 

### **Looking Ahead**

JULY 12 & 13. **Garden Glory Walk.** Garden tours, demonstrations, and plant sales. Klehm Arboretum and Botanic Garden. Rockford, Illinois. (815) 965-8146. www.klehm.org.

JULY 31-AUG. 3. Easy Being Green? American

Community Gardening Association 24th annual conference. Chicago, Illinois. www.communitygarden.org.

### SOUTH CENTRAL

AR, KS, LA, MO, MS, OK, TX

MAY 14–17. **All Things Organic Conference and Trade Show.** Organic Trade Association. Austin, Texas. (413) 774-7511. *www.ota.com.* 

MAY 16. **River Festival Garden Party.** Botanica, The Wichita Gardens. Wichita, Kansas. (316) 264-0448. *www.botanica.org.* 

MAY 16–18. **2003 Oleander Festival.** Moody Gardens. Galveston, Texas. (409) 770-9077. *www.oleander.org.* 

MAY 19–21. **National Garden Clubs, Inc., 74th Annual Convention.** Beau Rivage Resort. Biloxi, Mississippi. (314) 776-7574. *www.gardenclub.org.* 

MAY 25. **Iris Show.** Botanica, The Wichita Gardens. Wichita, Kansas. (316) 264-0448. www.botanica.org.

MAY 31. **Aquatic and Bog Plant Sale.** The Crosby Arboretum. Picayune, Mississippi. (601) 799-2311.

www.msstate.edu/dept/crec/camain.

JUNE 7. **OHS Garden Tour for Connoisseurs.** Tour of six gardens. Oklahoma Horticultural Society. Oklahoma City, Oklahoma. (405) 330-9150. *www.okhort.org.* 

JUNE 16-AUG. 15. **Summer Science Academy.** Science-oriented classes. Missouri Botanical Garden. St. Louis, Missouri. (314) 577-9506. *www.mobot.org/education.* 

### SOUTHWEST

AZ, NM, CO, UT

JUNE 14. **Utah Rose Society Show.** Red Butte Garden. Salt Lake City, Utah. (801) 581-4747. www.redbuttegarden.org.

JULY 10–12. **Rush to the Rockies!** North American Rock Garden Society annual meeting. Breckenridge, Colorado. *www.rmrp.com* 

# WEST COAST

CA, NV, HI

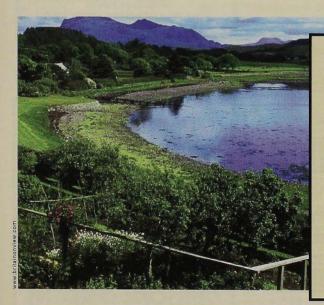
JUNE 7 & 8. 8th Annual Flower, Gardens and Arts Festival. San Juan Capistrano, California. (949) 234-1300. www.missionsic.com.

JUNE 21. 11th Annual Mendocino Coast Garden Tour. Mendocino Art Center.



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Marc and Mary Cathey will be hosting this tour. The Catheys have accompanied many travelers in the past and are well known for their charm and sense of adventure. As President Emeritus of the American Horticultural Society and national garden radio icon, Dr. H. Marc Cathey can provide a wealth of in-depth horticultural information along with his trademark anecdotes.

For complete details of the exciting 2003 schedule, visit the AHS Web site at www.ahs.org, or call the Leonard Haertter Travel Company at (800) 942-6666.

Mendocino, California. (707) 937-5818. www.mendocinoartcenter.org.

JUNE 21 & 22. 7th Annual International Gourd Art Festival, Welburn Gourd Farm. Fallbrook, California, (760) 728 4271. www.welburngourdfarm.com.

JULY 11-13. Art in the Garden. Class. Occidental Arts and Ecology Center. Occidental, California. (707) 874-1557. www.oaec.org.

### **NORTHWEST**

AK, ID, MT, OR, WA, WY

MAY 17 & 18. Penjing Exhibit. Traditional and ancient Chinese garden art. Portland Classical Chinese Garden, Portland, Oregon. (503) 228-8131. www.portlandchinesegarden.org.

MAY 31-JUNE 8. 2003 Peony Exhibit. Pacific Northwest Peony Society. Portland Classical Chinese Garden. Portland, Oregon. (503) 228-8131. www.portlandchinesegarden.org.

JUNE 14. Summer Solstice Sale. Plant sale. The Arboretum Foundation, Washington Park Arboretum. Seattle, Washington. (206) 543-8800. www.arboretumfoundation.org.

JUNE 15. History and Wildflower Hike to Lewis & Clark Pass. Montana Native Plant Society, Helena, Montana, (406) 449-6586. www.umt.edu/mnps.

JUNE 21. The Whidbey Island Garden Tour. Tour of five private gardens. Freeland, Washington. (360) 321-4191. www.wigt.org.

JUNE 28. Sixth Annual Gig Harbor Garden Tour. Tacoma Community College Gig Harbor/Peninsula Center. Gig Harbor, Washington. (253) 851-2424. www.tacoma.ctc.edu/ghc/ gardentour.shtm.

JULY 12 & 13. Bainbridge in Bloom Garden Tour. Bainbridge Island, Washington. (206) 789-5668.

### CANADA

MAY 17 & 18. Annual Show. Vancouver Japanese Sumi Bonsai. VanDusen Botanical Garden. Vancouver, British Columbia. (604) 878-9274. www.vandusengarden.org.

JUNE 12. A Garden History Walk. The Arboretum, University of Guelph. Guelph, Ontario. (519) 824-4120. www.uoguelph.ca.

JUNE 12. Formal Gardens: An Introduction to Their History and Management. The Arboretum, University of Guelph, Guelph, Ontario. (519) 824-4120. www.uoguelph.ca.

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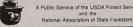
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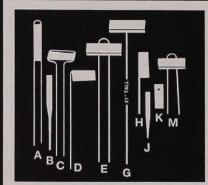
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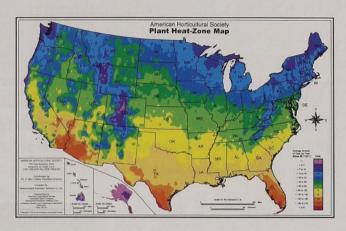
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# PRONUNCIATIONS AND PLANTING ZONES

Most of the cultivated plants described in this issue are listed here with their pronunciations, USDA Plant Hardiness Zones—based on the 2003 revised hardiness map (see page 30)—and AHS Plant Heat Zones. These zones suggest a range of locations where temperatures are appropriate—both in winter and summer—for growing each plant. While the zones are a good place to start in determining plant adaptability in your region, factors such as exposure, moisture, snow cover, and humidity also play an important role in plant survival. The zones tend to be conservative; plants may grow outside the ranges indicated. A USDA zone rating of 0–0 means that the plant is a true annual and completes its life cycle in a year or less. Many plants that are perennial in warm climates are grown as annuals in cooler zones. To purchase a two-by-three-foot glossy AHS Plant Heat Zone Map for \$9.95, call (800) 777-7931 or visit <a href="https://www.ahs.org">www.ahs.org</a>.



# A-C

Aesculus pavia ES-kyew-lus PAYvee-uh (USDA 5–9, AHS 9–1) Akebia quinata uh-KEE- bee-uh kwin-AY-tuh (5–9, 9–5) Allium cristophii AL-ee-um kris-TOF-ee-eye (3–9, 9–5) Amelanchier arborea am-eh-LANG-

kee-ur ar-BOR-ee-uh (4–9, 9–4) **A. canadensis** A. kan-uh-DEN-siss (3–7, 7–1)

**A.** ×**grandiflora** A. gran-dih-FLOR-uh (3–7, 7–1)

**Aristolochia californica** uh-ris-toh-LO-kee-uh kal-ih-FORN-ih-kuh (7–9, 8–4)

**A.** macrophylla A. mak-ro-FIL-luh (5–8, 8–4)

**A. tomentosa** A. toh-men-TOH-suh (5–9, 9–3)

Asimina triloba uh-SIH-mih-nuh

try-LO-buh (4–8, 9–5)

Catalpa bignonioides kuh-TAL-puh

big-non-ee-OY-deez (5–9,9–5)

Ceanothus arboreus see-uh-NO-

thus ar-BOR-ee-us (8–10, 10–8) **Cercidium floridum** sur-SID-ee-um

FLOR-ih-dum (8–11, 12–8)

Cercis canadensis SUR-siss kan-

uh-DEN-siss (4–9, 9–2)

C. canadensis subsp. texensis

C. kan-uh-DEN-siss subsp. teks-EN-siss (4–9, 9–6)

**C. occidentalis** C. ahk-sih-den-TAL-iss (7–9, 9–7)

**Chilopsis linearis** ky-LOP-siss lihnee-YAR-iss (8–9, 9–8)

**Chionanthus virginicus** ky-o-NAN-thus vir-JIN-ih-kus (4–9, 9–1)

imesChitalpa tashkentensis

ky-TAL-puh tash-ken-TEN-sis (6–10, 10–5) **Clematis alpina** KLEM-uh-tiss al-PY-nuh (6–9, 9–6)

C. macropetala C. mak-roh-peh-TAL-uh (6–9, 9–6)

Cobaea scandens ko-BEE-yuh SKAN-denz (11–13,12–10) Cocculus carolinus KO-kyew-lus

kair-o-LIE-nus (5–9, 9–5) **Coffea arabica** CAW-fee-uh uh-RAB-ih-kuh (10–11, 12–1)

**Cornus alternifolia** KOR-nus al-tur-nih-FO-lee-uh (4–8, 8–1 )

**C. florida** C. FLOR-ih-duh (5–8, 8–3)

Crataegus marshalli krah-TEE-gus mar-SHAL-lee-eye (6-9, 9-1)

## D-L

Decumaria barbara dek-yew-MAY-ree-uh BAR-bar-uh (6–9, 9–6) × Fatshedera lizei fats-HED-er-uh LIZ-ee-eye (8–11, 12–8) Fatsia japonica FAT-see-uh jah-PON-ih-kuh (8–11, 12–8) Franklinia alatamaha frank-LIN-

Franklinia alatamaha frank-LIN ee-uh uh-lah-tuh-MAH-hah (6–9, 9–6)

Halesia diptera hal-EEZ-yuh DIP-ter-uh (5–8, 8–5)

*H. diptera* var. *magniflora* H. DIP-ter-uh var. mag-nih-FLOR-uh (5–8, 8–5)

*H. monticola* H. mon-TIH-ko-luh (6–9, 9–6)

**H. tetraptera** H. teh-TRAP-tur-uh (5–8, 8–4)

*Hedera helix* HED-er-uh HE-liks (5–11, 12–6)

Helictotrichon sempervirens

hel-ik-toh-TRY-kon sem-pur-VYrenz (4–9, 9–1)

Holboellia coriacea hol-BEE-lee-uh kor-ee-AY-see-uh (10–11, 12–10)

Hydrangea petiolaris hy-DRAN-juh pet-ee-o-LAIR-iss (4–9, 9–1)
Ipomoea quamoclit ih-po-ME-uh KWAM-oh-klit (12–13, 12–6)
Jasminum polyanthum jaz-MIN-um pah-lee-AN-thum (8-10, 10-8)
Lonicera ciliosa lah-NISS-er-uh sil-ee-O-suh (6–9, 9–1)
L. sempervirens L. sem-pur-VY-renz (4–9, 9–3)

# M-P

**Magnolia ashei** mag-NOLE-yuh ASH-ee-eye (6–9, 9–7) **M. macrophylla** M. mak-ro-FIL-luh

(6–9, 9–6) **M. virginiana** M. vir-jin-ee-AN-uh (4–9, 9–1)

Menispermum canadense men-ee-SPUR-mum kan-ah-DEN-see (5–8, 8–5)

**Nepeta cataria** NEP-eh-tuh cat-AH-ree-uh (3–8, 8–1)

**N.** × faassenii N. fas-SEN-ee-eye (4–8, 8–1)

**N. govaniana** N. go-van-ee-AN-uh (5–8, 7–1)

**N. grandiflora** N. gran-dih-FLOR-uh (3–8, 8–1)

**N. mussinii** N. mus-SIN-ee-eye (4–8, 8–1)

**N. nepetella** N. nep-eh-TEL-uh (6–9, 9–1)

**N. nervosa** N. ner-VO-suh (5–8, 7–5)

**N. racemosa** N. ras-eh-MO-suh (4–9, 8–1)

**N. sibirica** N. sy-BEER-ih-kuh (3–8, 8–1)

**N. subsessilis** N. sub-SES-sih-lis (4–8, 8–1)

**N. tuberosa** N. too-bur-O-suh (6–9, 8–1)

**Parthenocissus henryana** par-theno-SISS-us hen-ree-AN-uh (8–9, 9–1)

**P. quinquefolia** P. kwin-kweh-FO-lee-uh (4–9, 9–5)

**P. tricuspidata** P. try-kuss-pih-DAY-tuh (3–8, 8–1)

**Phlox carolina** FLOKS kair-o-LY-nuh (5–8, 8–5)

**P. maculata** P. mak-yew-LAY-tuh (5–8, 8–1)

*P. paniculata* P. pan-ik-yew-LAY-tuh (3–9, 9–1)

**Prosopis pubescens** pro-SO-piss pyew-BESS-enz (8–10, 12–1) **Prunus serotina** PROO-nus sair-OAT-ih-nuh (4–8, 8–1)

# Q-Z

Quercus agrifolia KWER-kus ag-rih-FO-lee-uh (9–11, 12–9)
Schisandra chinensis skih-SAN-druh chy-NEN-siss (7–9, 9–7)
Schizophragma hydrangenides

Schizophragma hydrangeoides skiz-o-FRAG-muh hy-DRAN-jee-OY-deez (6–9, 9–6)

**Sophora secundiflora** so-FOR-uh seh-kun-dih-FLOR-uh (7–11, 12–7)

**Stauntonia hexaphylla** stahn-TOH-nee-uh heks-uh-FIL-luh (9–11, 10–8)

**Stewartia malacodendron** stew-AR-tee-uh mal-ak-o-DENdron (7–9, 9–6)

S. ovata S. o-VAY-tuh (5–8, 8–1)
Tilia americana TIH-lee-uh uh-

mair-ih-KAN-uh (2-8, 8-1) *Trachelospermum jasminoides* 

tray-kell-o-SPUR-mum jaz-mih-NOY-deez (8–11, 12–8) **Viola tricolor** VY-o-luh TRY-kul-ur (3–9, 12–1)

# PERFECT PLANT COMPANIONS

# Blue Oat Grass and Johnny Jump-Ups

by Carole Ottesen

E BUY Johnny jump-ups (Viola tricolor) year after year after year because, like Proust's memory-jogging madeleines, their dear funny flower faces evoke memories from childhood. And we buy them because they are one of the rites of spring, just as mums and pumpkins are rites of fall. Though attractive in containers, Johnny jump-ups are not particularly gifted as landscape plants. Their small, intimate flowers bloom on insubstantial foliage and always seem out of scale and out of place in a perennial border.

If you were to describe these flowers, "pretty," "sweet," and "appealing" might be some of the words that come to mind. The word "sophisticated" would not. Yet, sophisticated is exactly what Johnny jump-ups become when they are teamed, as they are here, in this thoroughly unexpected combination with blue oat grass (Helictotrichon sempervirens).

Blue oat grass is an early-season, clumpforming, ever-blue-green grass with rigid blades that fan out into hemispherical clumps. It is opinionated and strong. All by itself, the grass's unyielding form seems stark and unfinished and positively cries out for a softening companion. Johnny jump-ups fill this bill to perfection with a gentle cascade of flowers in deep blues and purples that intensify the bright, icy blue of blue oat grass's foliage.

At its absolute peak in spring and early summer, this is a combination of a sentimental old favorite with a cool, cuttingedge, nouveau garden grass. Nostalgia held in check by style creates a stunning collaboration far finer than the sum of its parts.

Evergreen in mild climates, blue oat grass (USDA Zone 4-9, AHS Zone 9-1) grows to two and a half feet tall. In late spring, delicate flowers extend another two feet above the foliage on graceful stems. A Mediterranean native, it requires excellent drainage and air circulation.

Johnny jump-ups (Zones 3-9, 12-1) grow three to six inches tall. Deadheading prolongs bloom; hot summer weather brings about the plants' demise.

Carole Ottesen is an associate editor of The American Gardener.

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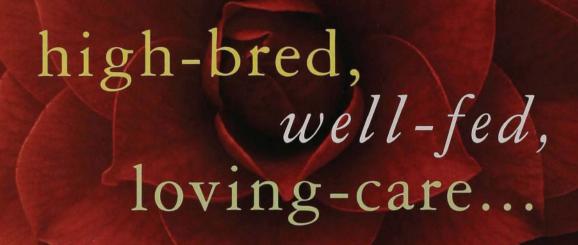
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