

The background of the cover is a dense, close-up photograph of various trees and shrubs in autumn. The leaves are in various stages of color change, ranging from bright green to deep red, orange, and purple. The lighting is natural, highlighting the textures and veins of the leaves.

The American GARDENER

The Magazine of the American Horticultural Society

September/October 2006

Autumn-bright
Native Asters

Organic Lawn
Care

Plants as Art:
The Photography
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contents

Volume 85, Number 5 · September / October 2006

FEATURES



page 16

12 YOUTH GARDEN SYMPOSIUM BY HEATHER ROBBINS

Highlights from the AHS 2006 National Children & Youth Garden Symposium in St. Louis.

16 NATIVE ASTERS BY ALLAN M. ARMITAGE

Plant breeders have been turning many common native roadside asters into shining stars.

22 GROWING A "GREEN" LAWN

BY KRIS WETHERBEE

Learn how to grow a healthy lawn without using synthetic fertilizers or pesticides.

28 AMY LAMB: NATURE'S PATTERNS

BY LYNDA DEWITT

Maryland scientist-turned-artist Amy Lamb's plant photographs show the universe in microcosm.



page 28

32 10 TOUGH NATIVE TREES BY GUY STERNBERG

These deciduous trees are unfazed by heat, cold, and many other environmental challenges.

38 THE ORGANIC TABLE COMES OF AGE BY BETSY HAYS

Once considered "hippie" food, organic produce is now finding its way into mainstream restaurants and grocery stores.

ON THE COVER: *Sassafras* (*Sassafras albidum*) is an adaptable native North American tree with brilliant autumn foliage. Photograph by Michael S. Thompson

DEPARTMENTS

5 ON THE ROAD WITH AHS

6 MEMBERS' FORUM

7 NEWS FROM AHS

Fashion in Bloom at River Farm in September, Growing Good Kids book award winners, patriotic tree planting at River Farm, *The Growing Connection* harvest benefits food bank, second annual Dr. H. Marc Cathey Day scheduled, AHS helps Hollin Meadows Elementary School develop outdoor learning space.

43 CONSERVATIONIST'S CORNER

Plant conservation begins at home.

44 ONE ON ONE WITH...

Lorrie Otto, natural landscape pioneer.

46 HABITAT GARDENING

Mid-Atlantic region.

48 GARDENER'S NOTEBOOK

New bulbs for fall planting, wild American chestnut trees discovered, spotlight on endangered American gardens, new California center for urban horticulture, new consumer-friendly cultivar of muscadine grape developed, Roslyn Nursery closes, Rice Creek Gardens to relocate.



page 52

52 GREEN GARAGE®

Garden rakes.

54 BOOK REVIEWS

Hellebores, *Bird-by-Bird Gardening*, *The Audubon Society Guide to Attracting Birds*, and *Sunset Western Landscaping*.

Special focus: Cookbooks for kitchen gardeners.

57 REGIONAL HAPPENINGS

62 HARDINESS AND HEAT ZONES AND PRONUNCIATIONS



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The American Gardener (ISSN 1087-9978) is published bimonthly (January/February, March/April, May/June, July/August, September/October, November/December) by the American Horticultural Society, 7931 East Boulevard Drive, Alexandria, VA 22308-1300, (703) 768-5700. Membership in the Society includes a subscription to *The American Gardener*. Annual dues are \$35; two years, \$60. International dues are \$50. \$10 of annual dues goes toward magazine subscription. Periodicals postage paid at Alexandria, Virginia, and at additional mailing offices. Postmaster: Please send Form 3579 to *The American Gardener*, 7931 East Boulevard Drive, Alexandria, VA 22308-1300.

Botanical nomenclature is based on *The American Horticultural Society A-Z Encyclopedia of Garden Plants*, on *A Synonymized Checklist of the Vascular Flora of the United States, Canada and Greenland* and on the *Royal Horticultural Society Index of Garden Plants*. Opinions expressed in the articles are those of the authors and are not necessarily those of the Society. Manuscripts, artwork, and photographs sent for possible publication will be returned if accompanied by a self-addressed, stamped envelope. We cannot guarantee the safe return of unsolicited material. Back issues are available at \$8 per copy.

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ON THE ROAD WITH AHS

IT HAS BEEN a summer of unusual weather. Although the news often depicts these weather patterns as mini disasters, for gardeners, they can be viewed as opportunities. As I write this in early August, I have been busy re-planting a sunny border in my mom's garden in Garrison, New York, that must withstand the heat as well as deer.

Earlier this summer, I was in San Francisco for the annual meeting of the American Public Garden Association (formerly the American Association of Botanical Gardens and Arboreta), where "sustainability" was the focus. From green roofs and green buildings to rain barrels, and recycling and composting, to locally based conservation efforts and natural pest management, there was a plethora of ideas to incorporate in our daily lives. It is exciting now to witness effective green practices being adopted by so many of our public gardens.

While in San Francisco, I had the opportunity to visit two horticultural gems—Muir Woods and Filoli Gardens. Muir Woods, a coastal virgin redwood forest, is one of the most inspirational natural sites in the world. I was struck by the fact that the work of a single passionate individual such as John Muir ensured this legacy. Now *that* was a real commitment to sustainability! Filoli Gardens is completely different. It is a beautiful artistic creation, a 20th-century formal garden set in the California hillsides. This garden is uniquely American—with the local flora and geography of California featured prominently while incorporating elements from great European gardens. There are so many exceptional horticultural places throughout this great land of ours. I hope you are getting out to see them!

There are also incredible people—AHS members—doing amazing things. While in San Francisco, I visited Tim Thornhill in the Mendocino wine country. Once one of the best big tree movers in the country, Tim has now turned his horticultural expertise to growing grapes sustainably. He conserves water using an irrometer—a specialized electronic device that measures soil moisture—and produces his wine both organically and biodynamically. So many lessons to be learned and shared.

In July, I traveled to St. Louis for the AHS National Children & Youth Garden Symposium. Hosted by the Missouri Botanical Garden, the symposium brought together some of the most influential leaders in the field. There is a strong movement afoot in America to reconnect children to nature and help our youth—and indeed our entire population—benefit from the physical and emotional benefits of plants and gardens. I am proud that the AHS continues to help these leaders give voice to their important ideas and programs (for more on the symposium, see page 12).

Now, as the days gradually start to get shorter, I am eagerly anticipating returning to River Farm in mid-September for Fashion in Bloom, Amy Lamb's amazing photographic exhibit, and our annual AHS Gala on September 23, when River Farm will be transformed into a celebration of gardening in America. It will be an exciting few days and I look forward to seeing many of you there.

My very best wishes to each of you for a joyful and colorful fall.



—Katy Moss Warner, AHS President Emeritus



MARCELACOSTA

MEMBERS' FORUM

BOTANICAL LATIN NOT A SCIENCE

I wanted to respond to Jerry Hudgens's letter about pronunciation of botanic Latin (July/August 2006). My exposure to Latin began in first grade as an altar boy. I then studied classical Latin in high school, and finally, botanical Latin in col-

lege. In each case I was taught different rules of pronunciation.

Furthermore, strictly following the rules will get you a lot of funny looks (such as pronouncing *Heuchera* "HOY-kur-uh" since it is named after a German). What I'm trying to say is that we shouldn't get

hung up on the pronunciation. Just be grateful we have an international method of identifying plants no matter how people pronounce. More importantly, let's hope that the taxonomists will soon find something better to do with their time than constantly changing the plant names we have all learned with so much effort.

*Greg Carlson
Middleburg, Virginia*

ROSES FOR USDA ZONE 4

I read the article about Bill Radler (May/June 2006) with great interest. I live in USDA Zone 4 in northern Michigan and have had limited success growing roses. Where can I find 'Radrazz' rose?

*Jim Peters
East Jordan, Michigan*

Editor's response: Mail-order sources for 'Radrazz' and other Knock Out™ roses include the Botany Shop Garden Center, Joplin, MO, (418) 781-6431, www.knockoutroses.com; and Wayside Gardens, Hodges, SC, (800) 213-0379, www.waysidegardens.com. Check www.theknockoutrose.com for a list of nurseries in each region that sell this and other Knock Out roses. (Thanks to AHS Volunteer Elaine Lee for researching this information).

BENEFITS OF GROWING FOOD

Shep Ogden's excellent article on creating a kitchen garden (March/April 2006) fails to mention one of the best reasons to grow some of our own food, which is reducing our impact on the environment. The average food on our tables travels 1,500 miles to get to us, contributing to global warming, air pollution, and using precious petroleum. Vegetable gardening is not only a delightful and delicious hobby, it helps preserve our world for our children.

*Lee Cassin
Aspen, Colorado*

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IT'S TIME once again to share seeds from your garden with other members of the Society by participating in the annual members-only AHS Free Seed Exchange Program. If you haven't become involved in this popular member program before, give it a try. A list of the seeds available to members will be published in the annual *AHS Member Guide*, which will be in the January/February magazine.

To find out more about the seed exchange, turn the page. *You must be a member to participate.* If you aren't already a member, it's easy to join. Just fill out the card between pages 56 and 57 and return it to us.



American Horticultural Society

2007 SEED EXCHANGE

If you haven't been saving seeds for our 2007 Free Seed Exchange Program, it's not too late to start. You'll need to have your seeds to us by November 1, so that they can be listed in the AHS *Member Guide*. Here's what you'll need to do:

■ Seeds must be cleaned and dried as thoroughly as possible before packaging. See "Tips for Collecting Seeds."

■ Please collect enough seeds of each variety to fill 150 orders. For very small seeds, one order would be enough to fill the tip of a teaspoon; for large seeds such as hyacinth bean (*Lablab purpureus*), it would be five seeds. If your donated seeds don't appear in the catalog, don't worry—we donate seeds to nonprofit organizations and schools upon request.

■ Complete a Donor Information Sheet (below) for each type of seed donated. Photocopy as many sheets as needed.

■ To help us with cross-referencing, also label each package of seeds with 1) the common and botanical name of the plant and 2) your full name, city, and state.

■ Mail seeds in a box or padded envelope marked HAND CANCEL to: 2007 AHS Seed

Exchange Program, 7931 East Boulevard Drive, Alexandria, VA 22308-1300.

■ Last but not least, **seed donations must be received by November 1, 2006.**

NOTE: Members who have donated seeds according to the guidelines above will **receive first preference in getting their orders filled.** So be sure to send us your seeds!

TIPS FOR COLLECTING SEEDS

Depending on the seed type, there are several methods you can use to separate the seeds from the plant. Most garden seeds fall into one of the three following categories:

■ Many seeds, such as those that form in pods, are retained on the plant for a long time after maturity. Try to harvest them after they have dried on the plant. If that is difficult, cut off stalks or stems and bring them in to dry before removing the seeds.

■ Seeds of many ornamental annuals, herbaceous perennials, and herbs scatter easily when they mature. They should be watched closely for maturity and picked on a dry day. Separate the seeds from the plant by running them through a screen or shak-

ing them in a paper bag. Another method is to tie a ventilated paper bag around the flower heads to catch seeds as they scatter.

■ Seeds encased in a fleshy fruit, like tomatoes or berries, need to be separated from the pulp. Let the fruit turn a bit overripe. In the case of fruit containing a single seed, the pulp can often simply be pulled off. In the case of a fruit with many seeds, such as a tomato, you may need to scrape out the fruit's seedy section, add some water, and let the mix sit for a day or two. If the seeds still do not separate from the pulp, try putting the mix in a strainer and running water through it until the seeds are clean. Then spread the seeds out on a glass or metal dish and put them in an airy room to dry.

■ Large seeds need about a week to dry; smaller seeds are usually dry after four days. Then store the seeds in a well-ventilated, cool, dry place. (Storing the seeds in a container with a small amount of silica gel—a granular substance that absorbs moisture—will ensure the seeds remain dry. Silica gel is available in craft stores.)

2007 AHS Seed Exchange Program Donor Information Sheet

Complete a sheet for each type of seed donated. Photocopy this sheet as needed.

Seed is: Annual Herb Tree/Shrub Vine Perennial Vegetable

Common name: _____

Botanical name: _____

Mature height: _____ Flower color(s): _____

Growth habit: _____

Comments on germination, maintenance, appearance, and/or use:

Submitted by: _____

Street address: _____

City/State/Zip code: _____

Daytime phone : _____ E-mail : _____

Remember...

Seed donations must be received by **November 1, 2006.**

Please write the common and botanical name of plant and your name, city, and state on each package of seeds:

Mail clean, dry seeds in a box or padded envelope marked HAND CANCEL to:

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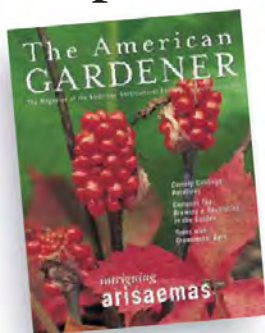


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Yes! Please send the following people Holiday Gift Memberships. I've enclosed membership dues for the first two people on my list—a total of \$70; the third is free during your special offer. (International dues are \$50 a year and are not part of this special offer.)

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Remove card at perforated edges, fold in half, tape, and mail. Or fax information and credit card payment to (703) 768-8700. Thank you!



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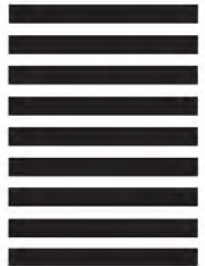
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River Farm Celebrates American Gardens During Fashion in Bloom

FROM SEPTEMBER 20 to 23, River Farm will serve as a scenic showcase for next season's garden industry trends as well as new and classic plants during the Garden Centers of America's Fashion in Bloom: Collection 2007 event. In preparation, a new circular walkway was installed this summer in front of the Estate House by **Chapel Valley Landscape Company** to create a welcoming effect for visitors. The AHS's award-winning Green Garage® display, which debuted at the Philadelphia Flower Show earlier this year, has been set up near the Children's Garden, complete with its own garden of regionally appropriate plants donated by **Monrovia Nursery**.

With landscape assistance from Landscape Architect **Carla Shuman** and accessory set-up by **Phyllis Kennedy** of The Enchanted Florist, the Fashion in Bloom displays at River Farm will reflect the theme, "America's Garden Celebration: Decorating Inside Out."



The Goldsmith display at River Farm from last year's event formed a river of colors accented with bright umbrellas.

"This event will once again provide a unique opportunity to preview the latest annuals, perennials, shrubs, and trees that the industry has to offer and to meet the people who make it happen," says **Tom Underwood**, AHS interim president.

Industry professionals are invited to preview the latest plant "fashions" from September 20 to 22, and the general public can get a sneak peek on September 23. Attendees of the annual AHS Gala on the evening of the 23rd will have a final opportunity to view the displays created by River Farm's partnering companies: **Centerton Nursery, Inc.**, from New Jersey; **Cherry Lake Tree Farm** from Florida; **Goldsmith Seeds** based in California; **Proven Winners®**, a multi-company partnership; and **Saunders Brothers Nursery** from Virginia.

For more information, link to Fashion in Bloom from the home page of the AHS website (www.ahs.org).

Growing Good Kids Book Award Winners for 2006

ATTENDEES OF THE AHS National Children & Youth Garden Symposium in St. Louis, Missouri, this summer were among the first to learn the recipients of the 2006 "Growing Good Kids: Excellence in Children's Literature Award" when they were revealed during a special ceremony. The five children's books published in 2005 that received the award are:

Earth Mother by Ellen Jackson
(Walker Books for Young Readers)

Leaf Man by Lois Ehlert
(Harcourt Children's Books)

Miss Ladybird's Wildflowers by Kathi Appelt
(HarperCollins)

Our Apple Tree by Görel Kristina Näslund
(Roaring Brook Press)

The Tree Farmer by Chuck Leavell and Nicholas Cravotta (VSP Books)



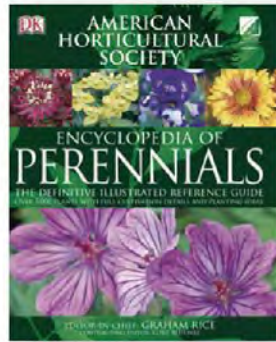
The AHS and the **National Junior Master Gardener (JMG) program of Texas Cooperative Extension**, part of the Texas A & M University system, jointly created the award to honor engaging and inspiring plant-, garden-, and ecology-themed books for children. The award program debuted last year by honoring 40 "Classic" children's gardening and nature books published in the last century.

For the 2006 awards, "titles were nominated by very large and small publishers from around the country, and only five were selected by our panel of experts to receive this recognition," says **Randy Seagraves**, JMG national curriculum coordinator. "We are excited to bring more attention, and hopefully a larger audience of kids, to these deserving titles."

For more information about the "Growing Good Kids" book award program, visit www.jmgkids.us or link from the Awards section of the AHS website (www.ahs.org).

New AHS Perennials Encyclopedia

A NEW AHS book, the *AHS Encyclopedia of Perennials*, is being released by DK Publishing in mid September. The encyclopedia was developed with contributions from a team of over 40 perennial-plant experts compiled under the expert guidance of Editor-in-Chief **Graham Rice**, the award-winning author of more than 20 gardening books, and Contributing Editor **Kurt Bluemel**, a renowned plantsman and nursery owner who has championed the use of ornamental grasses in the American landscape.



The 496-page book features thousands of beautiful plant portraits, along with detailed horticultural information and planting suggestions for more than 6,000 species and cultivars, including new introductions. The editorial team that worked on the book included several members of the Ohio-based Perennial Plant Association, including **Steven Still**, **Denise Adams**, and **Laura Deeter**.

The hardcover encyclopedia has a retail price of \$40, but is available to AHS members at a special discount price of \$25 if ordered through the AHS website (www.ahs.org).

Green Garage® Goes West

FOLLOWING A successful national debut at the Philadelphia Flower Show this past spring, the AHS's award-winning Green Garage educational exhibit is headed west to Seattle, Washington, next year at the invitation of the **Northwest Flower & Garden Show**, which will be held February 14 to 18, 2007.

"The Green Garage exhibit was designed to be traveled around the country so that its important message could reach as broad an

audience as possible," says **Tom Underwood**, AHS interim president. "The exhibit attracted a great deal of interest and recognition from attendees and the media at the Philadelphia Flower Show, and now we are excited about the opportunity to share it with our members and other gardeners on the West Coast."

The traveling exhibit is the public face of the AHS's Green Garage program, which promotes efficient and earth-friendly gardening practices and products. Each issue of this magazine contains an article focusing on products and techniques that allow gardeners to be successful while working in harmony with nature (see page 52 for this issue's article). At River Farm, the prototype Green Garage display can be viewed year round.

For more information about the Northwest Flower & Garden Show, visit the show's website at www.gardenshow.com/nw.

Patriotic Tree Planted at River Farm

ON JUNE 9, the **District II Garden Clubs of the National Capital Area** dedicated a white ash tree at River Farm as part of the National Garden Club's Patriotic Tree Project. These "patriotic trees" are planted as a tribute to those, military or civilian, who serve their country in patriotic ways.

The white ash planted at River Farm was propagated from one of the historic tree at George Washington's Mount Vernon Estate and Gardens. "This tree is a fitting choice, having come



Members of the Fairfax County Police Department and other dignitaries helped to plant a white ash at River Farm to commemorate patriotism.

from a tree that was possibly planted by one of America's first patriots, George Washington," says **Babs McClendon**, director of the District II Garden Clubs of the National Capital Area.

The dignitaries who attended the ceremonial planting included Fairfax County Supervisor **Gerry Hyland**, **Lorraine Rodgers**, a member of the Women Airforce Service Pilots of World War II, and several members of the **Fairfax County Police Department**.

The tree was placed in an open area near River Farm's estate house, overlooking the meadow and the Potomac River.

In Memoriam Peg Dunnigan

Margaret "Peg" Dunnigan, an AHS member and dedicated volunteer at River Farm, died in May at the age of 80 from complications after a surgery. From 1997 to 2000, Peg served as chair of the Friends of River Farm, the AHS's volunteer group. From 2001 to 2004, she was a director on the AHS's Board. For several of these years, she also served as the chair of the Gala Committee, helping to organize one of the AHS's major fundraising events.



"Peg truly loved the beauty and history of River Farm," says **Marianne Polito**, former AHS volunteer coordinator. "She was always there for the AHS when help was needed, and we will miss her energy and can-do spirit."

Produce from River Farm Aids Washington, D.C.-Area Food Bank

IN SPITE OF a rather tenacious groundhog, an infestation of harlequin bugs, and more than 11 inches of rain over eight days in June, *The Growing Connection* (TGC) demonstration garden at River Farm is still producing a bumper crop of vegetables. To put all the food to good use, more than 200 pounds of produce have been donated to the **Capital Area Food Bank**, which serves the Washington, D.C., metropolitan area.

"*The Growing Connection* is all about creating community," says **Jessica Rozmus**, TGC coordinator for the AHS. "Donating the harvest is an important way to directly share with and give back to the community."

A joint program of the AHS and the **Food and Agriculture Organization of the United Nations (FAO)**, *The Growing Connection* links students from the United States and other countries as they learn about growing vegetables, nutrition, and other cultures using EarthBox™ containers. From its inception in 2003, TGC has come to include 84 schools and demonstration sites in eight countries.



River Farm's TGC garden is one of these demonstration sites, with 74 EarthBoxes filled with everything from banana and mango trees to tomatoes, cucumbers, and lettuces. A number of experiments are being conducted with these plants to test the effects of pH, type of planting media, fertilizer, and plant variety. The results will help give students in the program ideas for further investigation.

"The TGC experiments create a platform for kids to have a hands-on experience with practical science," says Jessica. "No matter which experiment they choose to do, each one allows them to use all their senses to get to know plants and how to grow them successfully."

For the latest progress reports and photographs from River Farm's TGC garden, visit Jessica's blog at <http://thegrowingconnection.org/ahs>.

The Growing Connection Coordinator **Jessica Rozmus** with some of the produce harvested at River Farm.

Jessica. "No matter which experiment they choose to do, each one allows them to

use all their senses to get to know plants and how to grow them successfully."

For the latest progress reports and photo-

graphs from River Farm's TGC garden, visit Jessica's blog at <http://thegrowingconnection.org/ahs>.



2006 AHS GARDEN SCHOOL

"The Art & Science of Garden Photography" October 26 & 27, 2006

Lady Bird Johnson Wildflower Center, Austin, Texas

**Registration
now open!**



Lady Bird Johnson Wildflower Center

Ronald Sprouse

Look at the garden through a new lens, heighten your ability to capture the garden, and gain a greater appreciation for the surrounding landscape with "The Art & Science of Garden Photography" amid the stunning landscape of the Lady Bird Johnson Wildflower Center.

Featuring guest horticulturist **Robert Bowden** of Orlando's Harry P. Leu Gardens and a special evening with **Van Chaplin**, senior garden photographer at *Southern Living* magazine, along with the noted Texas naturalist/photography team of **Brian and Shirley Loflin** and highly regarded garden photographers **Alan and Linda Detrick**.

Visit www.ahs.org or call (703) 768-5700 ext. 137 for more information on this exciting event.



Robert Bowden



Van Chaplin

Dr. Cathey Day Celebration

THE SECOND ANNUAL Dr. H. Marc Cathey Day is October 23. Last year, the AHS Board of Directors designated this day to honor the AHS's now retired president emeritus. For last year's celebration, AHS staff and volunteers planted hundreds of purple crocuses in the shape of X's and O's at River Farm, and AHS members across the country were encouraged to also plant purple crocuses or other bulbs. This past spring, they bloomed beautifully, reminding all who saw them of the rejuvenating effect of plants. Details for this year's celebration will be posted on the AHS's website (www.ahs.org).



Purple crocuses planted by AHS staff for the first Dr. Cathey Day celebration last year came into perfect bloom this spring.

Holiday Tree Ornaments Wanted

FOR THE PAST several years, ornaments made by children from around the country have adorned River Farm's holiday trees in December. To continue the tradition, the AHS is once again inviting families, clubs, classrooms, and other groups as well as individuals to get creative and send in their handmade ornaments for our trees in one of the following themes: Americana (red, white, and blue), George Washington (blue and white), Lewis and Clark (silver and gold), Plants and Flowers (multicolored), Bountiful Harvest (red and gold), and Solar System (multicolored). Contact AHS Youth Programs Coordinator **Nancy Busick** at (703) 768-5700 ext. 132 or youthprograms@ahs.org for further details.

AHS Helps Local School Create Outdoor Learning Space

WHEN THE Hollin Meadows Elementary School, a math and science focus school in Alexandria, Virginia, wanted to turn much of its unused exterior space into a resource for outdoor learning, it enlisted the help of AHS Horticulturist **Peggy Bowers**. Peggy helped to develop a long-range plan for greening the school grounds and created a design for a habitat garden that now graces the front of the school building.

Thanks to the Parent Teachers Association (PTA) which raised funds and acquired plants and other supplies, every student helped to plant the 6,000 square-foot habitat garden with 60 different species of native perennials, grasses, trees, and shrubs on Earth Day in April. "It was very important for the students to participate in the planting," says Peggy. "Many of them now feel a lot of ownership and pride in this garden."



AHS NATIONAL EVENTS AND PROGRAMS **2006–2007 CALENDAR**

Mark your calendar for these upcoming national events and programs that are sponsored or cosponsored by the American Horticultural Society.

- SEPT. 20–23. **Fashion in Bloom** (formerly called the Eastern Performance Trials). George Washington's River Farm. Alexandria, Virginia. (Open to AHS members and the public on Saturday, September 23 from 9 a.m. to noon.)
 - SEPT. 23. **AHS Annual Gala**. George Washington's River Farm. Alexandria, Virginia.
 - OCT. 23. **Dr. H. Marc Cathey Day**. George Washington's River Farm. Alexandria, Virginia.
 - OCT. 26 & 27. **AHS Garden School: The Art & Science of Garden Photography**. Lady Bird Johnson Wildflower Center, Austin, Texas.
 - DEC. 1–22. **Holiday Trees Display at River Farm**. George Washington's River Farm. Alexandria, Virginia.
 - DEC. 14. **Annual Friends of River Farm Holiday Reception**. George Washington's River Farm, Alexandria, Virginia.
- 2007**
- FEB. 14–18. **AHS Green Garage™ Exhibit at the 2007 Northwest Flower & Garden Show**. Seattle, Washington.
 - APR. 1–30. **Washington Blooms!** George Washington's River Farm, Alexandria, Virginia.
 - APR. 21 & 22. **Friends of River Farm Annual Plant Sale**. George Washington's River Farm, Alexandria, Virginia.

For more information about these events, call (800) 777-7931 or visit the AHS website (www.ahs.org).



Students helped to plant a habitat garden, above, and EarthBoxes, right, at Hollin Meadows Elementary School in Alexandria, Virginia.

Additionally, last summer Peggy designed individual classroom gardens that were installed for each class in an interior courtyard. Teachers incorporate the gardens in their lesson plans, for example creating a Colonial garden for social studies or a vegetable garden for science experiments. “The PTA has been very instrumental in putting together lesson plans to satisfy the Virginia Standards of Learning science and math requirements as



well as documenting everything they do to share with other schools,” explains Peggy.

Sixth graders at Hollin Meadows also participate in *The Growing Connection* (TGC) program. Last June, the AHS donated 10 EarthBoxes™ to the school and **Jessica Rozmus**, TGC coordinator for the AHS, helped students to set up the self-watering containers and plant

tomatoes in them. This fall, the students will replace the tomatoes in the boxes with cool-weather crops such as lettuces.

Plans are underway for creating a woodland path, a larger composting facility, and an outdoor learning pavilion.

News written by Assistant Editor Viveka Neveln and Editorial Intern Heather Robbins.

LEFT: VIVEKA NEVELN. RIGHT: JESSICA ROZMUS

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2006 Youth Garden Symposium

BY HEATHER ROBBINS

Highlights from this year's gathering of educators and children's gardening enthusiasts in St. Louis.



vance of this year's theme, "Cultivating a Sense of Place: A Youth Gardening Adventure." Strong interest in this theme led to an increase in the number of educational sessions offered to 30, up from 20 in 2005. Presenters came from across the United States, representing programs at schools, universities, and botanical gardens. The presentations featured a variety of perspectives on several main themes, including building children's gardens, developing outdoor classroom programs, and community gardening.

Many attendees who work in urban environments appreciated the emphasis on children's educational programs in the St. Louis area, while sessions such as the AHS's *The Growing Connection* demonstrated the possibilities for connecting kids

IN LATE JULY, the annual AHS National Children & Youth Garden Symposium brought 264 inquisitive, attentive, and dedicated children's gardening advocates from 34 states and the District of Columbia to St. Louis, Missouri. Four days (and evenings!) of educational sessions, keynote speakers, garden tours, and networking gave attendees the chance to exchange ideas, learn new concepts, and find inspiration for engaging young people in gardening and the natural world.

While the range of the attendees' professional associations and interests within

the youth gardening movement varied widely, this only seemed to intensify the energy and creativity generated by interacting with passionate and like-minded colleagues. "It's very gratifying to think that the innovative ideas, success stories, and enthusiasm for children's gardening generated at this symposium will be carried back and shared with other people at the many organizations and institutions represented here," says **Tom Underwood**, AHS interim president.

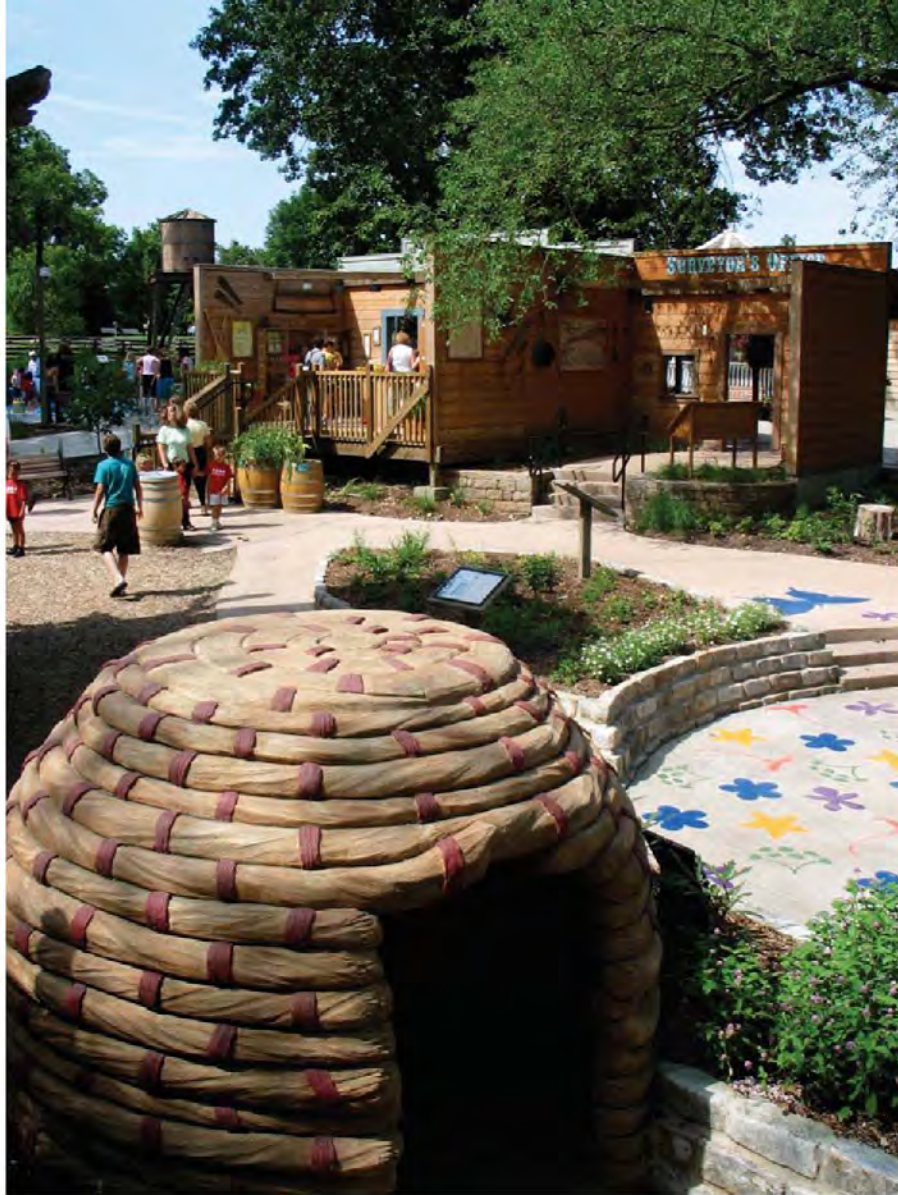
The registration for this year's 14th annual symposium was one of the highest since the event debuted in 1993, which attests to the continuing growth of interest in children's gardening, as well as the rele-



Top, left: Dale Chihuly glass sculptures at the symposium host garden, the Missouri Botanical Garden (MBG). **Top, right:** Among the many attendees at the symposium were, from left to right: Presenter Sheldon Fleming, landscape architect Lolly Tai, AHS President Emeritus Katy Moss Warner, keynote speaker Caroline Lewis, and presenter Mark Miller. **Above:** A clay-pot scarecrow adds an element of whimsy to a garden at MBG.

As a resource for attendees—and for anyone who missed the symposium—links to relevant websites and information from the sessions are available on the AHS website (www.ahs.org).

TOP LEFT: HEATHER ROBBINS. TOP RIGHT: COURTESY OF KATY MOSS WARNER. BOTTOM: SYLVIA SCHMEICHEL



MBG's new Doris I. Schnuck Children's Garden, left, was a point of inspiration at the symposium. Above: A "Wanted" sign outside the garden's Invasive Plants Jail.

and gardens on a global level (see page 9). One area of consensus among presenters was the vital importance of involving children and young people in all stages—from design-planning through curriculum development—of gardening-oriented learning and garden spaces.

Cornell University's Garden-Based Learning Team presented "Young People as Partners," in which 16-year-old **Jake Sheavly** described his involvement in a collaborative effort to plan, design, and construct a living sculpture project as part of a new program at the university.



Jake Sheavly

Other sessions suggested piquing young people's interest in horticulture with novel plant characteristics. **Paul Maschka**, a hor-

ticulturist with the Zoological Society of San Diego, described how he developed children's programming based on growing carnivorous plants. "There's something about carnivorous plants that's so appealing to kids," says AHS Horticultural Intern **Matt Lamberski**. "Paul's session on plant-based learning made me wish my teachers had used a similar strategy."

A session by **Gary Wangler**, horticulturist at the St. Louis Children's Hospital, was held at the Olson Family Garden, located on the eighth floor of one of the premier children's hospitals in the country. This healing garden, which provides a place for serenity and reflection, represents another facet of children's gardening.

GREAT GARDENS

As part of the symposium, attendees had the opportunity to explore the host garden, the 79-acre Missouri Botanical Garden (MBG), whose grounds were made espe-

cially stunning by an extensive exhibit of artist Dale Chihuly's glasswork. The schedule included a tour of the new Doris I. Schnuck Children's Garden (profiled in the May/June 2007 issue of *The American Gardener*), followed by a panel discussion on its creation and influence. **Paul Brockmann**, MBG's vice president of general services, noted that besides the city's zoo, the botanical garden is the only outdoor-oriented place for families to visit in St. Louis. Since the Children's Garden opened in spring, MBG's family memberships have increased 40 percent. According to MBG staff, children requesting return trips give parents more time to explore the rest of MBG, which also has smaller sensory and experimental gardens where children's programs are held.

Another treat was a field trip to the Shaw Nature Reserve, an extension of MBG located about 30 miles outside St. Louis. There, guides explained the process of transforming thousands of acres of farmland back into native Ozark plant communities. The nature reserve also addresses how home gardeners can apply the principles of native plant restoration in their own landscapes. "To us, a 'sense of place' means you have to be



Symposium participants were offered opportunities to experience a variety of landscapes, from the formal at MBG, left, to the natural at Shaw Nature Reserve, below.

using native plants—it's their place," said **Cindy Gilberg**, a horticulturist at the nature reserve.

Within the Shaw Nature Reserve is the Dana Brown Education Center, from which staff members conduct outdoor education programs. Exploratory learning is key at the Center, which has developed myriad programs in conjunction with school curricula and beyond.

KEYNOTES ADDRESS BRIDGING DISCONNECT WITH NATURE

Although the four keynote speakers of this year's symposium came from very different career backgrounds, all gave engaging presentations that converged around the symposium's themes of connecting with nature and creating a sense of place.

It is increasingly becoming a matter of mainstream American consciousness that children are spending less and less time directly interacting with nature. Journalist and author **Richard Louv's** 2005 book *Last Child in the Woods: Saving Our Children From Nature-Deficit Disorder* (Algonquin Books) has received extensive national and international attention for pointing out the damage to society caused by the widening "disconnect" between children and nature. During his keynote address, Louv affirmed the significant role educators and parents play in connecting children to nature. He offered advice on how formal and informal educators can foster a positive outlook about the future and the environment in young people.



MBG President **Peter Raven**, who is recognized internationally for his leadership and accomplishments in plant conservation, interspersed his personal reflections with statistics that illustrate our global "disconnect from nature." He noted that the United States' largest petroleum reserve off the coast of Santa

Barbara, California, would supply current national energy consumption for a total of 36 hours; the importance of sustainability, stressed Raven, cannot be overestimated. He went on to cite ecological decay since 1956, including a 20 percent topsoil loss and 20 percent agricultural land loss due to factors such as suburban growth, salinization, and desertification. Raven proposed that the

combined issues of human health and sustainability are key to preventing further destabilization of the planet's food supply and biodiversity. Today's children, after all, will need to understand the increasing threats to our vulnerable ecosystems.

Norm Lownds took a workshop approach to his keynote, challenging attendees to work with others at their tables during the session to set goals for increasing the impact of their

respective programs and organizations. Lownds, who is associate professor and curator of Michigan State University's 4-H Children's Garden, encouraged his audience to develop a technologically savvy learning space as a tool for connecting to the natural world. "We have expertise in our youth that we need to release," he stated, especially in the tech-sector. "Our job is to enhance and expand what you do outside—with technology." Lownds involves students in web-based learning through a site that he monitors but that they, for the most part, design and direct. At the Michigan State website, kids can pose plant questions, play plant-oriented games, and chat with each other up to 50 students at a time.

The final keynote speaker, **Caroline Lewis**, described her work with high school and middle school students in Miami-Dade County, Florida. As director of education at Fairchild Tropical Botanic Garden, Lewis designed and over-



Author and keynote speaker Richard Louv at a post-lecture book-signing.



Attendee Kathy Cash receives personal feedback on her nature journal from presenters Laura Schaefer, left, and Jessica Brown, standing, at the end of a workshop.

sees the Fairchild Challenge, a creative and interdisciplinary competition done in conjunction with the public schools. From the more traditional challenges, such as debate—in which students must prepare both sides of an ecological issue—

to a rap on an ecological theme, the possibilities, and therefore the enthusiasm, of the participants seems endless. “There is no doubt in my mind that these kids are becoming civic-minded,” Lewis stated. “I believe if you give teenagers the opportunities, they will be the gateways to their communities.”

AWARDS AND REWARDS

Among the many symposium highlights was the official announcement of the 2006 “Growing Good Kids: Excellence in Children’s Literature” award winners. This year, five books published in 2005 received the award (for more on the award-winning books, see page 7).

Even with so much to internalize, most attendees commented that they only wished they could have experienced more of the sessions. The wealth of information available was such that, as **Randy Seagraves**, curriculum coordinator for the Texas-based Junior Master Gardener program pointed out, “Our to-do lists keep getting longer the longer we’re here!”

Minneapolis 2007

Be sure to save the date for the 15th annual symposium, which will be held at the Minnesota Landscape Arboretum near Minneapolis, Minnesota, from July 19 to 21, 2007. Look for more details soon in upcoming issues of *The American Gardener* or on our website at www.ahs.org.

Collaboration, enthusiasm, and the sharing of successful ideas were the hallmarks of the symposium. As **Stephanie Jutila**, AHS education programs manager, said in her symposium closing remarks, “No single person can accomplish these efforts on a national scale. In order to cultivate a sense of place for today’s youth, we need to have a nationwide network of people dedicated to the cause. It is through this symposium that this network continues to grow.”

Heather Robbins is editorial intern for The American Gardener.

HEATHER ROBBINS

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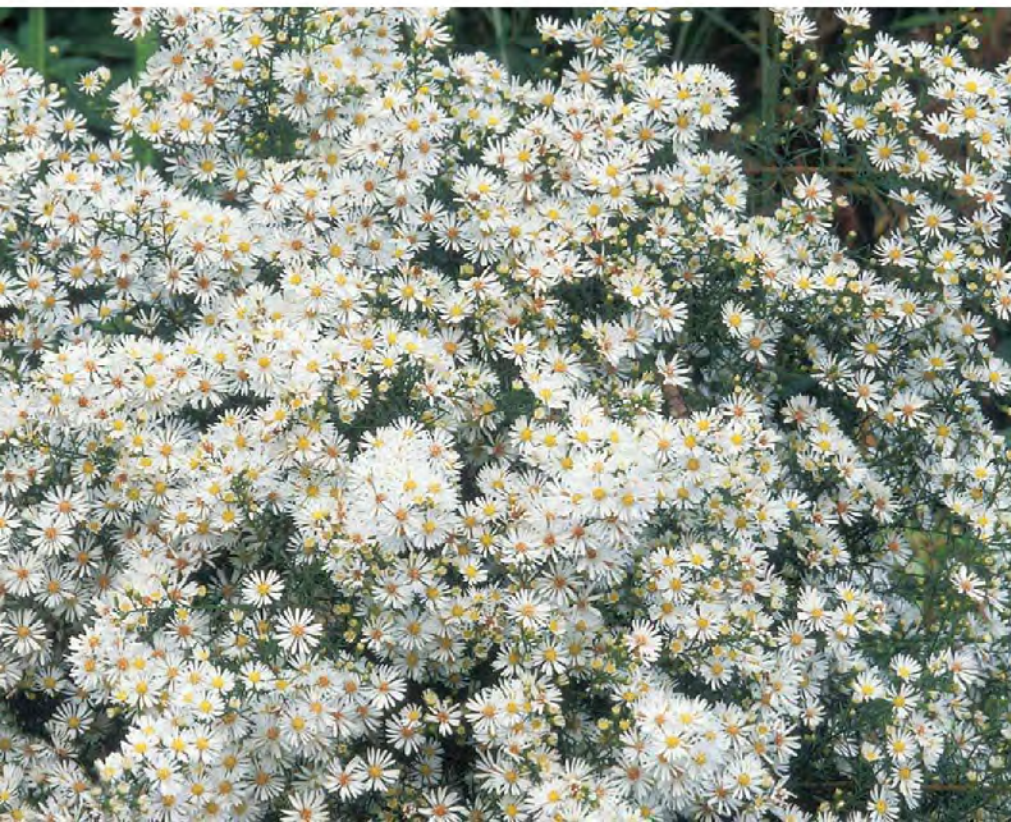


Cherry Lake Tree Farm is pleased to announce its corporate partnership with the American Horticultural Society and is committed to helping fulfill the AHS mission by promoting the importance of large trees in the landscape.





fall's bounty of Native Asters



PERHAPS IT IS the familiarity with our roadside asters, a number of which are indisputably weedy, that has held back the popularity of the named cultivars in this country. However, horticultural improvements have greatly enhanced our native asters' garden value, and they are becoming much more appreciated as the movement to more natural landscapes gains momentum.

Although many useful species are native to the United States, credit for much of the breeding work must be given to English and German nurserymen. Selections were made starting in the late 19th century, and new ones continue to be introduced every year.

The flowers of most aster species are white or in the blue to purple range (although many pink cultivars have been selected). The leaves are alternate and the

Plant breeders have been turning many common native roadside asters into shining stars for the garden.

BY ALLAN M. ARMITAGE

daisylike flowers are borne either singly on the flower stem or in multiple-flowered panicles or corymbs. Most spread by rhizomes—underground stems—and a few can become overly aggressive.

Many asters are fall flowering, others reach peak bloom in the summer and then may rebloom in the fall if spent blossoms are removed immediately.

ASTER NOMENCLATURE

The genus has taken a major hit, similar to the genus *Chrysanthemum*. Based on characteristics such as chromosome number, inflorescence shape, the presence of rhizomes, and characteristic basal leaves, the genus has been split into several new and gruesomely unspellable

Top: 'Alma Pötschke' is one of the most popular New England aster selections. **Left:** The 'Monte Cassino' selection of heath aster is often grown for the cut flower trade.

genera. This is mainly the case with the American species, but Old World asters are also undergoing change.

These changes have been coolly embraced by botanists and—to this point—totally ignored by horticulturists. As for me, I want to give the new names some love. After all, they are the correct names whether we like them or not, but I also realize that no one will have a clue what I am talking about if I toss out the old ones. For now, I am providing both names as the various species are discussed.

THE BIG TWO

Most people who grow American native asters have cultivars of either New England or New York asters, which have been the focus of most of the breeding work thus far. Times are changing, but these are still at the head of the class.

New England Aster

(*Aster novae-angliae*, USDA Hardiness Zones 4–8, AHS Heat Zones 8–1. Now classified *Symphotrichum novae-angliae*.)

This common wildflower found widely



Compact 'Purple Dome' New England aster is perfect for the front of a sunny bed.

in the eastern United States is one of the largest and prettiest in the genus but is seldom seen in cultivation, having been superseded by bigger, but not always better, cultivars. The entire, four- to five-inch-long leaves are numerous and very hairy. This species and a few others similar to it may be separated from many other asters by looking at the base of the leaves. The two basal lobes of the leaves

clasp the stem, poking out on either side. The flowers are one-and-a-half to two inches across and consist of 40 to 50 ray flowers surrounding a yellow center. They are excellent for cutting, but beware of the hairy stems, which can cause a serious skin rash on hands and arms of susceptible individuals.

Cultivars

Dozens of cultivars have been offered. Here are a few of my favorites that have stood the test of time.

Alma Pötschke ('Andenken an Alma Pötschke') is an excellent three- to four-foot-tall selection with bright rose flowers that are one to two inches across and have slightly curled petals. Although less prone to topple than other selections, it still requires support.

'Harrington's Pink', developed by Millard Harrington of Williamsburg, Iowa, is one of the most popular asters today. This three- to five-foot tall plant bears large salmon pink flowers from September through October.

'Purple Dome' is a terrific introduction from the Mt. Cuba Center in Greenville, Delaware. Late flowering on 18- to 24-inch stems, plants maintain a compact, mounded habit supporting hundreds of deep blue flowers. In regions with high summer humidity, leaf and stem disease can be a major problem. Regardless, this is a great aster for the front of the sunny garden.

'September Ruby' ('Septemberrubin') has inch-wide, deep ruby-red flowers on three- to five-foot stems. Although classified as a late bloomer, flowering begins in late May here in northern Georgia and continues through late June. If the flowers are deadheaded, it blooms again in September. Flowering is three to four weeks later in the Northeast, but seldom do flowers peak in the fall.

New York Aster

(*A. novi-belgii*, Zones 4–8, 8–1. *S. novi-belgii* var. *novi-belgii*.)

There are literally hundreds of cultivars of this wonderful roadside weed, which is also commonly known as Michaelmas daisy because it blooms around September 29, St. Michael's Day, in the British



Top: 'Professor Anton Kippenberg' New York aster is a proven performer. Above: In bloom, the 'Winston S. Churchill' New York aster is as colorful as its cigar-smoking namesake.

Isles. The specific epithet, *novi-belgii*, arose because the state of New York was once known as New Belgium. The history of breeding of Michaelmas daisies is a who's-who of horticulture including the Honorary Vickary Gibbs, Ernest Ballard, A.H. Harrison, and Alan Bloom.

The leaves of New York asters clasp the stem much like those of New England asters, but the smooth or nearly glabrous

Adapted with permission from the chapter on asters in the third edition of Allan M. Armitage's *Herbaceous Perennial Plants*, which will be published by Stipes Publishing in summer 2007.

GROWING AND CARING FOR ASTERS

All tall selections (four feet or taller) need staking and should be avoided if one is an anti-staker. This is still a major drawback to asters, particularly the New England and New York types. Staking can be reduced or eliminated in many medium-size cultivars if plants are grown in full sun and pinched back by four to six inches at each growing point once or twice in spring and early summer. Do this no later than June 15 in the North and July 1 in the South, or you may remove the developing flowers. A sharp pair of hedge shears does the job in the Armitage garden.

Division is the easiest means of propagation. The outside portions of the clumps should be split and replanted in early spring or fall. The centers of stronger growing species become bare within one to two years and if not divided regularly, plants will degenerate and lose their ornamental appeal.

Terminal cuttings of most species can also be rooted. Collect one to two-inch long cuttings with two to three leaves in the spring or early summer and insert in a clean mixture of sand and perlite. Rooting will occur within two to three weeks.

Rooting terminal cuttings is the best and sometimes the only method to clean up prized plants that suffer from aster wilt, caused by *Verticillium vilmorinii*. Since the fungus resides in the rootstock, taking cuttings of new growth may result in clean plants. New York asters are most susceptible to this disease.

The other major problem of New England and New York asters is powdery mildew (*Erysiphe cichoracearum*). Some cultivars are more susceptible than others, but fungicides can be applied to all cultivars starting around July 1 to reduce infection. Rust can also be troublesome with many species of asters. Avoid the problem by maintaining good air circulation, thinning out stems if the plants are too dense, and staying away from highly susceptible cultivars. —A.A.



Pinch or shear asters once or twice before mid-June to keep them more compact and promote flower growth.

leaves differentiate the two species. Also, the flowers normally have only 15 to 25 ray flowers. They are not as good for cut flowers as the New England asters, but they provide excellent color in the late summer and fall garden.

Somewhere along the way, many of the cultivars that stay under 15 inches tall were placed under the name *A. x dumosus*. The species *A. dumosus* (*S. dumosus* var. *dumosus*) is a rather short, bushy plant native to fields and meadows from Florida to Texas, north to Maine, Ontario and Illinois. I am not aware of any official name change for all asters under 15 inches, so I am listing the short cultivars under *A. novi-belgii* (*S. novi-belgii*),

but in plant catalogs they are likely to appear under *A. x dumosus*.

Dwarf cultivars are excellent for containers and the front of the garden, and, best of all, require no staking. However, many medium-size cultivars (under four feet tall) do need staking, especially those with large flowers. I hesitate to recommend any cultivars over four feet tall. They are too tall for most gardens, require extensive support, and can become invasive.

Dwarf Cultivars

'Lady in Blue' is about a foot tall with blue flowers in the fall.

'Little Pink Beauty' is one of my favorite asters. This plant is covered with

semi-double pink blossoms in the fall.

'Professor Anton Kippenberg' is nine to 12 inches tall and carries lavender-blue semi-double flowers.

'Sapphire' ('Kiestrbl') was introduced to North American gardeners in 2005. Plants are covered with lavender ray flowers surrounding yellow centers on a 12- to 16-inch-tall mounding plant.

'Wood's Dwarfs' are wonderful eight- to 12-inch-tall plants with purple-blue ('Wood's Purple'), pink ('Wood's Pink'), and light blue ('Wood's Light Blue') flowers. In Georgia, they begin flowering around mid-September and persist for four to six weeks.

Medium-size Cultivars

'Ernest Ballard' has reddish-pink semi-double flowers up to three inches wide.

'Priory Blush' grows at least four feet tall with double white flowers tinged with a little pink. It's very attractive but needs some judicious early summer pruning.

'Winston Churchill' bears handsome red daisylike flowers on two- to three-foot stems. They were fantastic in cut flower trials at the University of Georgia.

LESSER-KNOWN BUT DESERVING ASTERS

The following asters don't get nearly as much attention as they should.

Climbing Aster

(*A. carolinianus*, Zones 6–9, 8–1. *Ampleaster carolinianus*.)

If you live in a mild climate, you might want to give this aster, native to the southeastern United States, a try. Its common name is a bit deceptive because the plants don't climb by themselves, but consist of lanky, arching stems up to 12 feet that produce dozens of one- to two-inch-wide pink to purple flowers with yellow centers along their lengths.

This is a rollicking shrub that takes up a lot of space, but if you train it on a fence or run it through a shrub, it is really impressive. It's easy to grow in full sun but tolerates part shade.

Heart-leaf Aster

(*A. cordifolius*, Zones 3–8, 8–1. *S. cordifolium*.)

Plants are usually highly branched with many small flowers, each generally less than an inch wide. Ten to 20 narrow ray



Left: Although not truly a vine, climbing aster can weave its way through shrubs or be draped along a fence. **Right:** The small but densely clustered flowers of heart-leaf aster put on quite a show from late summer to mid-autumn.

flowers ranging in color from dark blue to off-white surround a yellow center. The thin, sharply-toothed leaves on the upper stems and branches have inspired common names such as bee weed and bee tongue.

Although plants often look bedraggled in the wild, cultivation tends to make them stand up straight and put their shoulders back. The lower leaves are heart-shaped, and the upper leaves are ovate to lanceolate. The small blossoms lend themselves well to cut flower arrangements. Plants grow well in both the North and the South, but leaf spotting becomes a bigger problem in humid regions.

Cultivars

'Elegans' bears many white flowers and is one of the best selections.

'Ideal' is four to six feet tall with many violet-blue flowers. In the cut flower trials at the University of Georgia, plants have been vigorous and floriferous, but the foliage is prone to leaf spotting.

White Wood Aster

(*A. divaricatus*, Zones 4–8, 9–1.
Eurybia divaricata.)

One of the few shade-tolerant asters, this spreading species is native from Maine to Georgia. It bears many thin,

nearly black, cascading branches up to three feet in length, at the end of which are corymbs of small (three-quarter-inch-diameter), starlike white flowers with yellow centers that attract butterflies.

Plants are covered with clouds of flowers from mid-August through September in the South and as late as October in the North. The leaves are about three inches long and coarsely toothed.

Plants may be used at the edge of woodlands or placed at the front of the border to grow through other plants. I let them ramble over and among hostas. However, while they tolerate shade, more flowers and fewer foliar diseases occur when plants are

grown where they get at least morning sun and good air movement. In hot summers, they tend to become leggy, so I cut my plants back to about a foot in early June.

The cultivar **'Eastern Star'** is only about 12 to 18 inches tall and features the same dark stems and white flowers with yellow centers. This selection has done well in trials in Georgia, and I expect it to become quite popular around the country.

Heath Aster

(*A. ericoides*, Zones 5–8, 8–1.
S. ericoides var. *ericoides*.)

This is another roadside weed, but one that can become a fine garden plant. The many needlelike sessile leaves are pubescent, stiff, very narrow, and seldom more than an inch long (like *Erica*, heath). One of its old names was *A. multiflorus* (many-flowered), which is a much more descriptive name for this plant. The leaves are generally paler green than many other aster species. The daisies consist of 15 to 25 ray flowers, each only about three-quarter-of-an-inch wide, giving each head a starry appearance.

Many cultivars have been devel-



Most asters require full sun, but white wood aster tolerates part shade.

oped for the commercial cut-flower trade for use as “filler” in bouquets and arrangements, much like baby’s breath. However, they are useful garden plants as well. Cultivars include: ‘**Blue Star**’, which bears hundreds of star-shaped dark blue flowers on three foot stems; ‘**Blue Wonder**’, which has blue flowers with a tinge of pink; ‘**Monte Cassino**’, which bears many 24- to 30-inch stems topped with clusters of small white flowers. ‘**Snow Flurry**’, a selection from *A. ericoides* forma *prostratus*, has arching

without horticultural intervention, it is doubtful that this species would have made its way into many gardens. However, a number of cultivars have gained this plant many fans.

The species stands about three feet tall and flowers are often borne along one side of the stem in late summer and early fall, when the tiny toothed leaves turn a nice coppery hue. Plants grow best in a site that offers well-drained soil and full sun. They tolerate hot days and warm nights, but do better where evenings are cool.

if temperatures are not constantly in the 90s. Tiny white flowers with rosy centers appear in dense, branching sprays on rigid, purplish stems in early fall. ‘**Prince**’ grows about three feet tall with small white flowers and handsomely contrasting deep purple foliage—again, given an ideal site and summer climate.

Aromatic Aster

(*A. oblongifolius*, Zones 3–8, 8–1.

S. oblongifolium.)

Native to dry prairies and rocky bluffs



The ‘Lady in Black’ cultivar of calico aster, here blooming with goldenrods and sunflowers, has attractive purple foliage in cooler regions.

stems that are only six to nine inches tall and covered in small white daisies. This groundcoverlike plant is ideal for draping over banks and walls.

Calico Aster

(*A. lateriflorus*, Zones 5–7, 8–1.

S. lateriflorum var. *lateriflorum*.)

One description of this native of the Plains states reads “many branched stems with narrow lanceolate dark green leaves and small bristly white flowers.” This is hardly a heart-stopping description, and,

A. lateriflorus var. *horizontalis*, sometimes listed as ‘Horizontalis’, is a marvelous plant when grown in the right conditions. Dark green leaves on horizontal branched stems make this bushlike aster quite unique. Add the white flowers with reddish centers in mid-fall and one has a wonderful garden plant that can be used as a shrubby mass or a low-growing hedge.

Among cultivars, ‘**Lady in Black**’ has superseded most other offerings. Plants possess dark purple foliage that usually remains attractive throughout the season

from Pennsylvania to Wisconsin and south to North Carolina and Texas, this species and its cultivars are among the finest garden asters on the market today. Plants grow two to four feet tall. Up to a dozen well-branched stems occur on a mature plant, each clad in narrow, inch-long leaves.

One of the last wildflowers to bloom, aromatic aster has inch-wide, bluish-purple flowers that persist into late October. When brushed lightly, glandular hairs at the base of the flowers release a



Top: Introduced by horticulturist Richard Lighty, 'Bluebird' is a selection of smooth aster. **Above:** A hint of mint in its foliage is a fringe benefit to 'Raydon's Favorite', a cultivar of aromatic aster.

fresh fragrance that is hard to describe, but pleasant. Selections of these plants are spectacular at the San Antonio Botanical Garden, and they earned awards from the Missouri Botanical Garden in 2003 and the University of Georgia Trials. Enough said.

Cultivars

'English Countryside' appears to be mostly *A. oblongifolius*, but also seems to have a hefty chunk of New England aster in its background as well. Plants are

smothered in beautiful lavender-blue flowers by late fall, but they need a hard prune in midsummer. This selection was found in Athens, Georgia, by the great garden designer Ann English.

'Fanny's Aster' grows up to four feet tall and is covered with blue flowers in late fall. An absolutely terrific aster, particularly in the South, it was introduced by Nancy Goodwin, nursery lady and plantsperson *extraordinaire*, who acquired it from Ruth Knopf of Boone Hall Plantation in South Carolina. It turns out that Ruth's maid, Fanny, passed it on to her.

'October Skies' is a low-growing version of 'Raydon's Favorite' (see below), introduced by the Primrose Path Nursery. It has excellent lavender flower power but only grows about two feet tall, even without pruning.

'Raydon's Favorite' is even better, with purple flowers around yellow centers in the fall on stiff, hairy two- to three-foot-tall plants. The foliage also has a nice hint of mint. This selection originated from south Texas and needs full sun and well-drained soils.

ASTERS FOR THE ADVENTUROUS

Good grief, where do you stop falling all over this genus? So many little-known species are out there, just waiting to be discovered. Here are just a few other worthy native asters I have stumbled over in my travels.

Sky blue aster (*A. azureus*, Zones 4–8, 9–1; *S. oolentangiense* var. *oolentangiense*) is native to the Plains states. Plants grow two to three feet tall and bear deep blue to violet flowers and heart-shaped leaves.

Smooth aster (*A. laevis*, Zones 4–8, 8–1; *S. laevis* var. *laevis*), combines dozens of blue ray flowers with yellow centers, dark stems, and slightly blue-green smooth foliage on three-foot-tall plants. Although it is a fairly common roadside plant, a little tending can help transform it into an eye-catching garden specimen. 'Bluebird' bears one-inch-wide violet-blue flowers and arching stems with handsome blue-green foliage. This selection was introduced by Richard Lighty during his tenure as director of the Mt. Cuba Center in Delaware.

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Earthly Pursuits, Windsor Mills, MD. (410) 496-2523 www.earthlypursuits.net. Catalog online or free on request.

Forestfarm, Williams, OR. (541) 846-7269. www.forestfarm.com. Catalog \$5; free online.

Meadowbrook Nursery/ We-Du Natives, Marion, NC. (828) 738-8300. www.we-du.com. Catalog \$2; free online.

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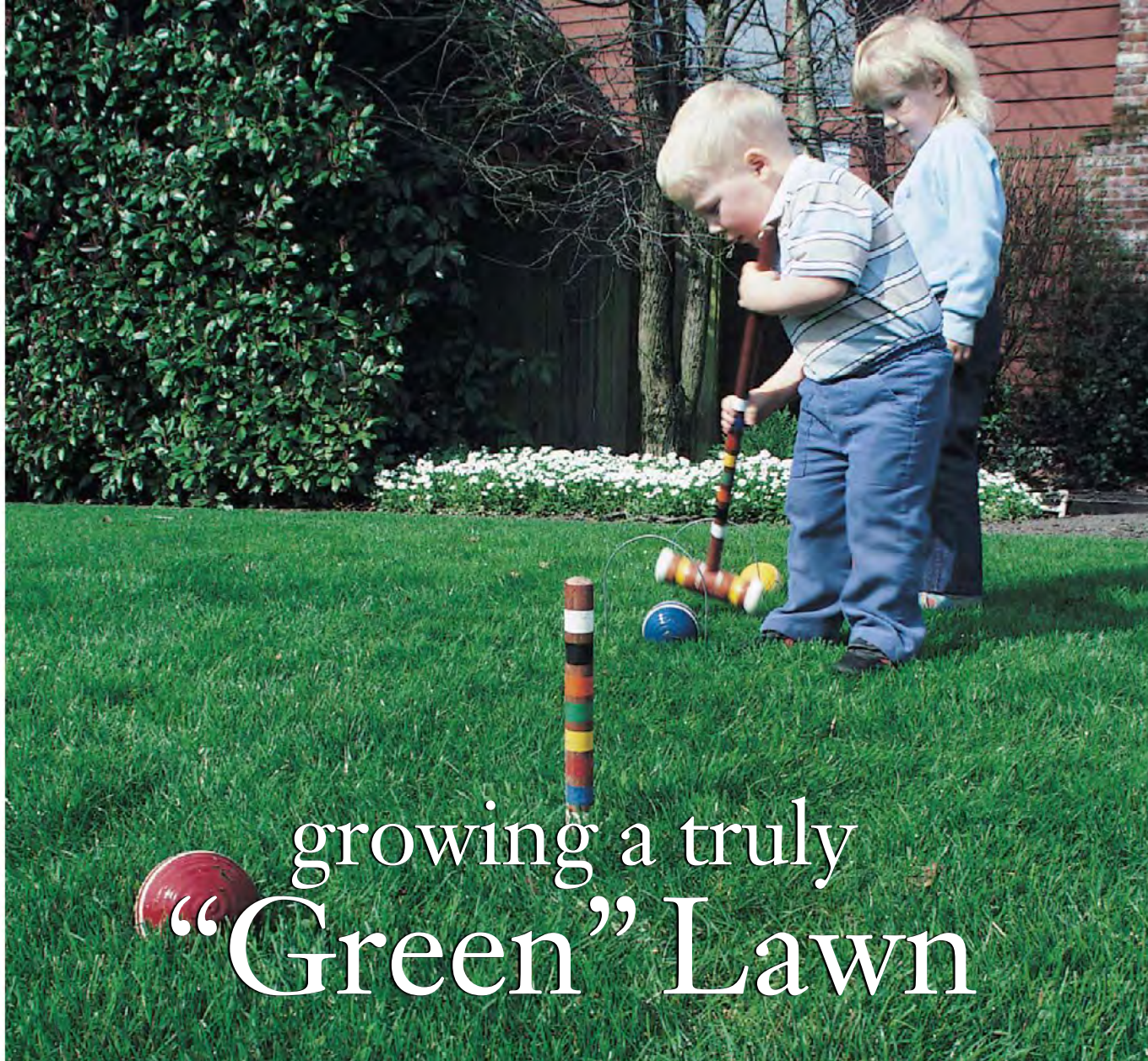
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A. spectabilis (Zones 5–8, 8–1; *Eurybia spectabilis*) grows one to two feet tall and is covered with showy violet-blue flowers on many branched stems in fall. Native from Massachusetts to South Carolina and way underused.

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growing a truly “Green” Lawn

THOUGHTS OF cartwheels and walking barefoot on a bed of lush, green grass always take me back to my childhood days. Even now, when I see an inviting patch of grass or attractive lawn, it’s tempting to act like a child once again. Okay, maybe not the cartwheels, but there’s still nothing quite like the feeling of the cool blades between your toes, especially on a warm summer’s day. Except now I keep my shoes on because many conventionally maintained lawns can be quite toxic, especially to children, pets, and winged wildlife.

Americans apply more than 100 million pounds of pesticides to their yards each year—chemicals that can drift into our homes or be tracked in by children or pets, or wash into our streams, lakes, and groundwater. These pesticides do kill

Learn how to grow a healthy lawn without using synthetic fertilizers or pesticides.

BY KRIS WETHERBEE

weeds and bugs (including beneficial insects), but they also have been linked to myriad health issues (see “For the Record” on page 24).

Synthetic fertilizers also have a downside because if overused or applied incorrectly their components, particularly phosphorus, can be washed into stormwater systems and eventually contribute to downstream pollution. In some states—

Minnesota, for example—there are now restrictions on the use of phosphorus-based lawn fertilizers.

However, you don’t need synthetic lawn chemicals to turn up the green factor on your own home turf. By fortifying the soil, choosing appropriate turf grass varieties, and mowing and watering properly, you can achieve a healthier and nearly picture-perfect lawn with family appeal.

GO UNDERGROUND

The key to a lush, green lawn begins with the soil. “If we spent a fraction of our gardening time caring for the soil, we’d spend a lot less time working on our lawns and gardens,” says Bob Richardson, a soil remediation scientist with Soil Restoration Technologies in Oklahoma. “You might

Opposite: Perennial ryegrass withstands heavy foot traffic and is an appropriate choice for lawns in most regions of the United States.

be doing everything else right, but bad soil will wreak havoc on all of your efforts.”

Healthy soil is alive with critters like earthworms and beetles as well as microorganisms that improve soil structure, recycle nutrients into a plant-friendly form, and can supply all the nutrients plants need. A well-balanced soil rich in beneficial microbes helps reduce plant stress and disease. Using pesticides can dramatically disturb this balance.

Three elements are essential to supporting a healthy soil environment: organic matter, adequate moisture, and air. Ideally, your soil should contain a minimum of three percent organic matter.

Good sources of organic matter for lawns include compost, aged manure, and grass clippings. If you're starting from scratch, work organic matter as deeply as possible into the soil before seeding or rolling out your lawn. For existing lawns, a thin layer of screened compost (half an inch or less) applied as a top-dressing once or twice a year in spring or fall will help feed soil critters and maximize turf health. High-quality compost tea is also a good option for encouraging beneficial soil organisms, and some lawn care companies are now offering this service as part of lawn care programs.

CHOOSE THE RIGHT GRASS

Garden plants flourish when they are matched to the region and growing site. Lawns are no different. Turf grasses fall into two main groups: cool-season varieties and warm-season types.

Cool-season grasses are more suited to the northern regions of the country, growing best in spring and fall and then slowing down in hot weather. Cool-season grasses become dormant and can turn brown during dry summers unless watered on a regular basis. Once fall returns and moisture is replenished, these lawns will typically green up once again. Fescues are pretty heat- and drought-tolerant, with tall fescue getting by on up to 50 percent less irrigation than Kentucky bluegrass. Perennial ryegrass stands up well to wet soil and heavy foot traffic, though it's not as drought-tolerant as the fescues.

LAWN GRASSES RECOMMENDED BY REGION

Mountain West: Kentucky bluegrass, perennial ryegrass, fescues, buffalo grass.

Midwest: Fescues, Kentucky bluegrass, perennial ryegrass, creeping bentgrass, zoysia.

Northeast: Kentucky bluegrass, fescues, ryegrass (perennial and annual), bentgrass.

Pacific Northwest: Perennial ryegrass, fescues, bluegrass, bentgrass.

Southeast: Bahiagrass, centipede, zoysia, St. Augustine grass, bermuda.

Southwest: Bermuda grass, St. Augustine grass, buffalo grass, ryegrass, zoysia.



Fescue



Buffalo grass



St. Augustine

Warm-season grasses put on their best growth during the warmer temperatures of late spring, summer, and early fall, and go dormant once cold weather arrives. These include Bermuda grass, which is quite drought-tolerant and will stand up to a lot of foot traffic, though is the least shade-tolerant among the group. St. Augustine does well in shade and is great for coastal areas but doesn't handle foot traffic well. Zoysia grass tolerates heat, drought, and a moderate amount of shade, and is quite cold-tolerant for a warm-season grass.

The type of grass you choose depends on your climate, lifestyle needs, and the characteristics of your site—in some regions, blends or mixtures of grasses are recommended for lawns. A blend is composed of two or more cultivars of the same grass species; a mixture is made up of two or more different species. (See the box above for suggested grasses for different regions of the country.)

LET YOUR LAWN BREATHE

Soil aeration is a critical component of promoting root growth and turf grass health.

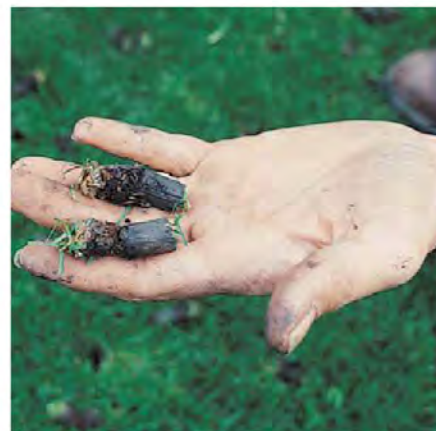
Loosening the ground beneath your turf allows air, water, and nutrients to penetrate deep into the soil and reach grass roots. Aerating your lawn will also help prevent thatch—a buildup of plant material between the lawn base and the soil surface.

“Most lawns have a natural thatch layer of one-eighth to a quarter inch, but when it builds up to more than half an inch high, it impedes water and nutrients,” says Ladd Smith, co-owner of In Harmony Services, Inc., a Washington-based lawn care company.

How frequently you aerate depends on where you live, soil and turf type, and the level of traffic on the lawn. If a screwdriver cannot be easily inserted into the soil, it’s time to aerate. “Core aerating is a great practice before seeding or adding compost,” says Don Williamson, turf grass expert and author of *Lawns Natural and Organic* (see “Resources,” page 26). The tools for the task include a manual core-type aerator, which removes small plugs of soil, or you can rent a power aerator for tackling large areas.

FERTILIZING FUNDAMENTALS

Naturally, fertilizing needs will be minimal on grass grown in healthy soil alive



Soil aeration counteracts the negative effects of compaction in a lawn. A power aerator, left, accomplishes the job by extracting small soil plugs, above.

with microorganisms and other soil critters. Annual applications of compost and grass clippings left on the lawn further reduce fertilizing needs.

Before deciding whether to fertilize or amend your lawn, get a soil test. Williamson suggests conducting both a standard soil test and a bio-assay, offered by the Soil Food Web, Inc. (www.soilfoodweb.com) to get a complete understanding of your soil’s status and “to en-

sure the products and materials you are putting on your lawn are exactly what you lawn needs.” The preferred soil pH range for most grasses is between six and seven. If the pH is not in that range it can limit the amount of nutrients available to your grass.

When you do fertilize, do so to build your soil and not your plants. Natural fertilizers from plant or animal sources can be applied according to your lawn’s needs—such as blood meal, aged animal manure, fish emulsion, or corn gluten meal for nitrogen—or you can use any of the natural fertilizer blends available online or at your local garden center.

As a general rule, spread no more than one pound of actual nitrogen per 1,000 square feet at any one time, with no more than four pounds per season. As an example, 20 pounds of fertilizer with five-percent nitrogen will deliver one pound of actual nitrogen. Use a slow-release fertilizer with an NPK (nitrogen-phosphorus-potassium) ratio suited to the nutritional needs of your lawn, such as 3-1-2, 5-2-4, or 7-3-4. The best time to fertilize depends on when your grass is actively growing. Cool-season grasses should be fertilized in early spring and fall, whereas warm-season grasses are best fed in late spring to early fall.

WATER WISELY

As the adage goes, things are best in moderation. This holds true when it comes to watering your lawn. Too little or too much can stress plants and reduce beneficial soil organisms. And soggy soil also inhibits

FOR THE RECORD: LAWN CHEMICALS A HEALTH HAZARD

- According to Beyond Pesticides (formerly the National Coalition Against the Misuse of Pesticides), 78 million households in the United States use home and garden pesticides.

- Pesticide use in the home and garden can increase the risk of childhood leukemia by almost seven times, according to a study published in the *Journal of the National Cancer Institute*.

- Studies have linked certain herbicides with higher incidences of lymphoma and cancer in dogs.

- Beyond Pesticides reports that of the 30 commonly used lawn pesticides, 19 are probable or possible carcinogens, 13 are linked with birth defects, 21 with reproductive effects, 15 with neurotoxicity, 26 with liver or kidney damage, 27 are sensitizers and/or irritants, and 11 have the potential to disrupt the endocrine (hormonal) system.

- Pesticides may contain up to 99 percent inert ingredients, and according to the Environmental Protection Agency, many of these substances can cause long-term health problems—and many have not been tested for safety.—K.W.



vital oxygen, leading to anaerobic soil conditions that encourage disease.

“Deep and infrequent watering for established lawns is best,” says Williamson. This encourages a deeper root system for a lawn that can endure periods of heat and drought. Your lawn’s specific irrigation requirements will depend on your soil type, variety of grass, and mowing practices, but about one inch of water a week during active growth is a good guideline. The footprint test always comes in handy: If you can see your footprints after walking on your lawn, and the grass doesn’t spring back, then it’s usually time to water.

MOWING MANAGEMENT

The buzz cut is out and shag is back when it comes to a turf that’s more resistant to weeds, disease, drought, and summer heat. The key is to mow high and mow

often, cutting no more than one-third of the total height in one mowing. Taller grass creates better photosynthesis, resulting in a deeper root system and overall healthier turf. Giving your grass a higher haircut saves you time and money since the tall blades shade out weeds, and the deeper root system ultimately makes grass more disease resistant and less susceptible to drought and summer heat.

How high to mow depends, once again, on your turf grass variety. As a rule of thumb, mow at about two-and-a-half to four inches for cool-season grasses, and at one to two inches for warm-season turfs like Bermuda and zoysia.

Cutting the grass with sharp blades will also help power up the “lush” factor on your lawn. A dull blade rips grass rather than cuts it, weakening the plant and making your lawn more susceptible

to diseases, weeds, and drought. Mower blades should be sharpened at least twice each season, more often when mowing on sandy soils.

When you do mow, be sure to leave those grass clippings on the lawn whenever possible. They add organic matter and provide a natural source of nitrogen that can reduce your fertilizing requirements.

COPING WITH WEEDS

When it comes to lawn weeds, I like to preach tolerance—to a point. “Generally, if your lawn has a five to 10 percent weed population, then nothing needs to be done. If the weed population is higher than 10 percent, take steps to reduce the population,” advises Williamson.

“The most effective way to reduce weed pressure in a lawn is to maintain a healthy, thick turf,” notes John Steiner, director of operations with

NaturaLawn of America. Steiner says you can keep weeds to a minimum simply by mowing tall and following a sound program, which includes proper feeding and watering. Many common lawn weeds—such as ground ivy or creeping Charlie (*Glechoma hederacea*), a notorious garden weed in the eastern United States—thrive where grass is cut too short. And mowing frequently also deters annual weeds because the sensitive growing point for most is near the plant’s top. So every time you mow, you’re sapping the life from invading weeds.

When you have a thick stand of turf grass, most weeds that do pop up can easily be controlled by hand-pulling or using one of the many mechanical tools on the market (for more information on weeding tools, see “Getting a Grip on Weeds” in the January/February 2006 issue of *The American Gardener*).



Grass clippings left behind by this mulching mower will break down and add organic matter to the soil.

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In a successful organic lawn care program, a certain amount of “weed” growth is tolerated. Clover, shown here, is often targeted for eradication, but when it is included in a mixed-species lawn, it contributes a significant amount of nitrogen to the soil.

The only organic herbicide that won't kill an existing lawn is corn gluten meal (CGM), a pre-emergent that must be applied *before* weed seeds germinate to be effective. CGM is the active ingredient in a variety of commercial products such as Concern Weed Prevention Plus and WOW. It works well on a variety of annual weeds, including crabgrass (*Digitaria* spp.). It requires a drying period of two to three days after application and it is most effective when applied one week before seed germination. At 10 percent nitrogen (by weight), it also makes an excellent lawn fertilizer. Just be sure *not* to apply it at the same time you are seeding your lawn, because it will prevent grass seed from germinating.

If you do decide to use an herbicide, choose the least-toxic product with a warning label that lists “Caution,” rather than “Warning” or “Danger.” Skip the so-called “weed and feed” products—they are the epitome of overkill because they cover the entire lawn with herbicide. Instead, opt for spot applications of herbicide early in the season while the weeds are still small. “The goal is to get the

maximum effect with minimal product,” says Ladd Smith of In Harmony. “By spot spraying, you can often get by with as little as one teaspoon of herbicide for an entire lawn.”

PUTTING A DAMPER ON PESTS AND DISEASES

Lawns growing in a balanced soil ecosystem are more naturally resistant to turf diseases and pests. Common pests such as lawn grubs (most are the larvae of Japanese beetles) can be controlled by using biological controls such as beneficial nematodes or milky spore powder—a naturally occurring bacterium available at lawn and garden stores. Avoid the one-chemical-kills-all mind set and seek out solutions that directly address the problem.

It *is* possible to have a lush green lawn that doesn't pose a threat to humans, pets, or wildlife. Whether your lawn needs minimal maintenance or a major renovation, just remember: Any lawn worth wiggling your toes in begins with healthy soil. 🌱

Freelance writer Kris Wetherbee walks barefoot on her organically maintained lawn in Oakland, Oregon.



A green lawn does not have to be hazardous to your health.

Why risk exposing your family to the potential health risks associated with unnecessary lawn chemical use? NaturaLawn® of America's environmentally friendly approach creates a green lawn quickly, more naturally, and with fewer weeds. We know a one-size-fits all chemical program is simply not a safe approach. That's why we customize a formula that's right for your lawn. Working with nature, not against it, NaturaLawn of America strengthens your lawn's root system by building the soil to help give you a healthy green lawn that stays that way.

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Nature's Patterns

The Photography of Amy Lamb

BY LYNDA DEWITT

Viewed through the eyes of this Maryland scientist-turned-artist, a plant is more than a plant—each one is the universe in microcosm.

***Pink Calla III* ©1997 Amy Lamb**
The pink, vortexlike spathe of the calla lily wraps protectively around its yellow flower spike, guiding pollinating insects to their destination.

SEEING AMY LAMB'S botanical photographs is like seeing plants for the first time. It's a rather shocking experience, especially for longtime gardeners. The flowers and foliage in these images seem to be alive—more alive than some live plants. How can this be? Partly it's because the plants appear huge, in some cases 50 times larger than

actual size. We see details—hairlike projections on stems, ribbed veins on leaves, the faintly shaded edges on otherwise monochromatic petals—that we often miss. But it's also because the images are so dramatic and riveting. You *see* these plants because they compel you to look.

What's not surprising is that before Lamb became a photographer 10 years

ago, she had been a molecular biologist, a job she left to raise a family. When she returned to the job market about 15 years ago, she decided to take a photography class at the Smithsonian—a decision that would take her career in a wholly different direction. The steady eye that once studied the ways that cells produce proteins now examines the elegant and precise forms of plants. Macro-, or close-up, photography suits Lamb, a self-described methodical and detail-oriented person.

“I’ve always done macrophotography,” says Lamb, who credits 20th-century photographic master Edward Weston as a source of her artistic inspiration. “And while I look at details, I also look at the bigger picture of patterns, universal patterns—such as spirals and branching.”



Amy Lamb

And so, the spiral shape of a calla lily spathe evokes the spiral cochlea in the inner ear, the twisted double strands of DNA, and even the shape of galaxies. Likewise, Lamb’s powerful portraits of nandina and ostrich fern mirror the branching form of streams and rivers that traverse land and of veins that traverse our bodies.

These recurrent shapes remind us of the harmony of all existence, says Lamb, and, hopefully, help people feel more connected to the natural world.

A LABOR OF LOVE

Lamb’s own connection to the natural world began in the fields around a country home in Michigan. While she enjoyed the family’s garden of petunias, snapdragons, and zinnias, it was the wildflowers in the surrounding fields that she grew to love. She remembers many hours with the flower press that her father brought home one day. She continues to use a similar though larger, flower press—one that measures about 14 by 20 inches with cardboard ventilators and absorbent blotters.

In her suburban garden in Bethesda, Maryland, Lamb, who is also a dedicated gardener, grows nearly all of the flowers



Hosta II ©2005 Amy Lamb

Prominent veins course through hosta leaves, providing structural strength as well as nourishment to the large leaves of these shade-loving perennials.



Fiddlehead II ©2002 Amy Lamb

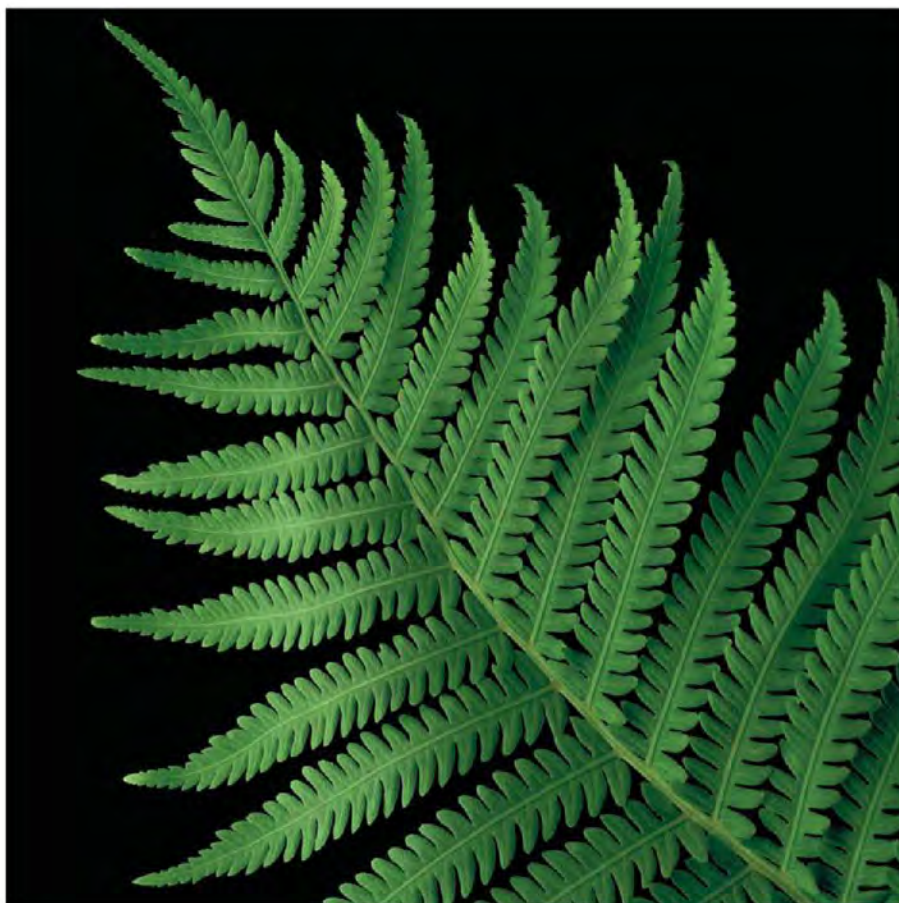
Young fern fronds—or crossiers—emerge in early spring in tight spirals, illustrating one of the fundamental growth patterns seen in nature.

AMY LAMB'S TIPS ON MACROPHOTOGRAPHY

- Always use a tripod so the camera remains steady during a shoot.
- Use a lot of light on your subject and slow speed film (ISO 50 or 100).
- Bracket your images—meaning, take multiple photographs of your subject, modifying length of exposure and/or amount of light. This will increase your chances of getting the image you're after.
- Take great care choosing a camera lens. "All of the information that will be recorded for an image passes through the lens," says Lamb, "so the lens is as important as the camera body."



Amy Lamb in her suburban Maryland garden, where she grows most of the plants she photographs.



Above:

Ostrich Fern ©2004 Amy Lamb

A fern frond shows reiterated patterns of branching found in nature. The large leaf is composed of smaller replicas of itself.

Right:

Nandina II ©2005 Amy Lamb

In early spring, delicate new branches of heavenly bamboo like this one extend from the previous year's growth. Thus the large bush is formed of many repeating self-similar structures.

and foliage that she photographs, allowing her access to plants exactly when she wants them—in bud, in bloom, in every season. She studies them at length before taking them into her home studio, where she painstakingly arranges and lights them before committing them to film.

Lamb photographs using macro lenses on SLR cameras with 2.25 square and 35 mm formats. All of her images are captured on film media. In both the photographing and printing process, Lamb eschews the use of digital or other forms of manipulation to achieve a desired result. "I might clip a leaf to get a better view



of the blossom," she says. "But I'm a realist and enough of a scientist that truth is very important to me."

SHOWING THE ART OF NATURE

So far, Lamb has created limited edition prints of about 200 images, including several in black and white. (Her fiddlehead

ferns look for all the world like scrolled iron!) Her color images are printed with state-of-the-art printers on a variety of papers, including handmade. While the color prints utilize the most modern printing methods, Lamb's black-and-white images are platinum/palladium prints, made by one of the oldest photographic printing techniques.

**"Inflorescence: Photographs
by Amy Lamb" at River Farm**

From September 18 through November 5, Amy Lamb's work will be exhibited in the Estate House at River Farm. An artist's reception is scheduled for September 19. Admission is free. Visiting hours are weekdays from 9 a.m. to 5 p.m. River Farm is located at 7931 East Boulevard Drive in Alexandria, Virginia.

For more show information, contact Trish Gibson at tgibson@ahs.org or (703) 768-5700 ext. 114. For additional information about Amy Lamb, visit www.amylamb.com.

Since her initial foray into photography a decade ago, Lamb's work has been published in magazines and exhibited at the Philadelphia Flower Show, the Chicago Botanic Garden, and in galleries across the country and in London. From September 18 through November 5, you can see a selection of her work at the American Horticultural Society's headquarters at River Farm in Alexandria, Virginia (see box above for details).

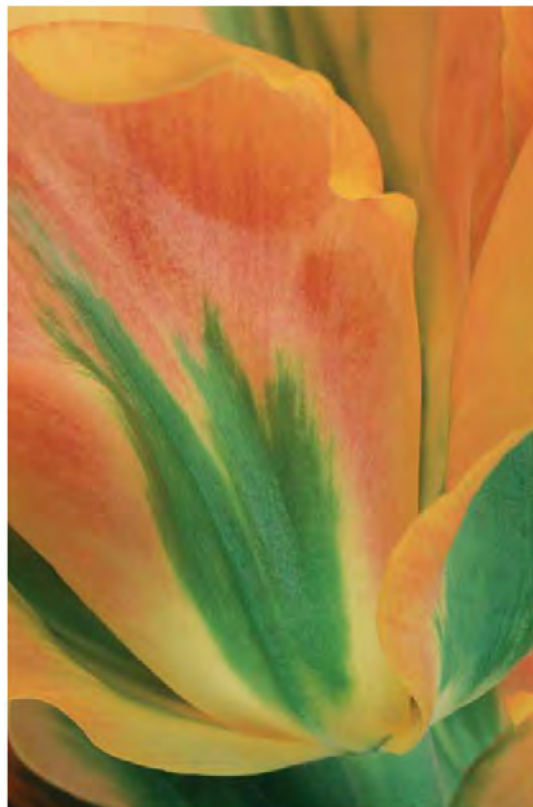
You'll value time spent with an Amy Lamb photograph. Undoubtedly, you will think of plants—and admire them—in a whole new way as the raw and daring beauty of each one becomes startling clear.

"In observing nature as a biologist, I am continuously awed by the marvelous designs revealed to me," writes Lamb. "As a photographer, my goal is to convey to the viewer some of the magnificence that passes before me."

Lynda DeWitt is communications director of the Audubon Naturalist Society. She lives in Chevy Chase, Maryland.



Above:
Begonia rex ©2002 Amy Lamb
A leaf of *Begonia rex* 'Escargot' resembles the shell of its namesake snail. Alternating light and dark bands of color echo the spiral form of the leaf. The bristly leaf edges have their counterpart in the striking, vividly red stem.



Left:
Tulip Viridiflora ©1998 Amy Lamb
Green, orange, and yellow blend and fade in the flower petals of this tulip. Similar, yet unique, these colors are arranged in slightly different patterns from petal to petal and blossom to blossom.

These deciduous trees are unfazed by heat, cold, and many other environmental challenges.

10 tough Native Trees

BY GUY STERNBERG

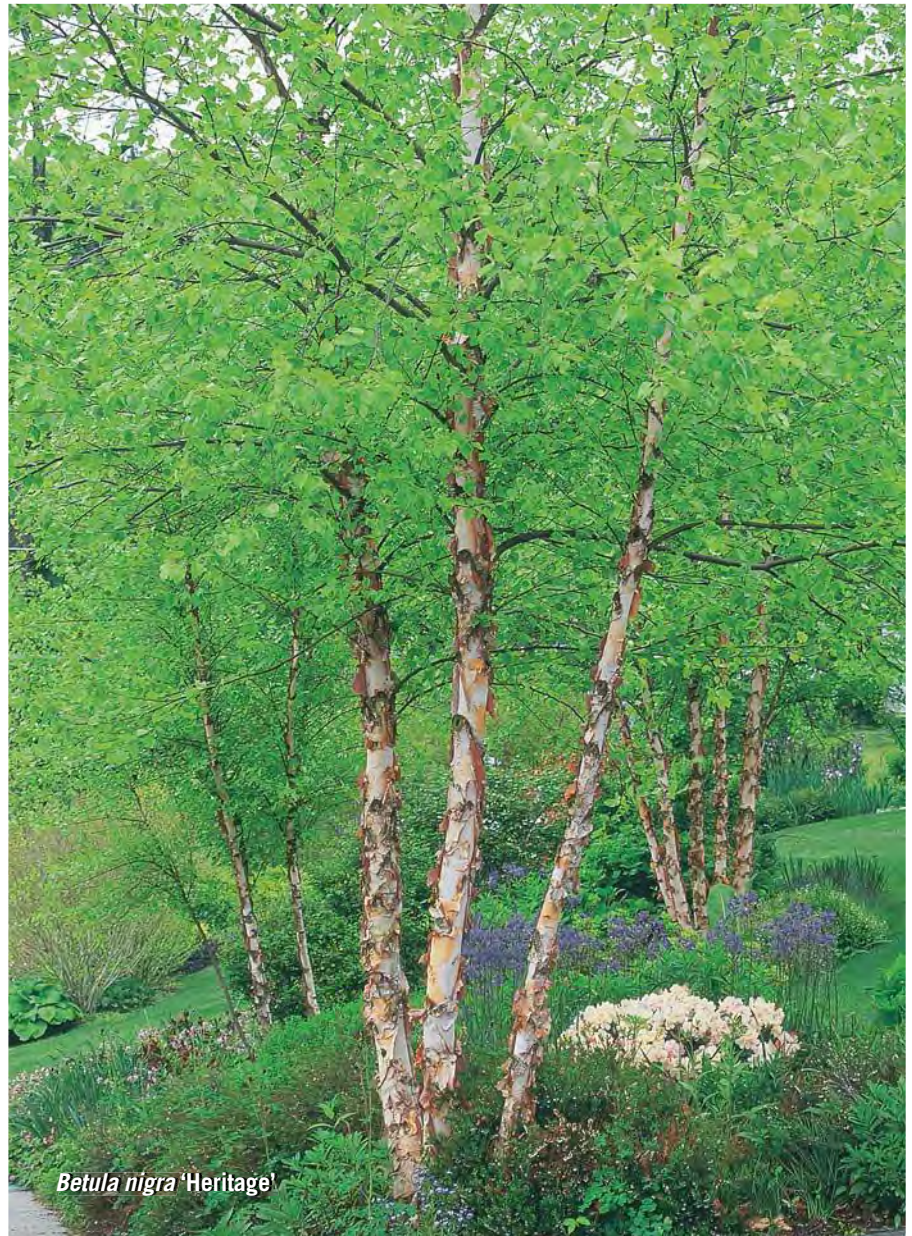
URBAN LIFE can be difficult for trees. Heat-islands, impervious pavement, soil compaction, high pH, road salt, wind tunnel effects, imported insects and diseases, and air pollution all jeopardize their health and survival. Add to that list of woes the occasional drought, flood, or ice storm that Mother Nature conjures up, and the possibility of finding a tree that will meet these challenges and provide some landscape appeal may seem remote.

Planting aggressive exotic species is only a short-term solution. Many of these trees are weak-wooded, not fully hardy, subject to insect damage or diseases, or ill-adapted to the needs of local wildlife; others prosper to the point of overwhelming native plants to become invasive species.

A better solution is to select a native tree with a tough constitution. With attention to the characteristics of the site, reasonable efforts to prepare it for planting, and extra care for the first critical season, many native trees will adapt to, and even thrive, in stressful landscape conditions.

Most of the trees mentioned here are adaptable over a broad portion of North America. Sometimes we can consider them for planting far beyond their natural ranges if attention is given to the species or variety selected and the origin, or provenance, of the particular tree being planted. Purchasing a plant grown from local stock, which is adapted to your geographical conditions, will increase its chances of success in your landscape (for more on provenance, see sidebar, opposite page).

The following trees are tough, resilient, beautiful examples of what you can grow, even in harsh urban settings if you consider their specific needs and strengths.



Betula nigra 'Heritage'

River Birch

(*Betula nigra*, USDA Hardiness Zones 4–9, AHS Heat Zones 9–1)

This is a birch tree that can handle the climate zones throughout the eastern states, from the upper Midwest to the Gulf Coast.

Just give it acidic soil, anywhere from slightly dry to swampy wet, and sun. A healthy tree can grow more than 60 feet tall. It is immune to the notorious bronze birch borer, and it's the only birch that tolerates really hot summers. Winter bark is

NATIVITY AND PROVENANCE DEFINED

What is a native tree? A native tree can be any tree from the continent, a state, or other type of region under consideration—it's all a matter of context and definition. In this article, we are talking about trees native to different regions of North America. Once established, the trees covered here will thrive under varied and difficult situations.

Provenance is a term used to describe the geographical area or habitat type where a particular lineage of plants has evolved and has proven to thrive over time. For example, bur oaks derived from ancestor trees in Texas are very different from bur oaks derived from ancestor trees in North Dakota, even though technically they all are the same species.

If you live in the North, plant trees from that latitude; if you live in the mountains, plant trees from that altitude; and if you live in the center of a species range and habitat type, try to locate a tree propagated from a local source. Some varieties or species are better adapted than others of the same genus for particular conditions. For example, hawthorns from swampy sites are very different from those that evolved in dry savannas, yet all are in the same genus. —G.S.

its strong suit, and for those who live where winters are long, this may be the most important aesthetic feature to consider.

'Heritage' is a selection with exceptional exfoliating bark and 'Shiloh Splash' has variegated foliage. If high temperatures are a major concern, try heat-tolerant 'Dura-heat'. The pendulous 'Summer Cascade'

and compact 'Fox Valley' are considerably smaller cultivars, reaching mature heights of 10 to 20 feet.

Bur Oak

(*Quercus macrocarpa*, Zones 3–9, 9–1)
Oaks have been designated America's National Tree with good reason. We have so

many oak species covering so many types of landscapes in North America that 47 states can boast a native oak (sorry Alaska, Hawaii, and Idaho!). There are oaks for nearly every type of habitat, and the one species that might be the most adaptable of all is the rugged bur oak of the Midwest.

Heat, cold, drought, flood, acidic or basic soil, prairie fires—none of that matters much to bur oak. Its massive, wide-spreading branches and dark green, deeply indented leaves provide significant summer shade. It has large, fringed, edible acorns, which vary in size depending upon location with the largest in the southern and southeastern parts of its range. It usually grows to 50 feet or so.

If you live in the Deep South, on the East Coast, or in the far West, there are other beautiful native oaks available there for you. In all, we have nearly 100 native North American oak species north of Mexico and hundreds more worldwide.

American Hackberry

(*Celtis occidentalis*, Zones 2–9, 9–1)
The American hackberry has an elmlike form, and is a good choice if you are looking for a fast-growing shade tree. Native to the Great Plains and eastward to the Atlantic coast, it grows to 70 feet or more with wide-spreading branches. Its edible fruit provides sustenance for birds and other animals throughout a long season.

There are several native hackberry species. All share the honors for being among the most adaptable trees to various soil conditions, including elevated pH, a frequent effect of building construction.

Another large species is the southern sugarberry (*C. laevigata*, Zones 5–9, 9–3). Georgia hackberry (*C. tenuifolia*, Zones



Quercus macrocarpa



Celtis occidentalis

5–9, 9–3) and the southwestern netleaf hackberry (*C. reticulata*, Zones 3–9, 9–1) are small trees suited to modest spaces with severe growing conditions. Their bark and intricate lower twigs are fascinating when frosted or covered with gleaming ice in winter.

Kentucky Coffeetree

(*Gymnocladus dioica*, Zones 5–9, 9–5)

One of the natural cohorts of hackberries and bur oaks on difficult alkaline soil, this majestic tree, native to eastern and central North America, is as much at home in urban alleyways and sprawling estates as it is in river flood plains and mesic forests. It starts out as the ugly duckling of young trees, with gangly branches looking like a coat rack. Then, after a couple of years, it blossoms into the proverbial gorgeous swan, with fern-like foliage, flaky bark, and graceful form. Two centuries later, it still lives on to offer dappled shade from the most picturesque of crowns. It matures at about 70 feet tall.

As its name indicates, the species is dioecious; trees are either male or female. Female trees bear large pods with sweet, sticky pulp and rock-hard seeds.

Ironwood

(*Ostrya virginiana*, Zones 5–9, 9–2)

Yes, this is a tree with very strong wood, as the name implies, but it also has all the attributes of a nearly perfect small to medi-



Gymnocladus dioica



Ostrya virginiana

um landscape tree. Never gaudy, it blends easily with other plants. Also known as hophornbeam, its fine texture and soft golden fall color, papery “mess-less” fruits, and virtually no pest problems, make this the ideal tree for both sunny small yards and shadowy forest understories.

Its natural range extends across most of the continent with the exception of the southern Atlantic coastal plain. It is equally adaptable to full sun or nearly full shade: In a sunny situation, it develops wide spreading branches, and in the shade it maintains a pyramidal form. Give it av-

erage or dry soil, and keep it away from salted roads or salty ocean spray conditions, then enjoy it for a lifetime.

American Smoketree

(*Cotinus obovatus*, Zones 4–8, 8–1)
Smoketree is related to sumacs and should not be confused with the more commonly planted Eurasian smokebush of the same genus. Our native species has phenomenal orange fall color, alligator-skin bark, smoky flowers, and a very picturesque habit. It grows into a small to medium-sized tree, 30 feet or so tall and nearly as broad. It makes a fine specimen providing year-round landscape appeal and adapts to conditions well beyond its native range, which is from Alabama to Texas, and north to Missouri and Kentucky.

Scorching sun, droughty soil, and high pH are taken in stride. The only real threats to this species come from shade or from too much water. If you visit Purdue University in Indiana, say hello to the national champion smoketree. It was moved several years ago to avoid demolition for a new building and remains the only national champion tree ever to have been transplanted!

Sassafras

(*Sassafras albidum*, Zones 4–8, 8–3)
Commonly found as thickets along fence rows, sassafras can become a giant tree more than 100 feet tall and 20 feet in circumference when given the chance. It has the most striking fall color imaginable, from bright yellow to red, purple,

or orange, and is one of our most aromatic trees. Bright yellow male and female flowers form on separate trees in spring, giving the branches a lemon-sherbet look.

The purple fruits on female trees ripen in late summer and are taken by birds, often leaving behind the bright red pedicels to prolong the color display. Although it can be difficult to transplant, sassafras is adaptable to varied conditions throughout the East, South,



Cotinus obovatus

Sources

Arborvillage Farm Nursery, Holt, MO. (816) 264-3911.
www.ArborvillageLLC.com.
Catalog \$2; free online.

Forestfarm, Williams, OR. (541) 846-7269. www.forestfarm.com.
Catalog \$5; free online.

Mail Order Natives, Lee, FL. (850) 973-6830. www.mailordernatives.com. Catalog \$2.

Outback Nursery, Hastings, MN. (651) 438-2771. www.outback-nursery.com. Catalog online.

Woodlanders, Inc., Aiken, SC. (803) 648-7522. www.woodlanders.net. Catalog \$4.

Resources

Native Trees for North American Landscapes by Guy Sternberg with Jim Wilson. Timber Press, Portland, Oregon, 2004.

Manual of Woody Landscape Plants (5th Edition) by Michael Dirr. Stipes Publishing, Champaign, Illinois, 1998.

Native Trees, Shrubs, and Vines: A Guide to Using, Growing, and Propagating North American Woody Plants by William Cullina. Houghton Mifflin, Boston, Massachusetts, 2002.



Sassafras albidum



Populus grandidentata



Taxodium distichum



Maclura pomifera

and Midwest. It does not tolerate dense shade or road salt. Give sassafras full sun and any reasonable soil and it will outgrow most other trees, developing a symmetrical limb structure that resembles a great candelabra.

Bigtooth Aspen

(*Populus grandidentata*, Zones 3–9, 9–1) Most of us know the quaking aspen (*Populus tremuloides*), but its cousin, bigtooth aspen, native to the eastern half of the continent, is actually better adapted to most human habitats. It will take dry soil—even nearly pure sand—and it thrives equally well in heat or cold.

OK, so how tough is it? One has been growing on the roof of a tall clock tower in Indiana since the late 1800s, surviving on windblown dust and bird doo!

Both of our native aspens have spectacular fall foliage, which is well displayed against their white bark. The leaves move in the slightest breeze, giving gardens a dynamic, refreshing quality even on the most sultry days.

Aspens require sun, and the thin bark needs protection from the antlers of deer. If the tree bark is seriously damaged, cut it down that fall, and it will send up a vigorous new stem—or several—the following year.

Bald Cypress

(*Taxodium distichum*, Zones 5–11, 12–5) Although bald cypress is generally thought of as a tree of the southern swamps, where it towers over other native species, it tolerates a wide range of soil conditions, including well-drained sites. It does not tolerate alkaline soil, which causes the foliage to become chlorotic.

A slow-growing deciduous conifer, this is one of our oldest surviving species—individual plants may live a thousand years or more—reaching well over 100 feet in height. It attains this ripe old age largely because it has few disease or insect problems, its wood resists decay, and it is less susceptible to winter damage than coniferous evergreens. The feathery green leaves turn rusty brown in autumn before they drop, providing better viewing of the reddish brown bark and conical form.

The bald cypress is ideal for wet sites, where it develops its characteristic “knees”—knobby growths that emerge from the roots. On a site with well-drained soil, knees rarely form.

Osage Orange

(*Maclura pomifera*, Zones 5–9, 9–5) Hedge-apple; horse-apple; bodark. By whatever name, this tree gains little respect from those who don't take the time

MORE NATIVE TREES FOR CHALLENGING SITES

For each region in the United States, there are many resilient trees in addition to those featured in the main article that could be considered for planting in tough spots in the garden. Here are a few examples:

Name	Mature height (ft.)	Remarks	USDA Hardiness, AHS Heat Zones
NORTHEAST			
Northern red oak <i>Quercus rubra</i>	60–70	fast growing, smooth striped bark, yellow to red-brown fall foliage	5–9, 9–5
Yellow birch <i>Betula alleghaniensis</i>	80	yellow-brown exfoliating bark, yellow fall foliage, tolerates shade, long-lived	4–7, 7–1
White oak <i>Quercus alba</i>	60–100	massive, wide-spreading branches, purple-red fall foliage, silvery bark	5–9, 8–1
SOUTHEAST			
Shagbark hickory <i>Carya ovata</i>	80	narrow crown with shaggy, curling bark, difficult to transplant	4–8, 8–1
Corkwood <i>Leitneria floridana</i>	10–25	shrubby tree with leathery, rugose leaves, requires sun, forms thickets	4–7, 7–1
Willow oak <i>Quercus phellos</i>	40–70	fast growing, fine-textured foliage and branching habit, easily transplanted	6–9, 9–3
MIDWEST			
Chinkapin oak <i>Quercus muehlenbergii</i>	40–80	serrated leaves turn yellow in fall, tolerates alkaline soil	4–8, 8–2
Shumard oak <i>Quercus shumardii</i>	40–70	columnar form, red fall foliage, tolerates alkaline soil	5–8, 8–1
Sycamore <i>Platanus occidentalis</i>	80	fast growing with beautiful exfoliating bark, easy to transplant	5–8, 8–3
SOUTHWEST			
Rocky Mountain oak <i>Quercus gambellii</i>	20–30	small tree with irregularly lobed leaves, often forms colonies, orange, red, yellow fall foliage	5–8, 8–1
Soapberry <i>Sapindus drummondii</i>	50	leathery, pinnately compound leaves, turn gold in fall, tolerates wide range of soils	8–11, 10–2
WEST COAST			
Bigleaf maple <i>Acer macrophyllum</i>	70	broad crowned shade tree with five-lobed leaves, yellow fall color	5–9, 9–4
Oregon white oak <i>Quercus garryana</i>	40–80	rounded crown, often twisted branches, leathery leaves with rounded lobes, good shade tree	7–9, 9–7



Quercus alba



Platanus occidentalis



Sapindus drummondii

to know it well. It's thought of as thorny and unkempt, and it drops baseball-size fruits all over the yard. But there are selected cultivars of *Maclura* that are fruitless, thornless, and have graceful form and lustrous foliage that turns yellow in fall. 'Wichita' and 'Whiteshield' are the best of them thus far.

Decay organisms avoid this south-central North American native like the plague.

Individual specimens vary considerably, but may grow 40 to 50 feet tall, developing a picturesque, gnarled branching structure. These are the tough trees that I trust around my own home, sitting high on a hill exposed to winds that might send a lesser species crashing through my roof. The largest one is more than 12 feet in circumference, 75 years old, and 10 feet upwind from my house. I hear strong storm

winds tonight as I write this, and the power is flickering, yet I have no fear. There is a lot to be said for that!

Arborist Guy Sternberg is the author, with Jim Wilson, of Native Trees for North American Landscapes (Timber Press, 2004). He studies and propagates both native and non-native trees at his Illinois research arboretum, Starhill Forest.

the Organic Table *comes of age*



After years of being on the fringe, organic produce is now all the rage.

BY BETSY HAYS

ORGANIC FOOD, once the realm of hippies, tree-huggers, and health nuts, has become one of the fastest-growing economic sectors of the early 21st century.

Nearly two-thirds of consumers bought organic products in the past year, despite higher prices, according to *Consumer Reports* magazine. In her book, *Good Growing: Why Organic Farming Works* (see “Resources,” page 42), Leslie Duram of Southern Illinois University writes that 72 percent of conventional grocery stores now carry some organic food. Depending on who is doing the reporting, sales of organic foods have been growing anywhere from 15 to 20 percent annually for the past 15 years. If anyone still needs convincing, consider that consumer discount giants Wal-Mart and Costco are featuring organic foods. Clearly something big is afoot.

The trend is reflected in many areas, including a resurgence of interest in farmer’s markets and in programs such as Community Supported Agriculture (CSA), in which people buy “shares” in the produce of local farmers and receive weekly installments of seasonal fruits, vegetables, and sometimes eggs and meat.

But another exciting consequence of this phenomenon is that the public’s in-



terest in naturally and locally grown foods inevitably collided with America’s passion for fine dining. Whether you call it farm-to-table dining, organic gardening, or eating locally, the demand for healthier food is making an indelible impact on our lives.

Many factors are fueling this trend, among them a fast-growing body of evidence attesting to the health benefits of eating organic food. Research consistently shows that by eating organic, fresh, and seasonal foods, you greatly reduce exposure to pesticides.

Studies also show that organic produce is nutritionally superior to non-organic, specifically containing more vitamin C, iron, magnesium, phosphorus, and useable protein. And perhaps more compelling than research for many people, naturally grown food that goes quickly from farm to table simply seems to taste much better.



DEFINING ORGANIC

So what is organic farming and why is it becoming more important to our lifestyles, economy, and future? The United States Department of Agriculture (USDA) defines “organic” as food produced without most pesticides or synthetic fertilizers, among other requirements. To earn a USDA organic label, an item must be “at least 95 percent organic.” The highest level, “100 percent organic,” means produced solely with organically produced ingredients and verified independently by accredited inspectors. The designation “made with organic ingredients” is for items with at least 70 percent organic compounds. All of these regulated levels of “organic” are distinct from foods that are labeled “natural,” an unregulated claim.

Confusing terminology aside, according to chefs and farmers, the best defini-

Top: Like many organic growers, Full Belly Farm in northern California sells a portion of its harvests at farmer’s markets in the local community as well as to restaurants.



Full Belly Farm, above, grows organic produce on 200 acres in California's Capay Valley. Among its many summer crops is yellow squash, left, harvested and packed for market.

tion of “organic” or sustainable farming is actually a combination of activities: composting; crop rotation (changing the crops grown in a field each season) to build healthy, fertile soil that has few pest problems; beneficial interplanting (also known as companion planting) to keep pests away; making responsible choices about planning, harvesting, and marketing; and growing a large number of crops both for ecological reasons and sales diversity.

THINKING LOCAL

But to many farmers, chefs, and con-

sumers, the organic status of food is not the be all and end all. The freshness factor and the issue of the consumption of energy and other resources required to get food to market are important considerations, given our new global food system. This is what Dan Barber, executive chef of the two Blue Hill restaurants—Blue Hill in Greenwich Village and Blue Hill at Stone Barns in rural Pocantico Hills, New York—has in mind when he says that, for restaurants like Blue Hill, the “organic” label is not only misleading, but limiting.

“At Blue Hill, the way we farm, cook, and recycle is really beyond most commercial or federal definitions of organic,” says Barber. “Also, when serving the freshest food, there are sometimes trade-offs, like buying local produce that may be higher quality than a certified organic counterpart that would need to be shipped in from another state or country. You have to consider how food is produced, where, and by whom. Farm-to-table is a complex process that defies categorization.”

Paul Volkhausen, owner of Happy Town Farm in Orland, Maine, which sells almost every kind of vegetable that grows in that part of the state to chefs, local stores, and the public, agrees with Barber that chefs prefer local foods and a relationship with the farmer. Volkhausen, who has been an organic farmer for more than 25 years and is a longstanding member of the Maine Organic Farmers and Gardeners Association, observes that while “most chefs want organic produce, locally grown food of the highest quality is just as important to them.”

The good news is that all across the country there are organic farms supplying local restaurants, which in turn are serving some of today’s most exciting food. The trend may



Much of the food that Chef Dan Barber, above, serves at the two Blue Hill restaurants is grown organically at the Stone Barns Center for Food & Agriculture, left.

“The farmer leads the way. If they’re not growing it, we’re not serving it.”

—Dan Barber
Chef, Blue Hill at Stone Barns

have started on the coasts—Nora Pouillon’s eponymous restaurants in Washington, D.C., and Alice Waters’ Chez Panisse Restaurant and Café in Berkeley, California, are among the oldest organic restaurants in the country—but the legacy has spread far and wide.

LETTING THE FARMER GUIDE THE MENU

In addition to his role as chef at the two Blue Hill restaurants, Barber is creative director of the Stone Barns Center for Food & Agriculture, a working farm and educational center in bucolic Westchester County that is the site of the second Blue Hill restaurant.

Blue Hill at Stone Barns uses organically grown vegetables from its own farm, but also relies on local suppliers within a 250-mile radius for year-round fresh produce, dairy, meat, and poultry. “The farmer leads the way,” Barber notes. “If they’re not growing it, we’re not serving it.” The menu changes daily to reflect the availability of fresh, local, and artisanal products that create an intensity of taste and enticing variety of dining options.

Barber, an acclaimed chef and ardent proponent of the farm-to-table relationship, says, “There are lots of restaurants out there doing what Blue Hill is doing, but in many different ways. The key is that people are becoming more aware of the benefits of knowing the food source, farming naturally, and rediscovering the taste of good food.”

Nora Pouillon, chef and co-owner of Restaurant Nora and Asia Nora in Washington, D.C., is a longtime passionate advocate of using only organic, seasonal, locally produced ingredients that she believes help contribute to a healthy, balanced diet and lifestyle. Pouillon’s two restaurants showcase her trademark elegant dishes using organic foods prepared in an innovative,

healthful way. Presidents and pollsters, rock stars and actors, along with legions of less-celebrated diners, flock to Pouillon’s restaurants. Her seasonal menu cookbook, *Cooking with Nora*, reveals the how and why of cooking healthy, light, flavorful food that is also delicious and sophisticated.

A native of Austria, Pouillon first started seeking out organic food sources when she moved to the Washington, D.C., area, long before she became a restaurateur. Dismayed at the degree of processed, chemical-laden food that most Americans seemed to take for

granted, she scouted out local, reliable sources of grass-fed beef, naturally grown vegetables and fruit, and organic products of all kinds. Pouillon, known for her dedication to providing everything organic, from food to wine and even tablecloths, says, “It is a big decision to cook organically, but if you buy locally and seasonally, chances are good that you will find organic suppliers to meet your eating needs.”

Pouillon counts among her suppliers traditional Amish and Mennonite farmers as well as companies like D’Artagnan, the leading purveyor of organic pates,



Nora Pouillon, above left, chef and co-owner of two Washington, D.C., restaurants serving organic cuisine, chats with farmer Terra Brownback of Spiral Path Farm in Pennsylvania, which is a member of the Tuscarora Organic Growers Cooperative. Pouillon regularly visits local organic farms in search of produce for the items on her restaurants’ menus, such as the buffalo mozzarella and heirloom tomato starter, left.

TOP: PHOTO BY MICHAEL BIRCHENALL/COURTESY OF RESTAURANT NORA. BOTTOM: COURTESY OF RESTAURANT NORA.

FIELD-TO-TABLE FRESHNESS: EXPERT TIPS FOR YOUR ORGANIC VEGETABLE GARDEN

If you've never eaten a home-grown tomato sprinkled with fresh basil, salt, pepper, and drizzled with olive oil, you've never really tasted summer. With all the resources now available (see

page 42), there's no excuse for not growing your own fresh produce, if you want to. Even the smallest apartment or condominium can accommodate a home vegetable garden in some form. You may need to purchase some special equipment and be willing to experiment, but you, too, can definitely be an organic gardener. Here are five tips from



the pros on growing your own organic, sustainable mini-farm:

Think small. You don't have to have acres of land, or any land at all, to grow natural vegetables. Container gardening, hydroponics (growing plants without soil), roof gardening, and sunny-window indoor gardening are all great ways to enjoy your very own organic "farm." The key is to provide healthy soil (see below for the benefits of compost), good drainage, and proper light. Herbs, heirloom and miniature vegetables, and salad greens are all good prospects for the gardener with limited space. There are now many kinds of specialized containers, like the EarthBox™ shown here, that are easy to use and require very little space.



Create moving targets to thwart pests and diseases. When it comes to vegetable gardening, says chef Dan Barber of Blue Hill, the secret to having a green thumb is never to grow the same crop in the same space two years in a row.

"By rotating your crops every season, they become moving targets for destructive pests that would otherwise move in on them," says Barber. "Companion planting—growing plants that help each other's health—and growing cover crops that enrich the soil is also important. These techniques would be hard to do with perennials and other established plantings, of course, but by top-dressing with compost once or twice a year, the soil should stay rich, diverse, and healthy."

Make "black gold." The farmers and chefs who collaborate on bringing diners the freshest produce know a lot about the soil,

and aren't afraid to get their hands dirty in the course of making compost—"black gold" to those in the know. The most valuable ingredient in any natural farming or gardening effort is the quality of the soil, and the easiest way to improve soil quality is with compost. Chef Nora Pouillon has this advice for home gardeners, "If possible, do your own composting, or at least build up your soil with organic matter. Soil quality and structure are the most important factors when gardening."

Extend your zone's seasons with mulch. Mulch moderates soil temperature, suppresses weeds, and (if organic) feeds the soil. Mulch can also extend your garden season by weeks. Popular protective mulches include newspaper, plastic, gravel, wood chips, leaves, hay, and straw. If your goal is to garden as naturally as possible, most of the farmers and experts recommend straw or hay.



Paul Volkhausen of Happy Town Farm in Maine is also a proponent of organic mulch, but he recommends putting down straw, not hay—which may contain weed seeds—when the ground has warmed up in the spring, especially for heat-sensitive produce like melons and tomatoes. By mulching this way and using techniques such as covering vulnerable crops with floating row covers, he is able to extend the short Maine growing season, growing most of his myriad vegetables and fruits in the field.

Don't be dogmatic. It's not always essential to grow 100 percent organic or to be rigid about recycling all scraps and weeds. If your tomatoes are being devoured by insects, you may have to resort to some creative pesticide—the less harsh the better, of course—but a tomato harvest versus none sometimes requires compromise. Dan Barber says, "If I have a choice of organic produce that has to be flown thousands of miles versus excellent locally grown produce that may not have been grown totally organically, I will often take the locally grown. It's a delicate balance, with compromise being the essential ingredient."
—B.H.

sausages, game, and poultry in the nation. She also relies on people like Jim and Moie Crawford of New Morning Farm in Huntingdon County, Pennsylvania, which has provided organic products for over 30 years. New Morning Farm produces approximately 40 different crops, including berries, herbs, vegetables, and eggs, all certified organic.

So what is more important when it comes to buying food, local or organic? According to Jim Crawford, “Locally grown is a bigger deal to restaurants than the label ‘organic.’” But, he is quick to point out that the two aren’t mutually exclusive. “Consumers should be able to have both, and the good news is they absolutely can.”

MEETING DEMAND

As most organic farmers will attest, marketing and distribution have become ever more challenging as huge grocery stores have jumped on the organic bandwagon, often creating more demand than single farms can supply. Growers like the Crawfords have had to work cooperatively with other local farms and pool their resources.

The Crawfords helped found Tuscarora Organic Growers Cooperative in Hustontown, Pennsylvania, which is a source of certified organic food for dozens of restaurants. During the growing season, orders can be delivered up to 120 miles away in the same 24-hour period in which they were ordered. Over the past 15 years, with support from thriving organic restaurants such as Nora’s, Tuscarora’s annual sales have increased to more than \$1 million.

Larger organic farms, such as the 200-acre Full Belly Farm in northern California, located about an hour north of Sacramento, are finding success in supplying diverse markets for their produce. “We do three farmer’s markets a week, we have about 900 members in our Community Supported Agriculture program, we supply restaurants, and we supply a lot of independently owned grocery stores, and even wholesale outlets, so we

kind of run the gamut in ways to market produce,” says Judith Redmond, one of the farm’s four co-owners. Among the many restaurants they supply is Chez Panisse in Berkeley.

In the final analysis, our quest for more natural food may be as much about the taste as it is about the health and environmental benefits. Will this trend re-



The headquarters of the Tuscarora Organic Growers Cooperative, top, is a hub for delivery of organic produce, like the garlic grown at New Morning Farm, above, to restaurants in the mid-Atlantic region.

verse the long decline of the farm as an American tradition? Will millions of us start our own organic backyard gardens? It seems a tall order, given how far most of us have strayed from our connection to the land. In *The Future of Foods*, a documentary film released in 2005 (see “Resources,” right), Redmond of Full Belly Farms says, “We used to be a nation of farmers, but now it’s less than two percent of the population in the United States. So a lot of us don’t know a lot about what it takes to grow food.”

Resources

The Future of Food, a 2005 documentary film exploring the health and economic implications of genetically engineered foods, globalization, and the complex web of forces that are changing how we eat. www.thefutureoffood.com.

Good Growing: Why Organic Farming Works by Leslie A. Durham. University of Nebraska Press, Lincoln, Nebraska, 2005.

Living the Good Life by Helen and Scott Nearing. Schocken Books, New York City, 1970. (Available through www.goodlife.org.)

The New Organic Grower, A Master’s Manual of Tools and Techniques for the Home and Market Gardener by Elliot Coleman. Chelsea Green Publishing Company, White River Junction, Vermont, 1989.

Organic Consumers Association, an online and grass roots non-profit public interest organization campaigning for health, justice, and sustainability. (218) 226-4164 or www.organicconsumers.org.

You can find more resources—including links to organizations with connections to organic farming and sources for organic products—by clicking on a special link from this article on the AHS website (www.ahs.org).

Still, for those of us still in search of fruits and vegetables with that elusive flavor we remember from our childhoods, the dedication and zeal of chefs and farmers like Judith Redmond, Nora Pouillon, and Dan Barber are encouraging. When I had brunch at Blue Hill and toured Stone Barns, I tasted and witnessed firsthand a passion for freshness that most definitely gave me hope.

Freelance writer Betsy Hays gardens in Wayne, New Jersey.

Conservation Begins at Home

by Brian Johnson

AS A GARDENER, you undoubtedly have a deep love for the plants you grow. But many gardeners are surprised to learn that plant populations around the world face serious threats to their survival. While these threats are real and immediate, they are not impossible to overcome. Gardeners like you can play a significant role in helping save plants through simple, everyday actions at home and in the garden.

THE PLANT EXTINCTION CRISIS

Scientists estimate that 100,000 plant species—more than one-third of the total identified global flora—are threatened worldwide. Here in the United States, there are more plants than animals on the Endangered Species list, and 29 percent of all U.S. native plant species are threatened with extinction.

Habitat loss is the primary threat, affecting 85 percent of all threatened plants and animals. Invasive species pose the second greatest risk to threatened plants. An invasive species is an exotic species that becomes established in a new environment and threatens biodiversity through unchecked expansion.

Other significant threats to plants are overcollection from wild populations, climate change, and pollution.

WHAT IS BEING DONE?

Scientists at botanic gardens and other institutions around the world are monitoring and protecting threatened plant populations in their native habitats. Botanic gardens are also home to more than 9,000 threatened species. These collections represent an important genetic stockpile for future reintroduction efforts and research.

There are policies in place to protect plants. In the United States, nearly 600 species of plants are protected under the Endangered Species Act. Additionally, global treaties such as the Convention on Biological Diversity and the Global Strategy for Plant Conservation are focusing the efforts of governments worldwide.

Another important part of the process is raising public awareness about the



Carnivorous pitcher plants are among the species most likely to be wild-collected.

threats to plants. Toward this end, May 18 has been designated as Plant Conservation Day and is celebrated at botanic gardens and zoos. Visit www.plantconservationday.org for further information.

THE GARDENER'S ROLE IN CONSERVATION

In 2005, Botanic Gardens Conservation International (BGCI) launched the “Plant for the Planet!” campaign to raise awareness of plant conservation among home gardeners. As part of the campaign, we published *A Plant Conservation Checklist for Gardeners*, an informational pamphlet that highlights 10 simple, everyday actions gardeners can take to help save plants. The recommendations include:

- Know the conservation status of the

plant species you choose to grow. A large number of the plants that are available in nurseries are threatened in their native wild habitats around the world. By knowing which plants these are, you are better able to make decisions that can help save these threatened plants.

- To help protect wild plant populations, never buy a plant that has been illegally dug up from the wild. Plants most likely to be wild-collected are orchids, cacti and succu-



lents, bulbs, carnivorous plants, cycads, and native wildflowers. Look for plant labels that say “nursery propagated” or “from cultivated stock.” Beware of ambiguous wording such as “nursery grown.”

- Avoid growing plants that are invasive or potentially invasive. Instead, select trees, shrubs, and wildflowers native to or known to be non-invasive in your region.

■ Volunteer to assist conservation work. Botanic gardens and other conservation groups rely on the help of volunteers. Activities range from propagating threatened species to removing invasive plants.

For more information or to download *A Plant Conservation Checklist for Gardeners*, visit www.plantfortheplanet.org.

Brian Johnson is the education officer for the U.S. program of Botanic Gardens Conservation International (www.bgci.org).

Lorrie Otto, Natural Landscaping Pioneer

by Doreen Howard

DON'T BE MISLED by the musical voice and kindly face of the lady who looks like everyone's favorite grandmother. At 87, Lorrie Otto is still a force to be reckoned with. Just ask the Wisconsin State Legislature and the United States Congress. After repeatedly finding dead birds around her Milwaukee home in the 1950s and '60s following then-routine municipal spraying of the pesticide DDT, Otto successfully spearheaded a charge to ban its use—first in Wisconsin in 1970, and then in the entire country in 1972. She also began advocating the use of rain barrels and, later, rain gardens to address the problem of water-polluting urban runoff. And in the late 1970s, she inspired the founding of Wild Ones, a still active non-profit organization dedicated to promoting and restoring natural, native landscaping.



After decades of educating people about why nature knows best, Otto still works tirelessly to spread her message. She views suburban yards with their neat lawns as “the tyranny of tidy minds” and dares their owners to replace turf with plant communities of native wildflowers, trees, and wildlife-attracting shrubs that don't need to be maintained with pesticides, herbicides, and noisy, air-polluting machinery.

Garden writer Doreen Howard visited Otto at her home in Fairy Chasm, a Nature Conservancy wildlife refuge, in Milwaukee, Wisconsin, to see a prime example of natural landscaping in a suburban setting and to talk about her ongoing mission.

Doreen Howard: You began landscaping naturally in your garden in order for your children to have an interesting place to play and learn. Why is it important to teach children early about nature?

Lorrie Otto: In our society, children are not encouraged to bond with nature. Instead, they are taught that the way to treat nature is to cut and kill—mow the lawn and kill the insects—to create an acceptable landscape. It's all so mean and bleak.

The real irony is that the suburbs will become diverse and beautiful *only* if we landscape naturally—in such a way that our yards become enchanting places for children to explore. In a natural landscape, children can find twigs with bracket fungi on them, broken branches they

can use to make teepees, leaves with galls growing on them, and more.

How do you suggest parents create natural landscaping?

First and foremost, get rid of the lawn and replace it with native trees and wildflowers. Don't prune shrubs that produce berries so the berries can form and provide food for birds in the fall. And keep fallen leaves and other plant debris on the ground so they have a chance to rot and provide nutrition for the soil; don't remove them just to be tidy.

Do you have favorite native plants you'd like to see more widely planted?

Yes. Every school yard should have bottle gentian (*Gentiana clausa*). It's enter-

taining for children when bumblebees burrow inside the blossoms and make each one vibrate as they collect the flower's yellow pollen.

Another favorite is cup plant (*Silphium perfoliatum*). Its leaves come together at the base, clasping the stem to form a “cup” that collects dew and rain, providing bees and other insects a place to drink. And its yellow flowers provide insects with nectar and pollen when they bloom in midsummer.

As gardeners, what is the worst thing we do to our environment?

Maintaining the suburban lawn. I call it the “lawning” of America. It shows a disregard for the natural beauty of the land and lack of knowledge about the harm a lawn mentality has inflicted on the envi-



With not a patch of lawn in sight, the front yard of Lorrie Otto's home, left, exemplifies the natural landscaping she hopes some day will be typical of suburban America. Above: Cup plant (*Silphium perfoliatum*), one of Otto's favorite native plants.

ronment. Lawn chemicals, for example, poison the water, kill birds, and destroy soil biology. At Wild Ones, we have been trying to educate people to preserve and restore the natural landscape for more than 20 years, and we are still fighting to change traditional thinking.

What do you think will be your greatest legacy to the next generation?

For years, I thought it would be abolishing the use of DDT in America. Now, I think I'll be remembered for teaching people to take care of the earth. I've lived so long that I'm seeing the results of what I did! Many

people tell me they were children when they first heard me talk about taking care of the planet. Now they are doing it and teaching their children how to do it.

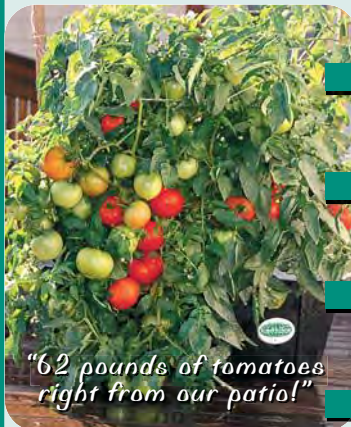
Doreen Howard, former garden editor at Woman's Day, gardens in Roscoe, Illinois.

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the Mid-Atlantic Region

Hedgerows and thickets provide both shelter and food for wildlife.

THE MID-ATLANTIC REGION, which includes Virginia, West Virginia, Maryland, Delaware, Pennsylvania, New York, and New Jersey, contains three distinct landscapes: coastal plain, Piedmont, and Appalachian mountain. All three continue to experience habitat degradation as a result of land development, so whichever part of the region you live in, you will benefit wildlife—and enjoy a richer backyard landscape—by in-

article in the January/February 2006 issue of *The American Gardener*.)

BLUR THE EDGES

Whichever Mid-Atlantic region you live in, it's easy to create thickets and hedgerows that provide shelter and nest sites for birds and small mammals. Hedgerows also make attractive living fences between yards. Congenial neighbors may opt for a parklike habitat setting and forego property-line fences

altogether. If you do need fences to contain children or pets, large-mesh metal fencing stapled inside a wooden frame keeps kids and pets in but allows birds and small critters to get through.

Open-mesh fencing also works well as a trellis for twining plants such as native honeysuckle (*Lonicera sempervirens*) and trumpet creeper (*Campsis radicans*), which attract hummingbirds, or Dutchman's pipe (*Aristolochia macrophylla*), a host plant for the pipevine swallowtail



Above: Trumpet honeysuckle's fiery blossoms are hummingbird magnets. **Right:** The mature flower spikes of sweet pepperbush complement its buttery autumn foliage.

stalling plants that provide shelter and food for animals.

Create grassland or coastal scrub habitat using tall waving grasses, wildflowers, and low-growing shrubs, or a forest habitat of understory plants beneath a canopy of oak, hickory, or pine. (For additional information about plants for the southern Mid-Atlantic, see the Habitat Gardening



butterfly. Or you can plant a hedgerow on one or both sides to hide the fence, thereby blurring the edges and allowing yards to flow into one another to support animals' needs for cover and safe passage from place to place.

HEDGEROWS AND THICKETS

Viburnums are tall, bushy shrubs that make great anchors for a hedgerow or thicket. Blackhaw (*Viburnum prunifolium*), smooth or northern arrowwood (*V. recognitum*), and mapleleaf viburnum or possumhaw (*V. acerifolium*) are native to the Mid-Atlantic. These viburnums thrive in moist soils in sun to part shade. White flowers are followed by blue-black fruits, which are enjoyed by wildlife.

American hazelnut (*Corylus americana*) is a thicket-forming shrub that bears edible nuts in attractive green, open-ended husks. Like native dogwood (*Cornus florida*), hazelnut is naturally multitrunked unless pruned to form a small tree. Shrubs grow eight to 12 feet, and adapt to various soil conditions in full sun. Humans and wildlife relish the nuts; the male catkins are a staple food for ruffed grouse in winter.

Shrubs for the coastal plain region include Virginia sweetspire (*Itea virginica*) and sweet pepperbush (*Clethra alnifolia*). Sweet pepperbush grows as tall as eight feet and butterflies and bees flock to its white late summer to early autumn flowers. Virginia sweetspire also attracts butterflies with its fragrant white flower spires in midsummer. It sports red leaf color in fall and grows five to 10 feet.

Cold-hardy blueberries (*Vaccinium* spp.) add zest to the front of a hedgerow. Highbush species also can be used to create a thicket in a small yard. The native highbush species is *V. corymbosum*, from which most commercial hybrids are produced. Lowbush native species are the Blue Ridge blueberry (*V. pallidum*; formerly *V. vacillans*) and Maine lowbush (*V. angustifolium*). If you like to eat blueberries, plant a lot of them and cover a bush or two with bird netting.

Spicebush (*Lindera benzoin*), is prominent in all three landscapes. In March, spicebush heralds spring with small explosions of yellow flowers along the plant's bare branches. Female plants also bear red berries that persist into winter. Spicebush

is the larval host plant for the spicebush swallowtail butterfly.

WOODLAND HABITATS

If you live in the western Piedmont or mountain region and have room for a large tree, a hickory (*Carya* spp.) or an American beech (*Fagus grandifolia*) will provide nesting sites and high-quality food for mammals and large birds. Peo-



Cardinal flower thrives in part shade.

ple prefer the nuts of shagbark (*C. ovata*) or mockernut hickory (*C. tomentosa*), but animals also enjoy the fruits of pignut hickory (*C. pallida*). Other trees with wildlife appeal include hackberry (*Celtis occidentalis*) and Canadian serviceberry (*Amelanchier canadensis*). Hackberry is a larval host for seven butterfly species and sole host for the rare hackberry butterfly. A variety of birds will flock to both trees when the nutritious fruits ripen.

Under trees, plant ephemeral wildflowers such as Dutchman's breeches (*Dicentra cucullaria*) or squirrel corn (*D. canadensis*); both have white flowers that light up the forest in spring and corms that provide winter food for small mammals. Along streambanks or in moist meadows, swamp rose mallow (*Hibiscus moscheutos*) and cardinal flower (*Lobelia cardinalis*) will attract hummingbirds. On moist, sunny sites, bugbane (*Actaea podicarpa* or

Resources

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

The New England Wild Flower Society Guide to Growing and Propagating Wildflowers of the United States and Canada by William Cullina. Houghton Mifflin Company, Boston, Massachusetts, 2000.

Sources

Doyle Farm Nursery, Delta, PA. (717) 862-3134. www.doylefarm.com. Catalog free.

Fairweather Gardens, Greenwich, NJ. (856) 451-6261. www.fairweathergardens.com. Catalog \$5.

Lazy S'S Farm and Nursery, Barboursville, VA. www.lazysfarm.com. Online orders only.

Woodlanders, Inc., Aiken, SC. (803) 648-7522. www.woodlanders.net. Catalog \$4.

A. racemosa; formerly *Cimicifuga* spp.) and New York ironweed (*Vernonia noveboracensis*) are excellent butterfly attractors. Bugbane is a larval host for the rare Appalachian blue butterfly.

Big-leaf aster (*Eurybia macrophylla*), New England aster (*Symphotrichum novae-angliae*), blue wood aster (*Symphotrichum cordifolium*), butterfly weed (*Aesclepias tuberosa*), and Jerusalem artichoke (*Helianthus tuberosus*) are bird and butterfly attractors for sunny, drier sites. Plant Jerusalem artichoke in the back of a border, where it will grow six to nine feet tall and show off three-inch golden flowers. But you'll need to keep its aggressive tendencies in check by regularly harvesting the edible tubers, which can be sliced fresh into salads or roasted.

Joanne Turner Wolfe is a contributing editor for The American Gardener and a key voice in the habitat gardening movement.

Horticultural News and Research Important to American Gardeners

HOT NEW BULBS FOR FALL PLANTING

Many dazzling newcomers are heating up the spring bulb scene this fall. Here are some of the latest offerings to look for.

For daffodil aficionados, Dutch Gardens (www.dutchgardens.com) is offering



Narcissus 'Strawberry Margarita'

'Strawberry Margarita', an exclusive, newly discovered daffodil selection, in limited quantities. The flowers are white with a ruffled pink cup edged with white. Van Bourgondien (www.dutchbulbs.com) has 'Rainbow of Colors', an exclusive new butterfly daffodil with white outer petals and a large, flattened corona that changes from yellow to pink.

For ready-made blends to create an easy and color-coordinated display, John Scheepers, Inc. (johnscheepers.com) and Van Engelen (www.vanengelen.com) are offering two new tulip mixes: "Double Early Easter Egg Murillo" (white, pale yellow, soft pink, and raspberry tulips that bloom in mid-April) and "Tall Sherbet" (raspberry and lemon tulips comprised of four Lefeber varieties that stand 30 inches tall). For something more informal, Schipper and Company, USA, has "Aladdin's Carpet" from its Colorblends (www.colorblends.com) collection. It combines six wild tulip varieties with three grape hyacinth varieties and a dwarf narcissus for a long-lasting display.

In the minor bulb category, Brent and Becky's Bulbs (www.brentandbeckys.com)

is offering what may be one of the first pink star flowers, *Ipheion* 'Charlotte Bishop'. They are also excited about *Narcissus* 'Baby Boomer', a new miniature fragrant yellow jonquil hybrid that blooms profusely with up to 10 flowers



Narcissus 'Baby Boomer'



Gladiolus communis subsp. *byzantinus*

on each stem, and a new double early tulip called 'Eternal Flame' that has variegated foliage and bright pinkish-red double flowers.

Not necessarily new, but of special note, Old House Gardens (www.oldhousegardens.com) has named Byzantine gladiolus (*Gladiolus communis* subsp. *byzantinus*) its Heirloom Bulb of the Year for Fall 2006. This surprisingly hardy glad (USDA Zones 7–10, AHS Zones 10–7) produces orchidlike, brilliant magenta flowers in early summer on two-foot tall plants that don't need staking. Its corms should be planted in the fall.

WILD AMERICAN CHESTNUTS DISCOVERED

With so many native American trees such as elm, pine, eastern hemlock, and ash beleaguered by introduced pests, a new ray of hope came for American chestnut (*Castanea dentata*) when several naturally occurring trees old enough to flower and fruit were discovered in Alabama and Georgia last year. Two more wild trees were reported in New Hampshire earlier this year.



A volunteer for The American Chestnut Foundation assists with pollination.

These finds are significant because, according to Meghan Jordan, Director of Communications for The American Chestnut Foundation (TACF), "It's unusual to find flowering American chestnuts that can be used for breeding work." The newly discovered trees join the ranks of other "mother trees" in Kentucky, Tennessee, and Ohio that TACF works with. "It's wonderful to have these trees in such a wide area within their natural range," Jordan adds. "It really helps our breeding program by ensuring regional adaptability."

A blight caused by a fungus (*Cryphonectria parasitica*) of Asian origin dec-

imated American chestnut trees during the early 1900s. Since then, breeding efforts have focused on crossing Chinese chestnuts (*Castanea mollissima*), which are highly resistant to the blight, with surviving native trees to create trees that have mostly American genes but are resistant to the blight.

TACF is working with its local chapters to pollinate these new trees in the hopes of creating resistant crosses. "The state chapters are our backbone because we depend on members and volunteers for our work," says Jordan. For more information, visit www.acf.org.

SPOTLIGHT ON ENDANGERED GARDENS

The Cultural Landscape Foundation (TCLF), a non-profit organization dedicated to educating the public about the importance and irreplaceable legacy of cultural landscapes, and *Garden Design* magazine recently released "Landslide 2006," a list of at-risk landscapes that began in 2001. According to TCLF, the goal of this list is to "call attention to the important endangered American land-

scapes that are a part of our national heritage in order to stimulate the preservation of their unique artistic and cultural integrity."

This year's theme is "Spotlight on the Garden," which focuses on threatened landmark gardens around the country. Fourteen gardens made this year's list as well as an additional four gardens under the heading "Mute Victims of Katrina" that are suffering from the hurricane's aftermath (see box, right).

Charles Birnbaum, the founder of TCLF, observes that the places on the 2006 list reflect a man against nature issue. "Katrina is one example," he says, "but at Manitoga, woolly adelgids are wiping out the hemlocks, and at Dumbarton Oaks, there are drainage issues and decades of erosion to deal with." Compared to previous Landslide lists, "there's a greater complexity of problems that threaten these gardens," Birnbaum adds.

Visit www.tclf.org or call (202) 483-0553 for more information about each of the Landslide 2006 gardens and how you can help to save them.

GARDENS ON THE LANDSLIDE 2006 LIST

Landslide 2006

Baldwin Hills Village (Los Angeles, CA)
 The Becker Estate (Highland Park, IL)
 Dumbarton Oaks Park (Washington, DC)
 The Dunn Gardens (Seattle, WA)
 Gardens of Jajome (Cayey, Puerto Rico)
 Gerdemann Garden (Yachats, OR)
 Gibraltar (Wilmington, DE)
 Greatwood Gardens (Plainfield, VT)
 Latham Park (Sioux City, IA)
 Manitoga (Garrison, NY)
 Margaret Thomas' Garden (Herndon, VA)
 NationsBank Plaza (Tampa, FL)
 Nehrling's Gardens (Gotha, FL)
 Peachtree Heights West (Atlanta, GA)

Mute Victims of Katrina

(New Orleans and Vacherie, LA)
 Laura Plantation
 Longue Vue House & Gardens
 New Orleans Botanical Garden
 Oak Alley Plantation



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PEOPLE and PLACES in the NEWS

Vail Medal Awarded to New York City's Green Space Champion

This September, Cleveland Botanical Garden awarded one of its highest honors, the Delia White Vail Memorial Medal, to public garden designer and parks advocate **Lynden B. Miller**. Miller has spent the past 25 years working on the public green space of New York City.



"I have admired Lynden's commitment of energy and artistry to New York's green spaces for many years," says **Brian E. Holley**, Cleveland Botanical Garden's executive director.

"She has single-handedly transformed the quality of life for millions of New Yorkers and by her example has impacted urban park renewal across the country and beyond."

The Vail Medal, established in 1957, recognizes individuals and organizations that have made significant national contributions to the field of horticulture.

Roslyn Nursery Closes

Roslyn Nursery in Long Island, New York, ceased its mail-order operations and closed its retail location this summer, much to the dismay of its customers. **Philip and Harriet Waldman** opened Roslyn Nursery in 1984, specializing in rhododendrons. Over the years, the nursery grew into one of the Northeast's largest mail order sources of rare and exotic perennials, shrubs, trees, and other ornamental plants.

Rice Creek Gardens Relocates

Rice Creek Gardens in Blaine, Minnesota, also closed its doors this summer, but will be moving to a new location in Spring Grove, Minnesota. Owner and founder **Betty Ann Addison** started the nursery about 40 years ago. Her business partner **Harvey Buchite** describes the nursery as a "paradise for plant collectors and anyone interested in exploring the full range of a plant group." Buchite will move most of the Rice Creek plant inventory to a new 53-acre nursery this fall and plans to open for business late next year.

NEW CALIFORNIA CENTER FOR URBAN HORTICULTURE

As urban areas continue to grow, environmental issues such as pollution and water consumption become more of a challenge. Realizing that gardening practices can have a big impact, the College of Agricultural and Environmental Sciences at the University of California (UC), the Arboretum at UC Davis, UC Cooperative Extension,

members of the horticulture industry, professional horticulture associations, and California public gardens partnered to create the newly launched California Center for Urban Horticulture.

"Here in the West there's a big disconnect between typical suburban gardening practices and environmental realities," says Diane Cary, communications director for the Arboretum at UC Davis, "so there's a

real need to help people to develop a regional aesthetic and adopt gardening practices that are appropriate for this area."

The Center, open to the public on the UC Davis campus, will feature demonstration landscapes, exhibits, classes, and other resources for Master Gardeners, horticultural professionals, home gardeners, and anyone with an interest in plants. Visit www.arboretum.ucdavis.com for more information.



The Ruth Risdon Storer Garden in the UC Davis Arboretum serves as a teaching and research resource for the newly launched California Center for Urban Horticulture.

THE SCOOP ON SCUPPERNONGS

Muscadine grapes (*Vitis rotundifolia*, USDA Zones 6–9, AHS Zones 10–4), which are native to the Southeast from Delaware to the Gulf of Mexico, and west to Texas, Kansas, and Missouri, have been cultivated in this country for over 250 years. They are known as scuppernongs in many areas; 'Scuppernong' is also the name of an early variety. By either name, these disease-resistant vines bear abundant, tough-skinned, slightly musky-flavored grapes that have long been used for making juice, jams, jellies, and dessert wine, but rarely are they touted for eating fresh.

Stepping forward to change that is Stephen Stringer, research geneticist for the Agricultural Research Service (ARS) of the U.S. Department of Agriculture at the Small Fruit Research Station in Poplarville, Mississippi. Among his breeding goals are higher yields, better



'Eudora', a new muscadine grape cultivar

flavor, thinner skins, firmer and juicier flesh, and no seeds. He also aims to increase the muscadine's already substantial levels of beneficial phenols that act as antioxidants, as well as anti-inflammatory and anti-clotting compounds that promote cardiovascular health.

Stringer anticipates unveiling the first new variety resulting from his breeding efforts later this year, in a joint release with the University of Florida.

"It will be named 'Eudora' [in] honor of Eudora Welty, noted Pulitzer Prize winning author from Mississippi," says Stringer, who remarks that it should be available to gardeners over the next few years through several nurseries.

ENDANGERED PLANT AT CENTER OF DEVELOPMENT CONTROVERSY

Sebastopol meadowfoam (*Limnanthes vinculans*), an unassuming wildflower with small, bowl-shaped white flowers has sparked a development controversy in California. The low-growing species is an inhabitant of seasonal wetlands and pools left by spring rains in this coastal region, about 50 miles north of San Francisco; it was declared endangered in 1979.

In April 2005, Sebastopol meadowfoam was discovered growing on the 21-acre site of a proposed development known as Laguna Vista by Bob Evans, a retired elementary school principal and environmental activist. Local residents, including Evans, were opposing the 145 house and apartment development on

the grounds that the site supports rare plants and animals. Two days after Evans's discovery, biologist Phil Northen of Sonoma State University confirmed the endangered plant's identity.

Scott Schellinger of Schellinger Brothers, the developer of the proposed project, was suspicious of the discovery and enlisted biologists from the state Department of Fish and Game to offer a second opinion. Botanist Gene Cooley contended that, according to evidence he observed, the wildflower had been transplanted to the building site—a crime under California state law. A criminal investigation was launched, although no arrests were made, and the project was scheduled to advance.

This spring, however, the endangered flowers returned to the same area, renewing the controversy. The project is currently on hold while a mediator attempts to negotiate a compromise between the developer and the resident environmentalists.

Written by Assistant Editor Viveka Neveln and Contributing Editor Rita Pelczar.

GARDENING TRENDS

Out of 1,015 households in the continental United States polled in June 2006, about three-quarters of them reported having a lawn or garden of some sort. Of these households,

- 28% planned to use chemicals to control weeds.
- 54% would weed by hand.
- 11% planned to do nothing to control weeds.
- 52% use their gardens for relaxation or as a spiritual retreat.
- 40% use their gardens for social and entertaining space.
- 29% grow food in their gardens.
- 43% do some form of container gardening.
- 44% cited limited time as the reason for not gardening more.

(From the 2006 Summer Gardening Trends Research Report issued by the Garden Writers Association Foundation).

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Picking the Right Rake

by Rita Pelczar

AMONG THE MOST important tools in your green garage are rakes. Rakes are used for a variety of common garden tasks, most of which occur near the soil surface. These include gathering or removing surface debris—typically leaves or grass cuttings—from beds and lawns; removing shallow roots or

thatch; smoothing and shaping the soil surface in preparation for planting; spreading mulch; scratching in soil amendments; and distributing seed. For these varied tasks, different rakes are required. A number of innovative designs offer improvements for efficiency and ease of use.

There are two broad categories of rakes: those with long teeth or tines, and those with short teeth. Long-tined types, commonly called leaf or lawn rakes, are used for collecting leaves, grass clippings, and other light debris. Rakes with short, rigid tines are referred to as bow rakes, level head rakes, grading rakes, or thatch rakes depending on their particular shape or intended use. I've always called them hard rakes collectively, since they are generally made for the hard work of grading, bed preparation, and thatch removal.

LEAF RAKES

Fall leaves are one of nature's glories—and raking them up is as much a part of autumn as football and apple cider. With the right rake, and the proper technique, you can get the job done without injury *and* still have time to watch a football game while you sip your cider.

Now, you *could* use a leaf blower. But they're noisy, smelly, and you don't get the benefits of a cardiovascular workout you would with a rake. Keep in mind that, as for any physical endeavor, proper technique is important to avoid injury (see "Tips for Safe Raking," opposite page).

Leaf or lawn rakes are lightweight tools composed of springy fan-shaped or rectangularly arranged tines. The tines can be made of bamboo, plastic, or metal. Bamboo rakes are lightweight, but plastic and metal rakes last longer. The light-weight "Groundskeeper II" from A.M. Leonard



Left: A.M. Leonard's adjustable rake makes short work of gathering leaves. **Above:** Fiskars's leaf rake doubles as a scooper.

has 14 double, curved tines made of spring wire for raking up grass clippings without tearing up the lawn.

Leaf rakes also come in a variety of widths; wider rakes gather more leaves at one time, but the added load can be tiring. Narrow rakes are great for removing leaves from tight places such as between

shrubs or within a flowerbed. Fiskars offers a 24-inch-wide, roughly rectangular leaf rake with a broad surface for scooping up raked material, and an eight-inch wide shrub rake, each with plastic tines and lightweight aluminum handles.

The handle length is yet another choice. Lee Valley's telescoping tool set,

Sources

A. M. Leonard Co.: Piqua, OH. (800) 543-8955. www.amleo.com.

Fiskars Brands, Inc.: Madison, WI. (800) 500-4849. www.fiskars.com.

Gardener's Supply Co.: Burlington, VT. (888) 833-1412. www.gardeners.com.

Johnny's Selected Seeds: Winslow, ME. (877) 564-6697. www.johnnyseeds.com.

Lee Valley Tools Ltd.: Ogdensburg, NY. (800) 871-8158. www.leevalley.com.

TIPS FOR SAFE RAKING

Here are some pointers from the National Athletic Trainers' Association (NATA) and the Canadian Physiotherapy Association.

- Warm up slowly. Do a few stretching exercises before you pick up the rake. And if you have a history of back pain, consider using a back support.
- Rake in a steady motion with short strokes, stepping from side to side as you progress.
- Change your stance as you work and switch your hand positions to exercise different muscles and reduce stress on a single side of your body.
- Use moderation; don't try to get all the leaves up at once.
- Keep hydrated and take breaks.
- When lifting bags of leaves, keep your back straight and let your legs do the work. Keep the leaf piles small.

which includes both small fan and soil rake attachments, allows you to swap the business end of the tool and adjust the handle length to suit the job. The adjustable steel rake from A.M. Leonard includes both a telescopic handle that expands from 35 to 69 inches, and a fan that adjusts from seven to 21 inches wide.

HARD RAKES

A bow rake is composed of a row of short, sturdy teeth that are connected to the handle with a shock-absorbing bow. A level head rake is similar but it connects to the handle directly from the center of the rake head. Both can be used to remove stones,



Gardener's Supply "Power Rake" makes it a snap to remove thatch and low, spreading weeds like ground ivy.



This seed bed prep rake from Johnny's Select Seeds has rigid tines for working soil.

break up soil clods, and otherwise prepare beds for planting. Soil can be smoothed by flipping the rake over and dragging its straight side over the surface.

I also depend on a level head rake to spread compost and fertilizer over the garden surface and to move soil—mounding it for hills or raised rows or grading a recently worked area.

Johnny's Selected Seeds has a wide hard rake specifically designed for seed bed preparation. Its sturdy 29-inch head is composed of 20, four-inch, curved teeth that can be adjusted to your desired angle.

The curved, sharp-pointed plastic tines of the "Power Rake" offered by Gardener's Supply Company are great for extracting thatch from your lawn. I have found it to be the best tool around for pulling up ground ivy. It grabs the ivy's shallow roots and leaves the deeper roots of the grass alone. Its fiberglass handle has an adjustable swivel grip.

So give your treadmill a rest this fall and pick up a rake. Just make sure it's the right one for the job.

Rita Pelczar is contributing editor for *The American Gardener*.

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6 TREES TO GET	'TWO YEARS' GROWTH IN ONE?'	
7 FRUITING	For EARLIER, HEAVIER, BEARING?	
8 BULBS	TO START THEM VIGOROUSLY, Beating Soil-rot, Hastening Better BLOOMING	
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10 LAWNS	To Make QUICKER, deeper, TOUGHER TURF from SEED, SOD, Stelons, Sprigs, HYDRO-seeding	
11 XMAS TREES	17 HYDROSEEDING	22 FLOWERING PLANT COMPETITIONS
12 REFORESTATION	18 LANDSCAPING	23 INTERIORS CAPING
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Recommendations for Your Gardening Library

Hellebores: A Comprehensive Guide

C. Colston Burrell and Judith Knott Tyler. Timber Press, Portland, Oregon, 2006. 296 pages. Publisher's price, hardcover: \$34.95.

AFTER THE FIRST encounter with the delightful winter blooms of hellebores, it is easy to become addicted. The allure of the Christmas rose and the remarkable availability of the Lenten rose have heightened the rising popularity of these treasured perennials. Co-authors Colston Burrell and Judith Knott Tyler capture all of this and bring to light many of the new seed strains and hybrids in this monograph on the *Helleborus* genus.

Organized in a clear and readable manner, this volume opens with the basic morphology of hellebores followed by an interesting account of hellebores throughout the history of Europe and the United States. The authors thoroughly researched information on species, incorporating the latest opinions from world experts on nomenclature and the habitats of these plants in the wild. Listed species are described in detail and are represented in color photographs by Richard Tyler and Colston Burrell. The interspecies hybrids also are covered in detail, and many of the known cultivars and seed strains are noted with the characteristics that make them different from each other.

The authors discuss the who's who of hellebore hybridizers, describing their breeding programs and giving the most notable attributes of these labors of love. A section dedicated to the budding hybridizer gives tips on desirable traits and creating a breeding line. For the true hellebore nut, there are even a few pages on

how to bring in hellebores from overseas. The cultural information covers everything from purchasing a quality plant to proper planting and maintenance.

One of the points I enjoyed most about this book is the authors' excitement about what is yet to be done with hellebores. They write about the development of new hybrids and color lines, the potential of recent tissue culture work, and the continued fieldwork on hellebores in the wild.

—Richie Steffen

Richie Steffen, coordinator of horticulture at the Elisabeth C. Miller Botanical Garden in Seattle, Washington, maintains and builds the garden's rare and unusual plant collections.

Bird-by-Bird Gardening: The Ultimate Guide to Bringing in Your Favorite Birds—Year after Year

Sally Roth. Rodale Books, Emmaus, Pennsylvania, 2006. 392 pages. Publisher's price, hardcover: \$29.95.

The Audubon Society Guide to Attracting Birds

Stephen W. Kress. Cornell University Press, Ithaca, New York, 2006. 466 pages. Publisher's price, softcover: \$24.95.

WITH BIRDWATCHING second only to gardening in surveys of popular American hobbies, books combining the pastimes are inevitable. This year, two top nature writers offer outstanding contributions to this growing subgenre. Although the volumes differ in style and audience, both *Bird-by-Bird Gardening* and *The Audubon Society Guide to Attracting Birds* present general principles, practical advice, and ecological inspiration for enticing wild birds into landscapes large and small.

In *Bird-By-Bird Gardening*, Sally Roth focuses on crafting gardens to attract particular species of birds. Option-packed plant lists, vivid color photographs, bud-

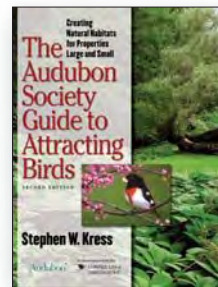
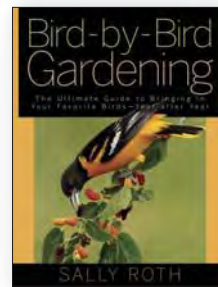
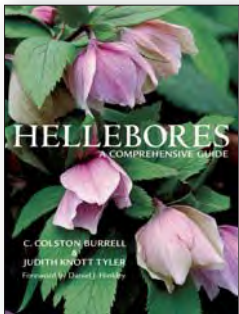
get-minded tips, and personal anecdotes contribute to the book's engaging style.

The key to attracting birds, says Roth, is knowing the behavior and food preferences of 19 familiar bird groups. Bluebirds, for example, like their thrush family relatives, thrive near woodland edges, and the key to attracting them is planting berry-producing shrubs. Each bird group's chapter features a modest garden of favorite plants, designed to be installed in one afternoon. If you plant Roth's 20-by-10 vision of dogwoods, blueberries, winterberries, and spicebushes, that flash of blue in your yard is "practically guaranteed," she says.

Stephen Kress's *Audubon Society Guide to Attracting Birds*, which focuses on wildlife habitats, is more formal, with comprehensive plant recommendations, organized by region, black-and-white line drawings, and science-based arguments. Kress, who directs National Audubon's bird

conservation programs, also seeks a broader audience than Roth, including commercial and public property managers as well as home gardeners. He offers detailed instructions for some do-it-yourself projects, such as converting a trash can lid into a drip birdbath. But other ideas, such as wetland construction, are beyond the scope of homeowners.

Whether your site is an apartment balcony, suburban backyard, or corporate park, Kress offers plenty of techniques for enhancing its value for forest, prairie, or shrubland birds. Like Roth,



Who among us has not raced hopefully out to the backyard to try the latest miracle pest repellent or plant nutrition supplement? Many of these products, procedures, and urban myths are put to the test—and often debunked—in **The Truth About Garden Remedies** (Timber Press, 2006, \$19.95). Author Jeff Gillman, an associate horticulture professor at the University of Minnesota, methodically examines the claims made for everything from beer as a fertilizer to Brussels sprouts as an herbicide.



The book is organized in a no-nonsense and user-friendly manner, setting out the theory and practice of each claim as well as the bottom line for the gardener. The results are fascinating and occasionally disappointing. For example, it's helpful to learn that beer and Brussels sprouts are best left in the fridge. But after spending a day potting up annuals in media mixed with a hydrogel, I was rather dispirited to read that the gel is unlikely to save much water.

This is a book many of us will want to consult frequently. Still, I'm not sure I'm ready to give up on the hydrogel just yet. —Linda McIntyre, Freelance Writer

Kress both urges and empowers all to begin the “urgent and satisfying work” of creating natural havens that wildlife increasingly needs to survive.

—Julie Dunlap

Julie Dunlap writes about wildlife and conservation for children and adults, and coordinates schoolyard garden projects for the Audubon Society of Central Maryland.

Sunset Western Landscaping Book

Edited by Kathleen Norris Brenzel. Sunset Publishing Corporation, Menlo Park, California, 2006. 416 pages. Publisher's price, softcover: \$29.95.

THIS NEWLY revised edition of the *Sunset Western Landscaping Book* complements the publisher's bible, the *Sunset Western Garden Book*.



The latter has pages on garden design and great encyclopedic listing of plants for western gardens; the *Sunset Western Landscaping Book* is a companion

that helps gardeners truly create beauty. The book is lushly illustrated with beautiful western gardens, most of which are professionally designed, allowing the rest of us to adapt those designers' ideas in our own gardens. The book is divided into logical sections to guide the reader

through the design process or just to dip into for inspiration or specific instructions. There is a nod to the contemporary idea of garden “décor.” I wonder, however, how the beds pictured in the garden “retreats” would survive the four inches of rain we got one California winter day. On a more practical side, the book is encouraging me to expand my usual design palette. Cobalt blue accents, succulents, and mosaic patterns of any material just make me swoon.

The sections on “Structures,” “Plants,” “Solutions,” and “Planning” address the basics and more, such as fire-retardant landscaping. I quibble, however, when our wonderful western, alkaline soil is said to be in need of “improvement.” Okay, sure, if you want to grow traditional English-garden plants, but there are so many plants that don't need loam. When I evaluate a basic gardening book, I note how the author writes about native or climate-adapted plants and about how horticultural plants fare in the urban-wildland edge. I see room for improvement in those categories in the next edition of the book.

All in all, the *Sunset Western Landscaping Book* will help both new and experienced gardeners broaden their vision for the possibilities of a western garden.

—Susan C. Eubank

Susan C. Eubank is arboretum librarian at the Los Angeles County Arboretum & Botanic Garden and a passionate western gardener.

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From the Garden to the Table

PICKING A WARM, luscious tomato in your backyard, or enjoying the first spring greens from the farmer's market, it's hard to believe that come peak harvest time in the fall, you might be just the tiniest bit weary of grilled zucchini or corn on the cob. When you're ready to try some new tricks with your veggies, here are several books that can help. You'll learn some innovative produce preparations and maybe even convince vegetable-averse family and friends to embrace kale or rutabagas.

If you're a community supported agriculture (CSA) shareholder, you'll want to get your hands on *Farmer John's Cookbook: The Real Dirt on Vegetables* (Gibbs Smith, 2006, \$29.95), and if you're not one, this book might move you to join. Author John Peterson is a reformed conventional farmer who now runs Angelic Organics, a large CSA farm in Illinois. Part cookbook, part agricultural memoir, part manifesto, this volume is helpfully organized by season. In addition to recipes

and chatty snippets from the farm's newsletter, the book offers storage and handling tips, basic culinary uses, "partners" (complementary foods, spices, and seasonings), and an identification guide to help sort the kohlrabi from the celeriac. It also paints a convincing picture of the profound joys and daunting difficulties of contemporary farming.

In *Keep it Seasonal* (William Morrow, 2006, \$29.95), transatlantic chef Annie Wayte offers recipes for soups, salads, and sandwiches using fresh ingredients. These building blocks of light meals, she says, are the perfect showcase for the best herbs, vegetables, and fruits. Her combinations, organized by season, range from classics such as fresh pea soup with morel mushrooms to more unusual fare such as grape leaf rolls stuffed with warm goat cheese and sage, and a salad enhanced with persimmons, dates, and pecorino cheese. Perhaps best of all are Wayte's suggested accouterments to her dishes—walnuts spiced with cayenne pepper, rosemary, paprika, cumin, and ginger, for example, or savory thyme muffins.

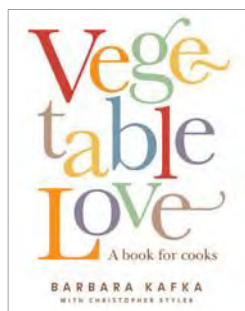
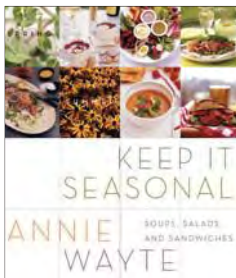
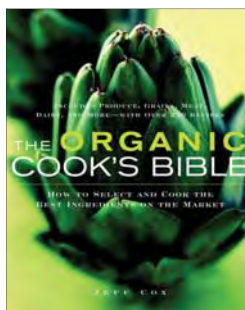
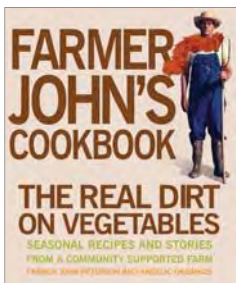
Jerry Traunfeld, author of *The Herbal Kitchen* (William Morrow, 2005, \$34.95), is also a restaurant chef, which is apparent in his sophisticated yet accessible recipes. *The Herbal Kitchen* is organized like a traditional cookbook, with the first chapter focusing on appetizers and the last one on desserts, but Traunfeld also includes an appealing section on "botanical be-

verages" such as berry rose sangria and basil lime fizz. He encourages readers to grow their own herbs and offers cultural information and useful asides, for example, on distinctions among lemon-scented herbs (lemon thyme is best with savory dishes, he says, while lemon verbena makes delicious desserts). And those with canine companions will enjoy the recipe for "Good Dog, Bad Dog Biscuits."

Garden writer and former editor of *Organic Gardening* magazine Jeff Cox shows off his epicurean side with *The Organic Cook's Bible* (Wiley, 2006, \$40). This comprehensive volume explains why consumers should choose organic vegetables, fruits, meat, and other foods as well as how to prepare them and, in the case of vegetables, fruits, and herbs, tips on growing them. Thoughtful organization and a conversational voice keep the vast quantity of information in this book from overwhelming the casual cook, who will be pleased to find information on kitchen staples such as flour, oils, coffee, and (of course) chocolate as well as both basic usage tips and more ambitious recipes. Any cook who cares about the quality and sustainability of ingredients will want *The Organic Cook's Bible* on his or her bookshelf.

Serious cooks and those who like to experiment will also want to check out *Vegetable Love* (Artisan, 2005, \$35) by veteran food writer and editor Barbara Kafka. The book gives recipes, buying and storage information, yields and equivalents, and even tips on washing and cutting for a huge range of vegetables including some—yautia, malokhei, and scorzonera, for example—you might not have heard of. Its organization, by continent, is somewhat confusing, but the long and informative (and alphabetical) cook's guide is a handy quick reference, and Kafka's unique voice—for years she wrote a column called "The Opinionated Palate" in *Gourmet* magazine—makes the book a pleasure to read. And I'm willing to bet you won't find a recipe for parsnip ice cream in any other cookbook.

—Linda McIntyre, Freelance Writer





REGIONAL HAPPENINGS

Horticultural Events from Around the Country

NORTHEAST

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

THROUGH OCT. 15. **Rock On!** Exhibit. Garden in the Woods. Framingham, Massachusetts. (508) 877-7630. www.newenglandwildflower.org.

RAP SEPT. 30. **Beer, Bagels, and Botany: Fall Planting Workshop.** Buffalo and Erie Botanical Gardens Society. Buffalo, New York. (716) 827-1584. www.buffalogardens.com.

RAP SEPT. 30. **Fall Gardener's Day.** Talks and workshops. Blithewold Mansion, Gardens & Arboretum. Bristol, Rhode Island. (401) 253-2707. www.blithewold.org.

RAP SEPT. 30. **Outrageous Aquatics.** Tour. Wave Hill. Bronx, New York. (718) 884-8952. www.wavehill.org.

RAP OCT. 14. **Extending the Season's Harvest.** Lecture/field study. Berkshire Botanical Garden. Stockbridge, Massachusetts. (413) 298-3926. www.berkshirebotanical.org.

RAP OCT. 28. **Lantern Tours of Big House & Grounds.** Park-McCullough Historic House. North Bennington, Vermont. (802) 442-5441. www.parkmccullough.org.

Looking ahead

NOV. 3-5. **Orchid Sale.** Historic Lyman Greenhouses. Waltham, Massachusetts. (781) 891-4882. www.HistoricNewEngland.org.

RAP NOV. 4. **Hardwood & Evergreen Propagation Workshop.** Berkshire Botanical Garden. Stockbridge, Massachusetts. (413) 298-3926. www.berkshirebotanical.org.

MID-ATLANTIC

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

RAP THROUGH OCT. 15. **50 Years, 50 Countries, 50 Expeditions.** Plant exploration exhibit. Longwood Gardens. Kennett Square, Pennsylvania. (610) 388-1000. www.longwoodgardens.org.

AHS SEPT. 20-23. **Fashion in Bloom.** Displays of new plant introductions for 2007. Garden Centers of America. American Horticultural Society at River Farm. Alexandria,

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

Events hosted by botanical gardens and arboreta that participate in AHS's Reciprocal Admissions Program are identified with the **RAP** symbol. Current AHS members showing a valid membership card are eligible for free or discounted admission to the garden or other benefits. Special events may not be included; contact the host site for details or visit www.ahs.org/events/reciprocal_events.htm.

Virginia. (703) 768-5700. www.fashioninbloom.com.

RAP SEPT. 23 & OCT. 28. **Good Green Fun.** Demonstration and activities. Children's Garden. Lewis Ginter Botanical Garden. Richmond, Virginia. (804) 262-9887. www.lewisginter.org.

SEPT. 29. **Native American Fruits.** Lecture. Brookside Gardens. Wheaton, Maryland. (301) 962-1400. www.brooksidegardens.org.

RAP SEPT. 30. **Family Day in the National**

Garden. Children's activities and music. United States Botanic Garden. Washington, D.C. (202) 225-8333. www.usbg.gov.

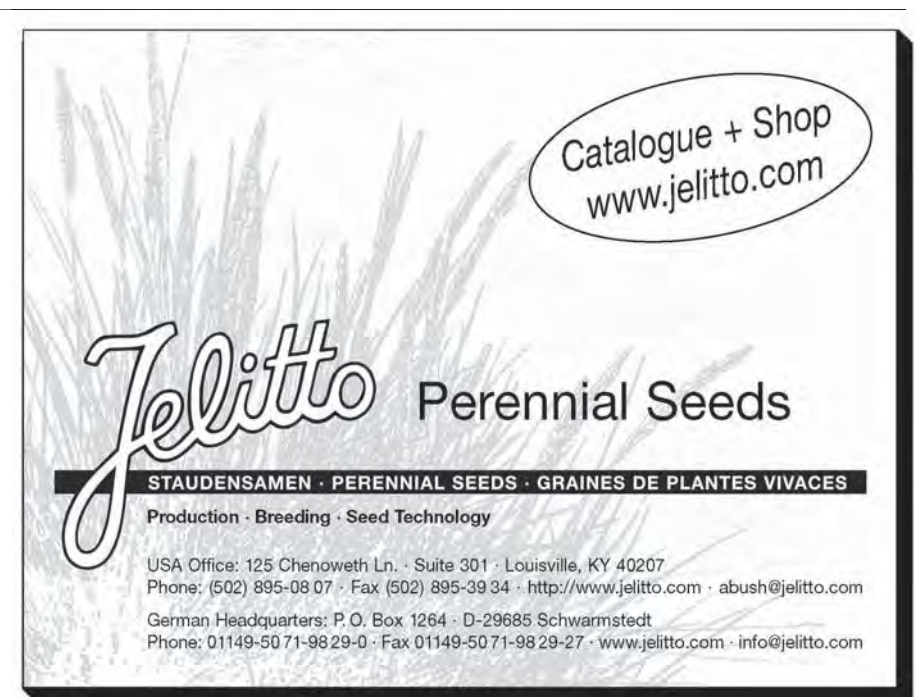
RAP OCT. 6 & 7. **Fall Bulb Sale.** Delaware Center for Horticulture. Wilmington, Delaware. (302) 658-6262. www.dehort.org.

OCT. 10-13. **Eastern Native Grass Symposium.** New Cumberland, Pennsylvania. (717) 237-2219. www.pa.nracs.usda.gov/engs.html.

RAP OCT. 14. **Garden Design Symposium.** Green Spring Gardens. Alexandria, Virginia. (703) 642-5173. www.greenspring.org.

OCT. 15-17. **Growing Greener Cities: Symposium on Urban Environmental Issues in the 21st Century City.** Pennsylvania Horticultural Society. University of Pennsylvania. Philadelphia, Pennsylvania. (215) 988-8772. www.pennsylvaniahorticulturalsociety.org.

OCT. 20. **Perennial Plant Conference.** Co-sponsored by Longwood Gardens, Pennsylvania Horticultural Society, and Hardy Plant Society/Mid-Atlantic Group. Scott Arboretum of Swarthmore College. Swarthmore, Pennsylvania. (610) 328-8025. www.scottarboretum.org.



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National Garden Opens in Washington, D.C.



THIS FALL, two decades of planning, fundraising, designing, and construction will culminate in a magnificent display of America's horticultural heritage on the National Mall in Washington, D.C. The National Garden, an extension of the United States Botanic Garden (USBG), will open to the public October 1.

This new three-acre garden will celebrate American history and culture with themed garden areas and educational opportunities for visitors of all ages and levels of horticultural interest. The First Ladies' Water Garden demonstrates a formal approach to garden design, including masonry in the Martha Washington quilt pattern, while inviting visitors to explore the vital significance of water to our world. The Regional Garden will showcase a mixture of useful and unusual perennials, shrubs, and trees that thrive in the mid-Atlantic climate. Look for native switchgrass (*Panicum virgatum*) for form and texture, and fall foliage on native trees such as sourwood (*Oxydendrum arboreum*) and shrubs such as fothergilla (*Fothergilla* spp.) and chokeberry (*Aronia* spp.). The Rose Garden celebrates America's national flower with a collection of regionally appropriate roses. The Butterfly Garden features plants that attract butterflies and other pollinators, a key means of continuing plant diversity.

The overall plan of the National Garden provides for accessible paths, gathering areas beneath pergolas, and two distinct areas for visitors to congregate: the Lawn Terrace, which connects the USBG conservatory to the new garden, and the Amphitheater, where educational programs and entertainment will be held.

Like the USBG, the National Garden will be open to the public every day admission free. Find out more at www.usbg.gov/gardens/national-garden.cfm.

The Regional Garden of the new National Garden includes a boardwalk and scenic view of the U.S. Capitol and the U.S. Botanic Garden Conservatory.

—Heather Robbins, Editorial Intern

Looking ahead

RAP NOV. 2. **Gardens and Graveyards.** Workshop. Green Spring Gardens. Alexandria, Virginia. (703) 642-5173. www.greenspring.org.

NOV. 3. **Turning a New Leaf: Sustainable Landscaping Conference.** Chesapeake Conservation Landscaping Council. Bethesda, Maryland. (410) 634-2847. www.chesapeakelandscape.org.

SOUTHEAST

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

SEPT. 22–24. **Plan—and Plant for a Better World.** 30th anniversary symposium. JC Raulston Arboretum. Raleigh, North Carolina. (919) 513-7005. www.ncsu.edu/jcraulstonarboretum.

RAP OCT. 6 & 7. **Fall Plant Sale.** Memphis Botanic Garden. Memphis, Tennessee. (901) 685-1566. www.memphisbotanicgarden.com.

OCT. 6–8. **Fall Conference.** Appalachian Heirloom Seed Conservancy. Berea, Kentucky. (859) 623-2765. E-mail: kentuckyseeds@hotmail.com.

RAP OCT. 11–14. **Fall Plant Sale.** Wing Haven Gardens and Bird Sanctuary. Charlotte, North Carolina. (704) 331-0664. www.winghavengardens.com.

RAP OCT. 14 & 15. **Carolina Bonsai Expo.** North Carolina Arboretum. (828) 665-2492. www.ncarboretum.org.

OCT. 19–22. **The Charleston Garden Festival: "Fantasy in the Garden...Gardening With Wit and Wisdom."** Charleston, South Carolina. (843) 723-9293. www.charlestongardenfestival.org.

RAP OCT. 19–22. **Plantasia! Fall Plant Sale.** Mobile Botanical Gardens. Mobile, Alabama. (251) 342-0555. www.mobilebotanicalgardens.org.

RAP OCT. 28. **Fall Hydrangea Sale and Harvest Celebration.** Aldridge Gardens. Hoover, Alabama. (205) 682-8019. www.aldridgegardens.com.

Looking ahead

RAP NOV. 4. **The Glories of the Winter Gar-**

den. Lecture. Yew Dell Gardens. (502) 241-4788. www.yewdellgardens.org.

NOV. 17-19. **Independent Plant Breeder's Conference.** Orlando, Florida (352) 392-5930. www.conference.ifas.ufl.edu/IPBC/.

NORTH CENTRAL

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

SEPT. 23 & 24, SEPT. 30 & OCT. 1. **Cincinnati Flower & Farm Fest.** Coney Island, Ohio. (800) 670-6808. www.cincyflowershow.com.

RAP SEPT. 30 & OCT. 1. **Bulb Bazaar.** Chicago Botanic Garden. Glencoe, Illinois. (847) 835-5440. www.ohwow.org.

OCT. 1. **Design and Maintenance of Perennial Gardens & Nurturing Nature: Using Site-Specific Plants.** Lectures. Fellows Riverside Gardens. Youngstown, Ohio. (330) 740-7116. www.millcreekmetroparks.com/riversidegarden.htm.

OCT. 6-10. **Annual Meeting & Expo.** American Society of Landscape Architects. Minneapolis, Minnesota. (888) 675-1222. www.asla.org.

RAP OCT. 7. **Garden Trends and Tool Symposium.** Boerner Botanical Gardens. Hales

Corners, Wisconsin. (414) 525-5601. www.boernerbotanicalgardens.org.

RAP OCT. 14. **Western Reserve Herb Society Herb Fair.** Cleveland Botanical Garden. Cleveland, Ohio. (216) 721-1600. www.cb garden.org.

RAP OCT. 14 & 15. **African Violet Show and Sale.** Olbrich Botanical Gardens. Madison, Wisconsin. (608) 833-5552. www.olbrich.org.

RAP OCT. 20. **Urban Ecology: Celebrating Ten Years of Chicago Wilderness.** Symposium. Chicago Botanic Garden. Glencoe, Illinois. (847) 835-8261. www.chicagobotanic.org/symposia.

OCT. 21. **Organic Gardening Day.** Symposium. University of Illinois. Urbana, Illinois. (217) 333-7738. E-mail: preston1@uiuc.edu.

SOUTH CENTRAL

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

AHS SEPT. 28-30. **America in Bloom Symposium and Awards Program: "Life in the Past Lane."** Eureka Springs, Arkansas. (614) 487-1117. www.americainbloom.org.

OCT. 7 & 8. **Grand Opening of the Carl Tote-**

meier Horticultural Center. Open house and symposium. Botanical Garden of the Ozarks. Fayetteville, Arkansas. (479) 443-6638. www.bgso.org.

RAP OCT. 12. **Native Plant School: Prairie Reestablishment—Seeding and Maintenance.** Discussion, tours, and demonstrations. Shaw Nature Reserve of the Missouri Botanic Garden. (636) 451-3512. www.shawnature.org.

OCT. 12-14. **Bulb & Plant Mart.** Garden Club of Houston. Houston, Texas. www.gchouston.org.

RAP OCT. 14. **Fall Plant Sale.** Fort Worth Botanic Garden. Fort Worth, Texas. (817) 871-7686. www.fwb.org.

OCT. 21. **Austin Open Days Garden Tour.** Garden Conservancy. Austin, Texas. (845) 265-5384. www.gardenconservancy.org/opendays.html.

AHS OCT. 26 & 27. **The Art & Science of Garden Photography.** Workshop. American Horticultural Society Garden School. Lady Bird Johnson Wildflower Center. Austin, Texas. (521) 292-4200. www.wildflower.org.

RAP OCT. 28. **Bonsai Show.** Botanica, The Wichita Gardens. Wichita, Kansas. (316) 264-0448. www.botanica.org.



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SOUTHWEST

AZ, NM, CO, UT

RAP SEPT. 30. **Fall Plant and Bulb Sale.** Denver Botanic Garden. Denver, Colorado. (720) 865-3525. www.botanicgardens.org.

SEPT. 30. **Fall Plant Sale.** Tucson Botanical Gardens. Tucson, Arizona. (520) 326-9686. www.tucsonbotanical.org.

RAP SEPT. 30. **Wildflower Walk.** The Arboretum at Flagstaff. Flagstaff, Arizona. (928) 774-1442. www.thearb.org.

RAP SEPT. 30 & OCT. 1. **Fall Bulb and Native Plant Sale.** Red Butte Garden and Arboretum. Salt Lake City, Utah. (801) 581-4747. www.redbuttegarden.org.

RAP OCT. 7. **Fall Open House.** The Arboretum at Flagstaff. Flagstaff, Arizona. (928) 774-1442. www.thearb.org.

OCT. 28. **Desert Harvest.** Tucson Botanical Gardens. Tucson, Arizona. (520) 326-9686. www.tucsonbotanical.org.

WEST COAST

CA, NV, HI

OCT. 9. **Ferntastic Platyceriums (Staghorn Ferns).** San Diego Horticultural Society. Del Mar Fairgrounds. Del Mar, California. (760) 295-7089. www.sdhortsoc.org.

RAP OCT. 13 & 14. **Plant Sale.** Descanso Gardens. La Cañada Flintridge, California. (818) 949-7980. www.descansogardens.org.

RAP OCT. 14. **General Sale with Trees, Ferns, and Rhododendrons.** San Francisco Botanical Garden Society. San Francisco, California. www.sfbotanicalgarden.org.

OCT. 20 & 21. **The Influence of Mexico on California Gardens.** The Garden Conservancy and Ruth Bancroft Garden. Walnut Creek, California. (415) 561-7895. www.gardenconservancy.org/mexico.htm.

Looking ahead

RAP NOV. 11 & 12. **Fresh Design West Coast 2006.** Symposium. Los Angeles County Arboretum and Botanic Garden. Arcadia, California. (626) 821-3222. www.arboretum.org.

NOV. 20. **The Effect of Global Climate Change on California Horticulture.** Presentation. California Horticultural Society. San Francisco Botanical Garden. (415) 566-5222. www.calhortsociety.org.

NORTHWEST

AK, ID, MT, OR, WA, WY

RAP OCT. 1. **Fall Bulb & Plant Sale.** Wash-

Renovated Getty Villa Reopens

THE REOPENING OF the Getty Villa in Malibu, California, earlier this year after a nine-year closure has the cultural *cognoscenti* abuzz from coast to coast. Modernist architects Rodolfo Machado and Jorge Silvetti revamped the site with an award-winning design that highlights the Villa centerpiece, the J. Paul Getty Museum.

Architectural embellishments now link the interior of the museum—a showcase for Greco-Roman and Etruscan antiquities—to the exterior spaces of the villa's campus, giving rise to a new entry pavilion, open-air classical theater, and central staircase featuring bronze detailing and butter-yellow marble.

Botanically-inclined enthusiasts can revel in Mediterranean gardens planted with species tracing back to the Roman era. Medicinal, culinary, or religious uses distinguish the trove of herbs, trees, perennials, and flowering bulbs appearing in each garden setting.

A formal pool edged in ivy topiaries abets the skillfully balanced layout of the outer peristyle garden. Pomegranate trees and Grecian laurels provide structure, while a groundcover of sweet violets, along with gallica, damask, and musk roses create background effects. The tranquil atmosphere of the inner peristyle benefits from the rich green foliage of plants such as acanthus, hart's-tongue fern, and myrtle.

Within the white walls of the east garden's more intimate confines, a colorful mosaic water feature adorned in shells and theater masks is a crowd-pleaser. And the expansive herb garden is a pleasure to behold: A fountain with tropical lilies holds its own amid beds and arbors supporting fragrant herbs and spices, fruit trees, date palms, and an olive grove.

Admission is free, but advance, timed tickets are required; there is a parking fee of \$7 per car. Call (310) 440-7300 or visit www.getty.edu for more information.

—Alice Joyce, *Garden Walks* columnist for the San Francisco Chronicle



The herb garden and southwest façade of the renovated J. Paul Getty Museum at the Getty Villa.

ington Park Arboretum. Seattle, Washington. (206) 325-4510. www.arboretumfoundation.org.

OCT. 6-8. **Portland Fall Home & Garden Show.** Portland Expo Center. Portland, Oregon. (253) 756-2121. www.otsusa.com.

OCT. 11. **The Joy of Gardening with David Tarrant.** Lecture. Northwest Horticultural Society. Seattle, Washington. (206) 527-1794. www.northwesthort.org.

OCT. 12-15. **Tacoma Fall Home & Garden Show.** Tacoma Dome. Tacoma, Washington. (253) 756-2121. www.otsusa.com.

RAP OCT. 14. **Perennial Garden Maintenance and Home Composting.** Tour and talk. Cheyenne Botanic Gardens. Cheyenne, Wyoming. (307) 637-6459. www.botanic.org.

CANADA

RAP OCT. 15. **The Edible Landscape.** Class. Horticulture Centre of the Pacific. Victoria, British Columbia. (250) 479-6162. www.hcp.bc.ca.

RAP OCT. 29. **Designing Your Garden with Foliage.** Symposium. Royal Botanical Gardens. Hamilton, Ontario. (905) 527-1158. www.rbg.ca.

GARDEN MARKET

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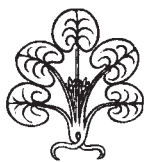
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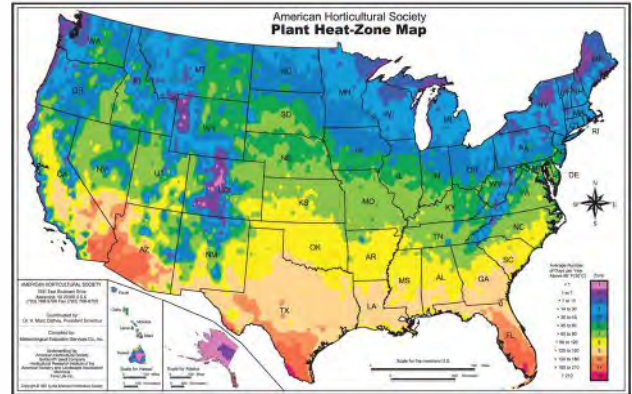
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PRONUNCIATIONS AND PLANTING ZONES

Most of the cultivated plants described in this issue are listed here with their pronunciations, USDA Plant Hardiness Zones 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 codes 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.

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



A-C

- Actaea podocarpa*** ack-TEE-uh pah-doh-KAR-puh (USDA Zones 3-8, AHS 8-1)
A. racemosa A. ras-eh-MO-suh (3-8, 9-1)
Amelanchier canadensis am-eh-LANG-kee-ur kan-uh-DEN-siss (3-7, 7-1)
Aristolochia macrophylla uh-ris-toh-LO-kee-uh mak-ro-FIL-luh (5-8, 8-4)
Asclepias tuberosa as-KLEE-pee-us too-bur-O-suh (4-9, 9-2)
Aster azureus ASS-ter as-ZYUR-ee-us (4-9, 9-1)
A. carolinianus A. ka-ro-lin-ee-AY-nus (6-9, 8-1)
A. cordifolius A. kor-dih-FO-lee-us (3-8, 8-1)
A. divaricatus dih-vair-ih-KAY-tus (4-8, 9-1)
A. dumosus A. dew-MO-sus (4-9, 9-4)
A. ericoides A. eh-rih-KOY-deez (5-8, 8-1)
A. laevis A. LEE-vis (4-8, 8-1)
A. lateriflorus A. lah-tur-ih-FLOR-us (4-8, 8-1)
A. novae-angliae A. NO-vee-ANG-lee-ay (4-8, 8-1).
A. novi-belgii A. NO-vih-BEL-jee-eye (4-8, 8-1)
A. oblongifolius A. ob-lon-jih-FO-lee-us (3-8, 8-1)
A. spectabilis A. spek-TAH-bih-liss (5-8, 8-1)
Betula nigra BET-yew-luh NY-gruh (4-9, 9-1)
Campsis radicans KAMP-siss RAD-ih-kanz (4-9, 9-3)
Carya ovata KEH-ree-uh o-VAY-tuh (4-8, 8-1)
C. pallida C. PAL-lih-duh (4-8, 8-5)
C. tomentosa C. toh-men-TOH-suh (4-9, 9-5)

- Castanea dentata*** kas-TAY-nee-uh den-TAY-tuh (4-8, 8-1)
Celtis occidentalis SEL-tiss ahk-sih-den-TAL-iss (2-9, 9-1)
C. laevigata C. lee-vih-GAY-tuh (5-9, 9-3)
C. reticulata C. reh-tik-yew-LAY-tuh (3-9, 9-1)
C. tenuifolia C. ten-yew-ih-FO-lee-uh (4-9, 9-5)
Clethra alnifolia KLETH-ruh al-nih-FO-lee-uh (3-9, 9-1)
Cornus florida KOR-nus FLOR-ih-duh (5-8, 8-3)
Corylus americana KOR-ih-lus uh-mair-ih-KAN-uh (4-8, 9-1)
Cotinus obovatus ko-TY-nus o-bo-VAY-tus (4-8, 8-1)

D-O

- Dicentra cucullaria*** dy-SEN-truh kew-kew-LAIR-ee-uh (4-8, 8-1)
D. canadensis D. kan-uh-DEN-siss (4-8, 8-4)
Eurybia macrophylla yew-REE-bee-uh mak-ro-FIL-luh (3-8, 8-3)
Fagus grandifolia FAY-gus gran-dih-FO-lee-uh (3-9, 9-1)
Gentiana clausa jen-she-AN-uh KLAW-suh (4-8, 8-1)
Gladiolus communis* subsp. *byzantinus glad-dee-O-lus com-YEW-niss subsp. bih-zan-TY-nus (7-10, 10-7)
Gymnocladus dioica jim-no-KLAD-us dy-o-EE-kus (5-9, 9-5)
Helianthus tuberosus hee-lee-AN-thus too-bur-O-sus (4-9, 9-1)
Hibiscus moscheutos hy-BISS-kus mos-KOOT-os (5-10, 12-1)

- Itea virginica*** eye-TEE-uh vir-JIN-ih-kuh (6-9, 10-7)
Lindera benzoin lin-DAIR-uh BEN-zo-in (4-9, 8-1)
Lobelia cardinalis lo-BEEL-yuh kar-dih-NAL-iss (2-8, 8-1)
Lonicera sempervirens lah-NISS-er-uh sem-pur-VY-renz (4-9, 9-1)
Maclura pomifera muh-KLUR-uh pom-IF-ur-uh (5-9, 9-5)
Ostrya virginiana OSS-tree-uh vir-jin-ee-AN-uh (4-8, 8-1)
Oxydendrum arboreum awk-sih-DEN-drum ar-BOR-ee-um (5-9, 9-3)

P-Z

- Panicum virgatum*** PAN-ih-kum vur-GAY-tum (5-9, 9-1)
Silphium perfoliatum SIL-fee-um per-fo-lee-AY-tum (4-9, 9-5)
Symphotrichum cordifolium sim-fy-o-TRY-kum kor-dih-FO-lee-um (synonym for ***Aster cordifolius***, see above)
Vaccinium angustifolium vak-SIN-ee-um ang-gus-tih-FO-lee-um (2-8, 8-1)
V. corymbosum V. kor-im-BO-sum (4-8, 8-1)
V. pallidum V. PAL-lid-um (4-7, 7-3)
Vernonia noveboracensis vur-NO-nee-uh no-vay-bor-uh-CHEN-sis (4-8, 8-3)
Viburnum acerifolium vy-BUR-num ay-sur-ih-FO-lee-um (4-8, 8-1)
V. prunifolium V. proo-nih-FO-lee-um (3-9, 9-1)
V. recognitum V. rek-og-NY-tum (4-8, 8-3)
Vitis rotundifolia VY-tiss ro-tund-ih-FO-lee-uh (6-9, 10-4)



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