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July/August 2004

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### NATIONAL CHILDREN AND YOUTH GARDEN SYMPOSIUM (NCYGS)

Cornell University in Ithaca, New York, is the setting for the 12th annual NCYGS, to be held July 29 to 31, 2004. For more information, call (800) 777-7931, ext. 132 or visit [www.ahs.org](http://www.ahs.org).

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Through this program, AHS members receive free and discounted admission to botanical gardens throughout North America. Participating gardens are listed in this year's *AHS Member Guide* and also in the Membership area of our Web site. For more information, call (800) 777-7931 ext. 127.

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AHS members and friends can visit spectacular gardens around the world through the Society's exclusive arrangement with Leonard Haertter Travel. To learn about upcoming trips, call (800) 777-7931 ext. 118 or visit the Events section of our Web site.

### WASHINGTON BLOOMS!

AHS's annual celebration of spring was held April 1 to 25, 2004, at River Farm. This year featured the debut of the AHS Garden School, a series of in-depth workshops on exciting new gardening trends. Look for information on 2005 programs later this year.

### WEB SITE: [www.ahs.org](http://www.ahs.org)

The AHS Web site contains information about AHS programs and activities, gardening events in your area, and links to other useful Web sites. Starting **January 20, 2004**, AHS members can reach the member's-only area of the site by typing in this year's password: **meadow**.

# The American GARDENER

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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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## NOTES FROM RIVER FARM

THERE IS SO MUCH excitement building at the AHS these days that I can't even begin to cover it in this space! Over the last several months the AHS Board of Directors and staff have been working closely to evaluate the many programs and activities of the AHS while moving forward with the creation of an exciting new Master Plan for our headquarters at George Washington's River Farm.

The conceptual Master Plan for River Farm, recently approved by the AHS Board (see article on page 6), includes an ambitious plan for restoring many of our existing buildings while creating gardens that will celebrate the past, present, and future for American Horticulture.

As you will read in the AHS news section on page 8, we have already made great strides with the restoration of our meadow, thanks to our former Board Chair Kurt Bluemel and a small army of helpers from his nursery and from neighboring Mount Vernon. We have also added "sparkle" to some of our historic buildings with new paint, wallpaper, and decorative fixtures. As we go about this important work, we are ever conscious that everything we do must be relevant and exciting to our AHS members in each and every state. If you would like to get involved in this process, please contact me directly. I would love to know what you think.



Educational programs have been and continue to be a major focus for AHS, especially those that bring together leaders in our field to discuss important issues with a goal of establishing direction and taking action. Many of these programs are now being done in cooperation with partners who share our hopes and concerns. This spring, I co-facilitated the "Magic of Landscaping" conference in Orlando, Florida, an annual program that brings together landscape architects and developers to explore the commercial value of plants and landscapes.

Also this spring, our colleagues from the U. S. Botanic Garden, the Chicago Botanic Garden, the National Gardening Association, and the National Wildlife Federation convened at AHS's River Farm headquarters for a special "congress" to discuss the important issue of plant-based education. AHS has been a leader in this field for more than a decade now, but we still have more to do to bring plants and gardens back into the mainstream of education in America.

Other important leadership forums are in the wings. The AHS National Children & Youth Garden Symposium will be held July 29 to 31 in Ithaca, New York. With the help of our partners at Cornell University, this program is the finest opportunity for garden designers, educators, and passionate believers to learn of new youth garden programs, visit successful gardens, and explore new ideas.

At the AHS, we are determined to provide leadership for the all-important issues facing horticulture today. If there are issues of particular concern to you, please let us know. Together we may be able to make a difference by focusing attention and mapping out a plan for change.

Enjoy the rest of your summer and... happy gardening,

*Katy Moss Warner*

—Katy Moss Warner, AHS President



## New Master Plan for River Farm Approved by AHS Board of Directors

IN JUNE, the American Horticultural Society's Board of Directors approved a new Master Plan for the AHS's River Farm headquarters. The Master Plan was coordinated by Pittsburgh-based landscape architectural firm **Marshall•Tyler•Rausch** in cooperation with **Martinez & Johnson Architecture**, a Washington, D.C., firm that specializes in restoration and adaptive reuse of historic structures.

"This is the most exciting development for the American Horticultural Society that I have witnessed since first joining the AHS Board of Directors more than 10 years ago," says AHS President **Katy Moss Warner**. "This Master Plan, guided and informed by the vision and goals charted for the AHS during a 2002 strategic planning session, will transform River Farm into a true celebration of American horticulture and create an ideal site where groups can convene to address major issues facing American gardeners."

Highlights of the proposed first phase of the Master Plan include improved visitor services, enhanced gardens that highlight past horticultural trends and historical figures in American horticulture, and state-of-the-art facilities for educational programs.

"The new Master Plan serves to guide the future enhancement of the AHS headquarters in many ways," says landscape architect **Missy Marshall**, an AHS Board member and principal of Marshall•Tyler•Rausch. "It provides storylines that will shape the visitor experience, it establishes relationships between the various elements and existing characteristics of the site, and it anticipates locations of planned features as well as circulation patterns."

According to committee member **Ron Kagawa**, an associate professor in the department of landscape architecture at Virginia Tech's Alexandria Center, "Another strength of the plan is the way that it fulfills the national mission of the AHS while respecting the character, natural beauty, and heritage of the River Farm site."

The approval of the conceptual Master Plan culminates nearly two years of planning and work that started with a design charrette held at River Farm in the fall of 2002. At that time, 26 national leaders in horticulture, education, and landscape design met at River Farm for three days to shape a new vision for the AHS headquarters. "The charrette helped us identify the most

pressing issues and set priorities for our site," says **Tom Underwood**, AHS director of horticultural programs.

Focusing on the priorities established during the charrette, the AHS River Farm Committee began meeting regularly to identify and address site and programmatic issues critical to development of a new Master Plan. Throughout the process,

Missy Marshall played a leading role in guiding the committee's activities and the preparation of the Master Plan.

"We're so fortunate to have Missy's leadership and the support of a landscape design firm with the national credentials of Marshall•Tyler•Rausch," says new AHS Board Chair **Arabella Dane**. "They have been instrumental in the design of many of the major public gardens around the United States."

Look for updates in future issues of *The American*

*Gardener* on the implementation of the Master Plan and ways you can get involved in this exciting project. Please direct any comments or questions about the Society's headquarters at River Farm to Tom Underwood at [tunderwood@ahs.org](mailto:tunderwood@ahs.org).

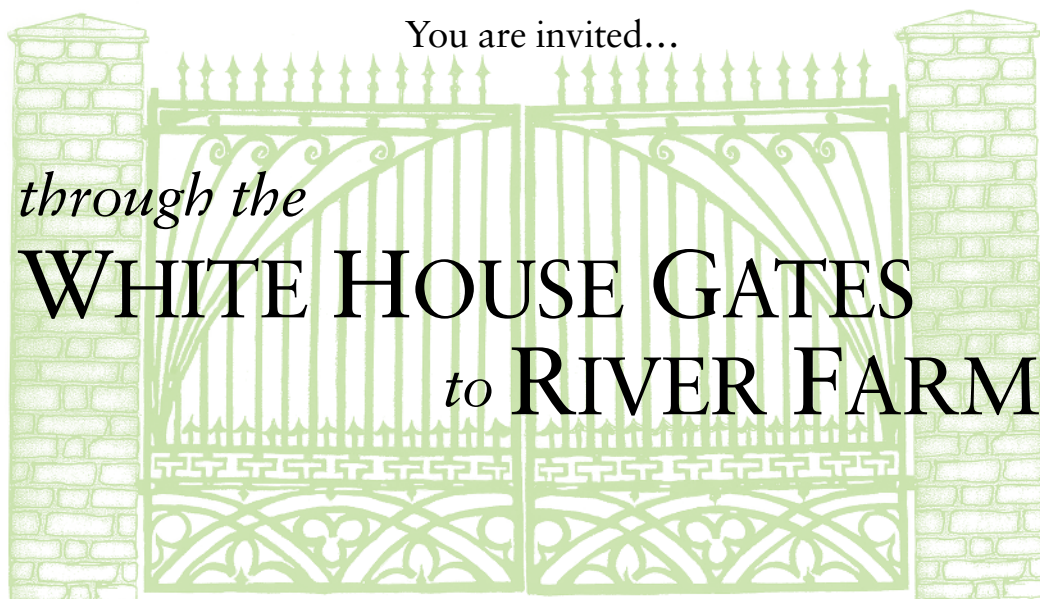


Scenic vistas of the Potomac River are incorporated as major elements of the visitor experience in the new River Farm Master Plan.

## Time to Save Seeds!

Remember to start saving seeds now for the **2005 AHS Free Seed Exchange**. Last year's exchange was a huge success, with 163 different seed varieties offered and more than 1,000 seed orders from AHS members filled. The most popular seed offering last year was *Salvia transsylvanica* 'Blue Cloud', for which there were more than 300 individual orders.

More information about the annual seed exchange—and a form that can be used when you donate seeds—will be published in the September/October issue of *The American Gardener*. You can also print out a seed donor form by going to the Member's section of the AHS Web site ([www.ahs.org](http://www.ahs.org)) and clicking under Annual Seed Exchange.



**Annual Gala  
for the American Horticultural Society**

**Honorary Patron Mrs. Laura Bush  
Honorary Chairs Virginia Senator and Mrs. John Warner**

**Saturday, September 25, 2004 6:00 p.m.–11:00 p.m.**

*Enter this year's Gala through a piece of history and celebrate George Washington's River Farm, headquarters of the American Horticultural Society.*



*Mrs. Laura Bush*

Walk through the beautiful wrought-iron gates that graced the White House from 1820 to 1934 — the same gates every President from James Monroe to Franklin Roosevelt rode through after their inaugurations. These historic treasures, which have hung at the entrance to River Farm since the mid-1930s, will later be restored to their original beauty and reinstalled as a prominent garden feature at River Farm. So come and enjoy dinner and a stroll through the gardens in all their autumn splendor. Help us celebrate the Society's national educational programs and the stewardship of George Washington's River Farm. Please plan to attend.



*Senator John Warner*

For information call (800) 777-7931 ext. 110 or e-mail [jdaniels@ahs.org](mailto:jdaniels@ahs.org).



## André M. Bluemel Meadow to Bloom at River Farm

MORE THAN 20 staff members and volunteers from the AHS, Mount Vernon Estate and Gardens, and Kurt Bluemel Inc. nursery teamed up April 26 and 27 to plant the first stage of a restored meadow at River Farm. In two days this intrepid group planted—by hand—some 32,000 plugs of mostly native wildflowers and grasses across a one-acre sweep of ground sloping down to the banks of the Potomac River.

**Kurt Bluemel**, the outgoing AHS Board Chair and owner of Kurt Bluemel nursery in Baldwin, Maryland, designed the meadow and is donating all of the plants—a total expected to exceed 100,000—that will be needed to complete the four-acre meadow, which will be installed in three more planting phases over the next few years. “Kurt has provided us with a meadow that will be a beautiful and sustainable element of River Farm for generations to come,” says **Tom Underwood**, AHS director of horticultural programs. At Kurt’s request, the meadow has been named in memory of his son, **André M. Bluemel**.

In addition to offering scenic beauty for River Farm visitors, the meadow will serve as a natural filter to reduce runoff into the Potomac River and provide rich habitat for wildlife. “A meadow fits in well with the philosophy of reducing the use of chemical pesticides and fertilizers and is a logical planting for this location on a slope near the Potomac River,” says Kurt. “It also provides four-season interest through flowers, foliage, and seedheads and will become a natural habitat for many kinds of wildlife.”

To determine how the meadow affects River Farm’s overall bird population both in quantity and diversity of species, the Virginia chapter of the **National Audubon Society** will be conducting regular bird surveys at River Farm over the next 10 years.

“It will be especially rewarding when the meadow plants are mature and blooming,” says AHS Horticulturist **Peggy Bow-ers**, “because it contains so many good seed and nectar plants for wildlife, like *Monarda punctata*, *Asclepias tuberosa*, and *Helianthus angustifolius*.”



Staff from AHS, Mount Vernon, and the Kurt Bluemel nursery teamed up to plant the first phase of a meadow at River Farm this past spring.

To ensure the long-term success of the meadow, an endowment fund has been established and many generous donations have already been received. If you’d like to support the André M. Bluemel Meadow, please contact **Joe Lamoglia**, director of business operations, at (703) 768-5700 ext. 115.

## Restoring the White House Gates

PLANS ARE UNDERWAY to restore and preserve a set of former White House gates that graced the American Horticul-



Before hanging at the entrance to River Farm for many years, this gate was part of a set at the northeast entrance to the White House.

tural Society’s River Farm property entrance for over half a century. The gates’ unique history was uncovered only recently by architectural historian and AHS Board member, **William Seale**, who has authored several books about the history of the White House.

After researching historical records and photographs from the White House archives, William confirmed that the AHS gates were the same ones that stood at the northeast entrance to the White House during the presidencies of James Monroe through Franklin D. Roosevelt. “They are very fine hand-forged gates, representing the best quality of fencing in the early republic,” says William.

The AHS is committed to restoring the 185-year-old, handmade iron gates for their historical value and eventually incorporating them into the landscape at River Farm. Before the gates can be permanently displayed, however, professional restoration is needed to combat the wear and tear of time and exposure to the elements.

“This project has generated a lot of excitement,” says **Joe**

## AHS Gala Set for September

Available tables were limited as this issue went to press, but there may still be time to make a reservation for yourself at the 2004 AHS Gala, “Through the White House Gates to River Farm,” which will be held on September 25. For more information, please turn to page 7 or call (703) 768-5700.



**Lamoglia**, AHS director of business operations. "We've received a \$50,000 pledge from a generous donor who wishes to remain anonymous, and we're seeking grants and individual funding for the balance. Properly restoring and displaying these American treasures will require funding of more than \$100,000."

AHS members will have a final opportunity to see the gates prior to restoration at the AHS Annual Gala, which will be held at River Farm on September 25. Restoration will be completed this winter and the gates will make their national debut as the official entrance to the 2005 Philadelphia Flower Show, which will be held March 6 to 13 at the Pennsylvania Convention Center. **The Pennsylvania Horticultural Society** invited the AHS to participate in next year's show because the identity of the gates as a historic American landscape feature ties in perfectly with the show's theme, "America the Beautiful."

## River Farm's George Harding Memorial Azalea Garden

THIS SPRING, the 12 beds within the George Harding Memorial Azalea Garden at River Farm were alive with the grandeur of more than 700 azalea selections. The fine colors of the early-blooming selection, such as the rich pink Glenn Dale hybrid 'Bountiful', were followed by many large-flowered, Satsuki hy-



Volunteers Milton Lerner, left, and Robert Stelloh erected the sign for the Harding Memorial Azalea Garden prior to its official dedication in 1994.

brids like the soft pink 'Gwenda' and the outstanding Polly Hill selection, 'Wintergreen.' These and many rare and unusual azaleas can be found in this outstanding collection, which is interplanted with a wide variety of uncommon herbaceous perennials and specimen trees that can be viewed from woodchip covered paths.

Designed and planted by members of the **Azalea Society of America** (ASA) in partnership with the AHS, the garden was dedicated in 1994 as a memorial to George Harding, a leading azalea expert who was chief of maintenance with the National Capitol Parks and a co-founder of the ASA. He died in 1990.

Ornamental grasses, perennials, bamboo, ferns. Liners available.

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Among those who helped create the garden are **Denise and Robert Stelloh**, **Bea and Robert Hobbs**, **Sue and George Switzer**, and **Joan and Milton Lerner**. It continues to be maintained and planted by ASA members—including George's grandson, **Michael White**—who keep George's memory alive through their remarkable dedication.

"George was a great personality and plantsman," says Milton, who along with his wife, Joan, has volunteered in River Farm azalea garden since its inception. "When I first met him he had begun losing his sight, but this didn't slow him down. Instead, he started learning to identify trees based on the feel of their bark."

To view the azalea garden at its peak of glory, visit River Farm from late April through mid June.

## Arabella Dane is New Board Chair

ARABELLA DANE became the new Chair of the AHS Board of Directors at the June Board meeting, succeeding **Kurt Bluemel**, who remains on the Board as immediate past chair.

A resident of Center Harbor, New Hampshire, Arabella has been on the AHS Board since 1996 and is also active in the



As new AHS Board Chair, Arabella Dane takes the gavel from Kurt Bluemel.

Garden Club of America and National Garden Clubs. An internationally recognized flower show judge, she frequently teaches courses on flower arranging. Arabella received the AHS Frances Jones Potter Award in 1996 and has been recognized for her floral arrangements and her numerous gardening outreach activities by the Massachusetts Horticultural Society,

the Garden Club of America, and many other organizations.

Newly elected AHS Board officers are **Brian Holley**, executive director of the Cleveland Botanical Garden, who is first vice chairman, and **Don Riddle**, owner of Homestead Gardens nursery in Davidsonville, Maryland, who is second vice chairman. They join current Board officers **Albin McDonough Plant** of Baltimore, Maryland, who is secretary; and **Christine Perdue** of Middleburg, Virginia, who is treasurer.

Board members who have fulfilled their terms are **Jim Corfield** of Geneva, Illinois, and **Valerie Thomas** of Alexandria, Virginia. Newly elected directors are **Beverly Hanselman**, **Arnold Steiner**, and **Margaret Kulp**. Beverly lives in Nashville, Tennessee, and has served as president of the Garden Club of Nashville. Arnold, an investment banker and avid gardener, resides in Birmingham, Alabama. A resident of Louisville, Kentucky, Margaret is a member of the Garden Club of America travel committee and is on the board of the Bernheim Arboretum and Research Forest.



## AHS Welcomes New Horticultural Partner

THE AHS is pleased to welcome the largest men's garden club group in North America, **The Gardener's of America/Men's Garden Clubs of America** (TGOA/MGCA), as the AHS's newest horticultural partner. As of this issue of the magazine, all 4,000 members of TGOA/MGCA are now also AHS members. "We welcome all these enthusiastic new gardeners; it was a great pleasure for me to meet so many of them recently," says AHS President **Katy Moss Warner**, who spoke at the group's annual convention in Des Moines, Iowa, this past June.

TGOA/MGCA holds an annual convention each year at one of its 78 garden club affiliates around the United States. The organization also produces an annual gardening calendar and sponsors photography and horticultural awards. In addition, its participating garden clubs host numerous local events and programs. "We are very excited about this partnership with the AHS," says TGOA/MGCA President **Honey Barnekoff**. "It will undoubtedly be of mutual benefit to our respective members."

Look for more information about TGOA/MGCA programs and activities in future issues of *The American Gardener*. Or visit the TGOA/MGCA Web site at [www.tgoa-mgca.org](http://www.tgoa-mgca.org).

## New Online Gardening Courses Launched

BASED ON the success of the online "Art and Science of Container Gardening" course, which debuted in fall 2002 and has been successfully completed by more than 1,000 gardeners across America, the AHS and Michigan State University's **Horticultural Gardening Institute** (HGI) have developed two new exciting online gardening courses that will open for registration in late summer and fall.

These new online courses are "The Art and Science of the SMARTGARDEN™" and "Herbaceous Perennials: Identification, Culture & Garden Attributes." The SMARTGARDEN™ program is designed to work with four AHS SMARTGARDEN™ *Regional Guides* that are tailored to gardeners in the Northeast, Southeast, Northwest, and Southwest. "The structure of the SMARTGARDEN™ course is really ground-breaking," says **Chris Geith**, director of the MSU Global Institute and co-executive director of HGI. "It is de-

### PARTNERSHIP FOR PLANT-BASED EDUCATION MEETS AT RIVER FARM



In April, more than 50 representatives of the national Partnership for Plant-Based Education (PPBE) met at River Farm. The PPBE was formed in 2002 to promote the use of plants as an important element of children's educational programs. In addition to AHS, groups represented at the meeting included the U.S. Botanic Garden, the National Wildlife Federation, the National Gardening Association, and the Chicago Botanic Garden.

signed to truly fit the individual gardener's needs." The herbaceous perennials program—developed in partnership with the University of Georgia's celebrated perennial expert **Allan Armitage**, an AHS Board member—will provide instruction on all aspects of selecting and caring for more than 200 outstanding perennial plants.

Meanwhile, the online container gardening course—the first venture in the educational partnership between the AHS and HGI—is still open for registration. This 12-week online course is based around projects and interviews provided by gardening experts such as AHS's President Emeritus **Dr. H. Marc Cathey** and Associate Editor **Carole Ottesen, Brent and Becky Heath** of Brent and Becky's Bulbs, and container specialist **Heather Will-Browne**.

In addition to offering first-rate gardening education, all these online courses include perks such as a complimentary AHS membership and access to HGI resources for a full year. Participants can also communicate with other gardeners online through a special member-share feature.

And all the courses offer participants the option of attending special regional gardening events relating to each online course. Two upcoming regional events designed to complement "The Art and Science of Container Gardening" course will be held at the **Leila Arboretum Society** in Battlecreek, Michigan, on August 21 and at the **Ohio Master Gardener Program** in Beaver Creek, Ohio, on September 9.

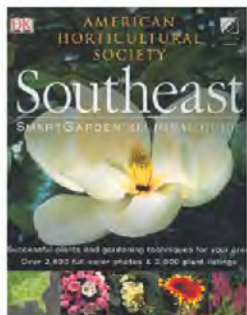
### Help Test an Online Course!

Interested gardeners have an opportunity to play an integral role in the final stages of testing for the "Herbaceous Perennials" program by registering to attend The Grand Hotel: Gardens of Mackinac Island, a gardening event with Allan Armitage hosted by the Michigan Master Gardeners on August 22 to 24. For more information, visit [www.gardeninginstitute.com](http://www.gardeninginstitute.com).

For further information, or to register for these programs and events, visit the HGI Web site ([www.gardeninginstitute.com](http://www.gardeninginstitute.com)), or link to this site through the AHS site ([www.ahs.org](http://www.ahs.org)).

## New SMARTGARDEN™ Book Out

THE LATEST in the AHS SMARTGARDEN™ *Regional Guide* series, tailored to gardeners in the Southeast, is now available from DK Publishing. Co-authored by **Rita Pelczar**, former associate editor of *The American Gardener*, and AHS Board member **Dr. William E. Barrick**, who is executive director of Bellingrath Gardens in Mobile, Alabama, the book contains practical advice on creating a beautiful and earth friendly garden. Also included are hundreds of fully illustrated plant lists suited to a variety of garden sites. To order the book, visit the AHS Web site at [www.ahs.org/books/books.htm](http://www.ahs.org/books/books.htm), or call DK directly at (800) 526-0275.



## The Growing Connection

THE AHS initiative, *The Growing Connection* (TGC), is reaching new heights this summer as the program expands to reach more schools and communities across the country and abroad. AHS has partnered with the **Food and Agricultural Organi-**

**zation** (FAO) of the United Nations to develop this unique international program, which teaches middle-school-age children the science behind growing food, and helps them explore important issues like nutrition and water conservation.

Students and youth groups in the program receive TGC kits that include vegetable seeds, educational materials, and a scientifically designed growing unit called an EarthBox™. The seeds are used to conduct science experiments and the children can share their results with other participants and project scientists around the world through the Internet.

The city of Chicago, which has agreed to serve as a flagship city for TGC, is setting up demonstration gardens at the **Garfield Park Conservatory** and at the **Chicago High School for Agricultural Sci-**

**ences.** The city of Chicago and the University of Illinois Master Gardeners will oversee this program, which will operate as a hub for new members of TGC. "From there we reach out to about 20 individual communities and schools," said **Bob Patterson**, senior liaison officer with FAO in the United States.



AHS President Katy Moss Warner, left, meets with students from the Crossroads school in St. Louis, Missouri, who are participating in *The Growing Connection* program.

TGC has also taken off this summer in the Washington, D.C., area, with 12 additional schools introduced to the program in June. Visitors to the Washington area can see a TGC demonstration garden in action by visiting the AHS headquarters at George Washington's River Farm.

On the international front, Bob says that the program in the West African nation Ghana is doubling this summer to include a total of 16 villages. In Mexico, a "preliminary adaptability trial" is underway, he says, to determine if the environmental conditions are compatible with TGC's system. The program there is scheduled to be up and running by the end of the year.

To find out how to get your school or youth group involved in *The Growing Connection*, contact **Amy Chaffee** of FAO at (202) 653-2458 or by e-mail at [Amy.Chaffee@fao.org](mailto:Amy.Chaffee@fao.org).

*AHS news items were written by editorial interns Jessie Keith and Katie Palanjian.*

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# Summer Berries

Easy-to-grow raspberries and blackberries are a mouth-watering addition to the summer garden.

BY LEE REICH

**B**RAMBLES—a collective term for the mostly prickly-stemmed berry-bearing plants of which raspberries and blackberries are the most familiar—are, arguably, the most delectable of fruits. But they are also the most perishable when *dead ripe* and do not taste their best unless harvested at this stage. All of which makes a case for growing brambles where they need travel no further than arm's length or, at most, from your garden to your door.

Sometimes referred to as cane fruits, brambles have a couple of other characteristics recommending them for the backyard or front yard garden. First, their price in the market notwithstanding, they are very easy to grow. Given a good site and regular pruning, brambles generally remain free of pest problems. Second, brambles are worth growing because some kinds are highly ornamental, doing double duty in the garden to please both eye and palate.

Brambles belong to the genus *Rubus*, which is made up of more than 400 species grouped into 12 subgenera. The two most delectable—and sometimes ornamental—subgenera are raspberries (*Ideobatus*) and blackberries (*Eubatus*). All bramble fruits are aggregates of drupelets—tiny, single-seeded, fleshy fruits—and the two subgenera are easily differentiated by how these drupelets detach from the plant. If, after picking, the berry is hollow, like a thimble, it's a raspberry. If the receptacle—the core around which the drupelets are attached—comes off with the fruit, it's a blackberry. Cultivated raspberries are generally harder than cultivated blackberries.

## RASPBERRIES

The most familiar raspberries are the red (and sometimes yellow) raspberries, represented mostly by the European species *R. idaeus* var. *vulgatus* and the American

species *R. idaeus* var. *strigosus*. Red raspberries have been enjoyed for millennia, but were not cultivated in Europe until the 15th century.

In America in the late 18th century, William Prince's nursery on Long Island offered four varieties—two European and two American ones. The European species is notable for having long, dark, and conical fruits, while the American species, still represented by the varieties 'Latham' and 'Newburgh', has round, light-colored fruits. Canes of the American species are also harder, thinner, and upright, and have fewer prickles.

New red raspberry varieties are always being introduced, some adapted to specific regions. My favorites, for outstanding flavor, include 'Fallgold' and 'Canby', both of which will thrive in USDA Plant Hardiness Zones 4 to 8 and AHS Plant Heat Zones 8 to 1.





Fruit color is not always an indication of flavor. Pale 'Fallgold' raspberries, above, rank among the author's favorites for taste, whereas wineberries, right, are more attractive than palatable.

Opposite: A mix of fresh blackberries and raspberries makes a delicious summer treat.



Early in the 20th century, black raspberries, also called blackcaps (*R. occidentalis*, Zones 4–9, 9–1) were at least as popular as red raspberries. The first variety, 'Ohio Everbearing,' was named in 1832, but commercial cultivation did not take root—literally—until 1850, when H. H. Doolittle of Oaks Corners, New York, discovered that the way to propagate the plant was by tip rooting. By the end of the 19th century, thousands of acres of black raspberries were being planted in western New York alone.

In his 1925 classic, *The Small Fruits of*

*New York*, Ulysses Prentiss Hedrick described almost 200 varieties of black raspberries. Few varieties are grown today and even these do not differ much from one another or from wild ones. The genes of *R. occidentalis* do figure into some of today's complex bramble hybrids, however, including purple raspberries (sometimes designated *R. neglectus*), which are first-generation hybrids of black and red raspberries.

As compared with red raspberries, black raspberries are slightly less cold-hardy (to about USDA Zone 5) and their fruits are

drier, richer, and, of course, black. The prickly stems are glaucous; that is, covered with a waxy bloom, giving the plants a bluish-white cast that some consider decorative, especially in winter. Decidedly decorative, with dramatic, ghostly white stems in winter, is the strictly ornamental *R. cockburnianus* (Zones 5–9, 9–5).

A few other raspberries are notable either for their contributions to the raspberry variety gene pool or for their beauty or regional savoriness. Wineberry (*R. phoenicolasius*, Zones 5–9, 9–5), an escape from Asia that has naturalized in the east-



White-stemmed *Rubus cockburnianus*, above, and pink-flowered *R. odoratus*, right, are grown as ornamentals. Thimbleberry, above right, bears berries as sweet as its flowers are attractive.





ern United States, offers good looks and fruit that many people—although I am not one of them—enjoy. The arching canes are thoroughly clothed in fine, but prominent, rusty red prickles and the fruits are shiny and bright red.

Thimbleberry (*R. parviflorus*, Zones 3–9, 9–1) is a decorative raspberry of northern woods sporting one-inch-diameter white blooms, maplelike leaves, and scarlet berries having a sweet, subtle flavor. One of my favorite raspberries, valuable only for its show, is purple-flowering raspberry (*R. odoratus*, Zones 3–9, 9–1), which brightens summer woods throughout eastern North America with its large purple flowers, looking much like single roses.

## BLACKBERRIES

Compared with raspberries, blackberries are much more difficult to classify because they include numerous “ploidy” levels—plants with different numbers of chromosomes—as well as natural and artificial hybrids. Classification by growth habit is therefore easiest and most convenient.

The most cold-hardy of the lot—suited for USDA Zones 5 to 8—are the “erect thorny” varieties (mostly representing *R. allegheniensis*, *R. argutus*, and *R. frondosus*), of which ‘Darrow’, ‘Eldorado’, ‘Cherokee’, and ‘Shawnee’ are cultivated examples. Whatever their lineage, they are just what their name implies and bear large clusters of sweet berries.

“Dewberry” is a term loosely applied to any blackberry with long, trailing canes, but more commonly it applies to the “eastern trailing types,” represented by *R. baileyanus* and the variety ‘Lucretia’. “Western trailing blackberries,” also sometimes called dewberries, form long canes and yield large, wine-colored to black fruits with distinctive flavors. Species include the native American *R. ursinus*, *R. macropetalus*, and *R. loganbaccus*, and the European *R. procerus* and *R. laciniatus*. ‘Logan’, ‘Boysen’, ‘Himalaya’, and ‘Evergreen’ are representative varieties. Dewberries grow well in Zones 6 to 9, 9 to 6.

Finally, we come to the “semi-erect thornless” group, varieties such as ‘Black Satin’, ‘Chester’, ‘Dirkson Thornless’,



‘Thornfree’ blackberries, above, produce loads of fruit and smooth stems that take the pain out of harvesting. Arctic raspberry, left, is more difficult to bring to fruit, but it does bear an abundance of pretty pink flowers.



‘Thornfree’, and ‘Smoothstem’. These varieties don’t quite match the erect thorny ones in terms of cold-hardiness (they are only reliably hardy to USDA Zone 6) and flavor, but I for one tired of battling thorns and traded in my thorny ‘Darrow’ for thornless ‘Chester’. Further muddying the semantic waters, there also are thornless varieties of western trailing blackberries, ‘Thornless Logan’ being one example.

The thornlessness of thornless blackberries is, in my opinion, beauty in itself.

It’s not just that these plants are non-intimidating; the smooth, greenish stems and lush green leaves really are quite ornamental, and made more so as a background for the large white blossoms. (For more about thornless blackberries, see “Ouchless Blackberries” on page 51.)

Two other intriguing blackberries worth trying to grow if you live in a cool-climate region are cloudberry (*R. chamaemorus*, Zones 2–6, 6–1) and Arctic raspberry (*R. arcticus*, Zones 1–7, 7–1). Cloudberry is as elusive as its name, a low-growing plant of northern bogs that does not take kindly to cultivation. The fruit has a musky scent and strange aftertaste over which Scandinavians swoon. Arctic raspberry forms a low-growing ground cover up from which stare pink blossoms. Both have been used in breeding to bring good flavor to their progeny and neither, incidentally, has black fruits. Cloudberry is yellow and



Arctic raspberries are red. Alas, I have thus far been unsuccessful in bringing either species to fruit.

To add further interest—some might call it confusion—to the *Rubus* melting pot, blackberries have also been crossed with raspberries. Cultivars such as ‘Loganberry’, ‘Youngberry’, and ‘Boysenberry’ all seem to have some red raspberry in them, and a more recent addition to this clan, introduced from Scotland, is ‘Tayberry’. These hybrids are suited to Zones 6 to 9, 9 to 6.

## GROWING BRAMBLES

Cultivated brambles are all remarkably similar in their growth habits and needs. The roots are perennial but the canes generally are biennial, growing only stems and leaves their first year (during which time they are called primocanes), then flowering, fruiting, and dying their second year (during which time they are called flori-

canes). Flower stalks are borne directly from floricanes in the case of red raspberries, while the other cultivated brambles bear flower stalks on laterals that formed on primocanes.

New primocanes develop during the same season that floricanes are fruiting so all brambles can be harvested every year after the initial planting season.

Raspberries generally offer their fruits in midsummer, blackberries usually later in summer; harvest times for individual varieties will differ slightly, of course, depending on where you live. Because brambles come with such a wide range of fruiting times, it’s possible with careful selection of cultivars—and enough garden space—to have brambles in fruit from midsummer into early fall.

Some bramble varieties—‘Heritage’ and ‘Fallgold’, for example—are called fallbearing or everbearing because their primocanes begin to fruit starting at their

tips towards the end of summer and into fall, then continue bearing lower down on those same stems (now floricanes) the following midsummer. The “everbearing” crop, then, is made up of the midsummer crop on floricanes on whose heels follows the late summer and fall crop on primocanes.

## QUICK SPREADERS

Anyone who has tried to fight their way into an overgrown bramble patch can attest to brambles’ ability to spread. Red raspberries and erect blackberries send up new shoots from their crowns (the bases of old plants) as well as from buds on spreading roots. Young raspberry plantings spread mostly by the latter method, only later settling down to developing shoots mostly from crown buds. This can sometimes cause novice bramble growers to fear, unnecessarily, that a new planting will take over the garden.

## THORNLESS BLACKBERRIES

Thornless blackberries are an example of what horticulturists call a chimera—a plant made up of two or more genetically different tissues growing separately but adjacent to each other.

Chimeras are usually the result of a chance mutation among the dividing cells at a shoot tip, but they can also be developed intentionally through grafting. In some plants, variegated leaves are the result of a chimera.

In the case of thornless blackberries, the mutation (loss of the gene that causes thorns) occurred in the epidermis, or outermost layer of plant tissue, which is where thorns normally form. This type of mutation is termed a periclinal chimera.

Because roots are formed from inner layers of tissue, thornless blackberries propagated by root cuttings will be composed only of non-mutated cells and, hence, will be thorny. To retain thornlessness, they must be propagated by tip layers or stem cuttings.

—L.R.



Planting brambles in a row, rather than a patch, makes picking ripe fruit a pleasure.





Training raspberries on a supportive structure will result in better fruit production.

All the other brambles commonly cultivated for their fruits—black and purple raspberries, and trailing blackberries—spread by tip layering, that is, by hopscotching along as arching or trailing canes root at their tips and make whole new plants which go on to make more tip layers. Brambles' biennial canes and their aggressive spread all make a case for annual pruning (see sidebar on pruning, page 19).

Rapid spread implies ease of propagation. Brambles are easily propagated from rooted suckers (red raspberries and erect blackberries), root cuttings (red raspberries and erect blackberries), tip layers (trailing blackberries, purple raspberries, and black raspberries), and stem cuttings (trailing blackberries). Although brambles thus make good passalong plants, to avoid bringing pests into a new planting it's best to start with certified disease-free plants from a reputable nursery rather than with plants garnered from a generous neighbor.

## PLANTING AND TRAINING

Keep that spreadability in mind also when planting brambles. Aim for a row rather than a patch and set red raspberries about two feet apart in the row to eventually fill in a foot-wide swath. Blackberries, being more robust plants, are set three to six feet apart in the row, the larger distances for trailing types. Trellised plantings give a neater look and more berries; canes might be tied or woven into one, two, or more wires strung between sturdy posts.

Another way to train brambles is in hills, or stations, with a post at each hill to which the fruiting canes are tied. Hills vary from six to nine feet each way, the distance, once again, depends on the plants' vigor.

Brambles grow best in sites that receive at least five hours of sun daily, and where the soil is well drained and rich in humus. A year-round cover of organic mulch will control weeds, retain soil moisture, and slowly replenish the soil as it decomposes.

## Resources

**The Backyard Berry Book** by Stella Otto. OttoGraphics, Maple City, Michigan, 1995.

## Sources

**Forestfarm**, Williams, OR. (541) 846-7269. [www.forestfarm.com](http://www.forestfarm.com). Catalog \$5; available free online.

**Indiana Berry & Plant Co.**, Huntingburg, IN. (800) 295-2226. Catalog free.


**Ison's Nursery & Vineyards**, Brooks, GA. (770) 599-6970. [www.isons.com](http://www.isons.com). Catalog free.

**Nourse Farms, Inc.**, South Deerfield, MA. (413) 665-2658. [www.noursefarms.com](http://www.noursefarms.com). Catalog free.

Plants are subject to a few debilitating cane diseases, but these rarely are a problem if you start with good planting stock, provide a good site, and prune regularly. Avoid a site that has recently been planted with strawberries or tomatoes and their kin, or is close to wild brambles. These precautions will reduce incidences of soil-borne diseases such as verticillium wilt.

Fruit beetles are usually only bothersome if the harvest gets ahead of you. The most common pests are cane borers, which usually attack weak plants. Cut away infested canes—the symptoms are wilting leaves—a few inches below the point of borer entry, which you can identify by a ring of holes.

## SWEET REWARDS

A garden of well-tended brambles ensures berry lovers an easy-to-harvest and reliable supply of delicious fruit. Difficult as it may be, resist picking them until they are absolutely dead ripe. Your patience will be rewarded with the sweetest, most intense flavor you'll ever experience. 

*Lee Reich is author of many garden books, including Uncommon Fruits for Every Garden, published this year by Timber Press. He gardens in New Paltz, New York.*



## PRUNING BRAMBLES FOR HEALTHY PLANTS AND BOUNTIFUL FRUIT HARVESTS

Regular pruning allows bramble canes to bathe in light and air to keep the planting productive and minimize disease problems. Pruning also makes harvesting easier, splaying out the fruits for easy picking rather than making you fight your way into a tangle of prickly stems.



The raspberry on the left has been thinned to allow more light and minimize diseases. At right is a plant that awaits pruning.

Fortunately, pruning brambles is also very easy. There's little art involved, just following a few easy steps.

First, cut to the ground all second year stems (floricanes). Do this anytime from immediately after harvest until just before growth begins the following spring.

Second, while the plants are dormant, thin out canes that grew the previous season so that, if in a row, they are a few inches apart and stay in a row no longer than a foot wide, or, if in hills, a half-dozen to 10 canes remain. Selectively remove those canes that are most spindly, broken, or show bark discolorations that are evidence of disease. This pruning can also be done during the growing season, leaving more air and light around remaining canes in summer.



From here on, there are a couple of differences between pruning the various brambles.

**RED (and YELLOW) RASPBERRIES** fruit stalks grow directly from canes, so the only further pruning these plants need is to shorten the remaining canes for ease of maintenance and tidiness. How much to shorten them depends on how the plants are supported. The longer the canes, the more fruit you will harvest.

**BLACK RASPBERRIES, PURPLE RASPBERRIES, and ERECT AND SEMI-ERECT BLACKBERRIES** bear fruit stalks on lateral branches. To promote lateral branching, pinch out the tips of growing primocanes in summer whenever they reach two to three feet in height. If you use a trellis to support your plants, you will harvest more berries because you can wait to top each cane until it is three feet high. In winter, shorten those lateral branches that resulted from your summer pruning to four to 18 inches long; let the fattest ones grow longest because they can bear more fruit.

After removing spent floricanes and thinning out primocanes, the only further pruning required by **TRAILING BLACKBERRIES** is to shorten long canes to seven feet and their lateral branches to between 12 and 18 inches. After pruning, weave or tie the canes to a trellis, allowing each season's primocanes to just trail along the ground out of the way of floricanes. Alternatively, train primocanes on one wire or in one direction along the trellis, and floricanes along the other wire or in the other direction.

**EVERBEARING RED (and YELLOW) RASPBERRIES** can be pruned like their summer-bearing counterparts except their remaining canes should be shortened just above where they finished fruiting the previous fall, as evidenced by old flower stalks. A simpler way to prune these raspberries is to mow the whole planting down each autumn. By following this system, however, you only get to harvest berries borne on primocanes, so you forego the summer crop.

—L.R.



Brambles such as this thornless 'Chester' blackberry, left, can be thinned, right, while they are dormant in winter.

# *gardening*

## *Raised to New Heights*

Physical challenges can't keep this Virginia gardener from growing a bounty of fresh vegetables.



Above: Steve Mason in the garden with his wife, Mary Carol, and their dog, Dakota. The raised beds are primarily planted with vegetables, including radishes, right, with flowers such as zinnias, top, providing accents of bright color.

FOR MOST OF US thumbing these pages, living life to the fullest means living it, at least partly, in a garden. For years Steve Mason, who grew up in North Carolina and remembers his father's large country garden, had wanted to grow vegetables. He and his wife, Mary Carol, had always landscaped their various homes with shrubs, ground covers, and herbaceous perennials, but a food garden had eluded them. "I always wanted a vegetable garden, but I never had the opportunity," Steve recalls. "It was always too little time, too much shade, or not enough room."

After retiring from the U. S. Army in 1987 and launching a civilian career, Steve moved to Fredericksburg, Virginia, in 2001. At about the same time, he was diagnosed with cancer, forcing another retirement. Steve finally found himself with both the time and a sunny spot for the long-awaited vegetable garden, but he faced the prospect of starting it from a

wheelchair. While Steve is able to walk, fatigue prevents him from standing for long periods and gardening like he used to.

After reading all he could find on gardening with disabilities (see "Resources," opposite page), he decided to create a garden of elevated wood-framed beds that would allow him to garden while sitting in his wheelchair. The 25-by-50-foot garden

of raised beds would be built on an already existing—and later augmented—expanse of asphalt near the garage, which would provide a smooth and easy rolling surface for the wheelchair. The site received full sun and also offered easy access to tool storage, the kitchen door, and a water supply. Wheelchair or not, it was the perfect spot for a vegetable garden.

Construction on the beds began in January 2002, after a round of cancer treatments left Steve debilitated but undeterred. Of the project, Steve, who had always been active and physically fit, says proudly, "It was my







Despite needing a wheelchair, Steve Mason enjoys working in his long-wished-for vegetable garden. Smooth, firm paving and wide spacing between the planting areas allow him to move around freely; the elevated beds enable him to tend his plants from the chair without bending.

physical rehab.” The beds were completed in March—just in time for a new growing season.

### TAILORED TO FIT

The Masons knew that good planning always increases the chances for a garden’s success. Before construction, Steve drew a plan for the garden on paper, locating a row of raised beds along the front of the backyard that would separate the garden and its beds from the driveway. He included a 52-inch-wide wheelchair-accessible opening in the front beds fitted with a gate so that when he gardens, his dog, Dakota, can be with him, yet remain safely enclosed.

The Mason garden consists of 14 raised beds, each sited about four feet apart. “When you look at the garden,” Steve says, “it looks like a lot of wasted space, but you need turning space for the wheelchair and a garden cart, so you can’t get the beds too close.”

The width of a raised bed should be determined by the gardener’s ability to reach the plants growing in it. Steve’s beds are either four or three feet wide. Four feet is a good width for beds accessible from two

sides. The beds along the edge of the garden, which are accessible only from one side, are three feet wide, a dimension that works for Steve because he has long arms.

The heights of the beds vary from 18 inches to 28 inches to accommodate a variety of crops. The higher beds by the driveway are filled with colorful herbs and flowers. Lower beds are planted with corn, okra, and tomatoes. Trellises attached to several beds support vining crops such as pole beans, sugar snap peas, and indeterminate tomatoes.

Steve is quick to point out that the design of a garden needs to suit the gardener’s situation and limitations. All gardeners, no matter their physical abilities, should consider ease of maintenance when designing a landscape.

### PUTTING THE PLAN INTO ACTION

While many homeowners would hire professional help in the construction phase of a large garden, the Masons got a great sense of accomplishment from tackling the project themselves.

After Steve had finished his plan for the garden, he ordered about three and a half pallets of pressure-treated lumber, which

were delivered and unloaded on the driveway. (See sidebar on pressure-treated wood, page 22.) Moving the heavy pieces of lumber required teamwork: Mary Carol would lift one end and place it in Steve’s lap. Then she would lift the other end and carry it while Steve supported his end and backed up the wheelchair.

Because Steve had taken into account that lumber is pre-cut at eight feet, he planned for most of the wood for the beds

## Resources

**American Horticultural Therapy Association**, [www.ahta.org](http://www.ahta.org).

**Accessible Gardening for People with Physical Disabilities** by Janeen R. Adil. Idyll Arbor, Inc., Ravensdale, Washington, 1994.

**The Enabling Garden: Creating Barrier-Free Gardens** by Gene Rothert. Taylor Publishing, Dallas, Texas, 1994.





Wide ledges at the top of the raised beds allow Steve Mason, accompanied here by Dakota, to sit and rest as needed on days when he is able to garden without a wheelchair.

to be in increments of four or eight feet to minimize the number of cuts that would need to be made. He and Mary Carol used a compound mitre saw in the shelter of the garage to cut all the lumber to size before taking the pieces back out and assembling the beds. (See the sidebar, right and opposite page, for details on how the Masons built the raised beds.)

“We worked on it every day that we were home, every morning and afternoon,” says Steve. “That was our job for three months,” adds Mary Carol.

## UPDATE ON USING PRESSURE-TREATED WOOD

When Steve and Mary Carol Mason built their raised beds in 2002, they used lumber treated with chromated copper arsenate (CCA). Because of health and environmental concerns over CCA, the use of pressure-treated wood is now restricted to commercial construction. Alternative products for homeowners include materials fabricated from recycled wood and plastic and lumber treated with non-CCA preservatives. For more about alternatives for CCA-treated wood, visit [southernpine.com/alternativepreservatives.shtml](http://southernpine.com/alternativepreservatives.shtml) or [www.wwpinstitute.org](http://www.wwpinstitute.org).

## A BOUNTIFUL PAYOFF

If the Masons ever had a doubt about whether building the raised beds was worth the time and effort, it has long been vanquished. “I was giving away cucumbers all over the neighborhood last summer,” Steve laughs. “I had a ton of squash, too. We especially liked the ‘Florence’ bush beans, broccoli, and ‘Red Sails’ lettuce.”

The asparagus bed is mature enough now to be productive, he notes. Last summer, the corn suffered during a drought, but the sage and chives continue to flourish. An annual planting of ornamental sweet potatoes, cannas, zinnias, and salvias in the front beds have worked well to provide season-long color.

Steve has found that he and Mary Carol are not the only beneficiaries of the garden. “One problem is getting to eat what I grow,” he says. “The birds like the strawberries as much as I do.”

Mary Carol is quick to emphasize, “It took tremendous strength and persistence to complete this project. If it weren’t for Steve’s mental toughness, I don’t think we could have done it.” Steve adds, “Some days we got a little done, some days a lot. Trust me, this was a *lot* of exercise!”

Now Steve simply enjoys growing the garden. He says with a smile, “In 20 inches of soil, it’s hard to kill anything!”

*Linda Askey is a free-lance writer living in Birmingham, Alabama.*

## HOW THE MASONS BUILT

THE MASON garden features 14 raised beds of various sizes—ranging from three or four feet wide and eight to 12 feet long—constructed of rough-sawn, pressure-treated pine 4×6s ①. For the sides of the 28-inch-tall beds, Steve Mason used four courses of lumber positioned on



their narrow side, making them six inches tall. For the top course, he placed 4×6s turned onto their wide side, making a six-inch-wide ledge for sitting and for resting tools. The 18-inch beds are simply three courses of six-inch-tall lumber.

The corners of the beds are fitted log-cabin style ②—that is, with alternating sides overlapping onto the 4×6 below. All mem-



bers are secured with eight-inch galvanized spikes at the corners and along the length of each piece of lumber, including the lowest



## THEIR RAISED VEGETABLE GARDEN

course, which has spikes driven through it and into the asphalt surface below. In the beds' interiors, Steve secured each course of lumber together with corner brackets attached with 8-penny nails.

Because the Masons used pressure-treated lumber to build their beds, they lined the interior of the walls with polyethylene



sheeting ③ to prevent the wood preservative from leaching into the soil. A double layer of plastic was attached to the wood with a staple gun along the upper edge. Besides protecting the soil from wood preservative, the plastic layer prevents water from seeping out between the courses of lumber, forcing it to flow through the soil.



After the boxes were lined with plastic, they were filled in layers. The bottom layers—for drainage—consist of six inches of gravel ④ followed by a layer of landscape fabric positioned upside down so only water—and not soil—can move through it. Four to six inches of washed sand top the fabric.

The remaining space in the boxes is

filled with topsoil to within a few inches of the rim of each bed. Because he was filling 14 beds, Steve says, “the biggest problem was dealing with the volume of gravel, sand, and soil.” He ended up renting a



small front-end loader that could maneuver between the beds, scooping up materials and moving them without too much effort ⑤. Before it was over, Steve had used 20 cubic yards of soil to fill his beds.

The completed raised beds can be planted and mulched ⑥ like any garden. To counter the natural settling of soil over time, Steve restores volume occasionally using bagged garden soil.

—L.A.



### CONSTRUCTION TOOLS

- compound mitre saw
- power drill capable of drilling 3/8-inch holes through a 6-inch piece of wood
- 8-pound hammer
- measuring tape
- staple gun

### MATERIALS

- 4x6 rough-sawn lumber
- 8-inch galvanized spikes
- corner brackets for each corner of each course
- 8-penny nails
- UV-resistant sheet polyethylene
- staples
- landscape fabric
- gravel
- washed sand
- topsoil

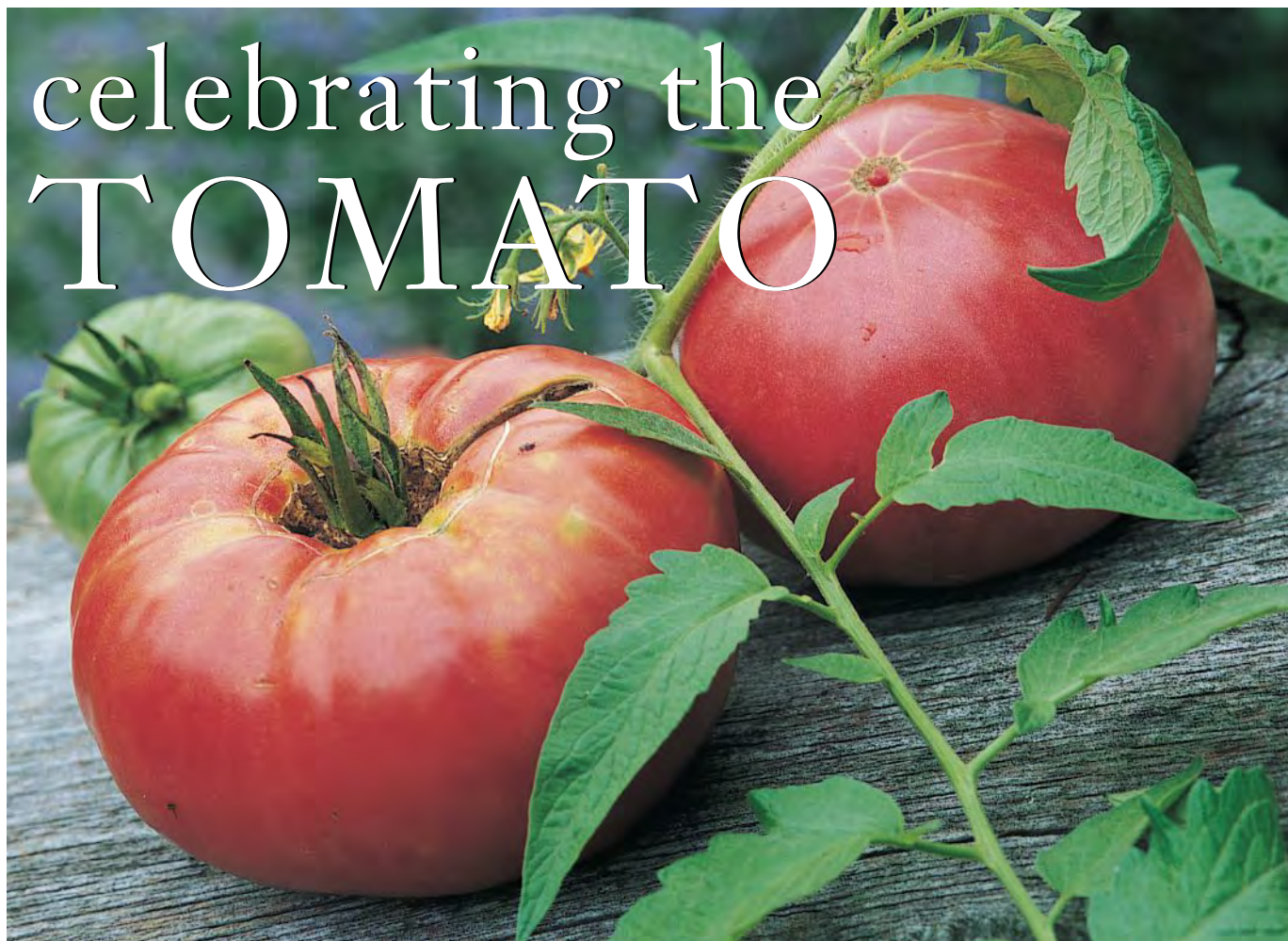






The tomato's central role in American culture and cuisine is evident in the many regional celebrations held in its honor each summer.

BY DAPHNE ROZEN



**Above:** Considered by many to be the best-tasting American heirloom tomato, 'Brandywine' produces large, beefsteak-style tomatoes with dark pink skin. Named for the Brandywine Valley in southeastern Pennsylvania, it is believed to have been developed and nurtured by the region's Amish farmers. This flavorful tomato is not very disease tolerant, however, and it bruises easily—one reason it is found at farmer's markets but not in the grocery store. **Top:** Tomato tasting is a popular part of the Carmel TomatoFest in California.

**T**HE TOMATO may not be native to North America, but—like the diverse human immigrants to this land—it has certainly made itself at home in the melting pot of cultures and cuisines that we call the United States. Welcoming the tomato with open arms—and mouths—Americans have, arguably, adopted the tomato as the national vegetable, although purists might insist it is the national fruit (see sidebar, “Fruit or Vegetable,” on page 25).

“I think that Americans have probably enjoyed more of a diversity in tomato flavors and varieties than any other country,” says Gary Ibsen, a well-known tomato grower and author of *The Great Tomato Book*.

As a long-time tomato aficionado, Ibsen attributes the tomato's popularity to its sheer beauty and delectable taste. “It's a wonderful fruit to celebrate,” he said. “It's such a colorful, beautiful food to look at, and it has a romance about it.” It can offer us “a variety of taste sensations from very sweet to jump-up-and-shout tomato flavor.”

This national love affair with the tomato would have seemed inconceivable 300 years

TOP: COURTESY OF CARMEL TOMATOFEST; CENTER: ROB CARDILLO





ago when European colonists first brought tomatoes to America. At that time, tomatoes were widely considered to be poisonous and even morally objectionable—Puritans regarded them as a “forbidden fruit.” But in the intervening years, tomatoes have gradually emerged as an integral part of American cuisine and culture. In addition to becoming a valuable commercial crop and a favorite of backyard gardeners, they are now touted, ironically, for their health benefits as rich sources of antioxidants as well as vitamins A and C.

## EARLY HISTORY

The ancestral wild tomato (*Lycopersicon esculentum*) bears little resemblance in appearance or taste to the ones we grow today. Native to the Andes mountains and coastal highlands of South and Central America, the wild tomato plant is scrawny and yields clusters of small, undistinguished green fruits.

The Aztecs and other indigenous peoples, nevertheless, recognized their culinary potential and passed this knowledge along to the Spanish conquistadors who arrived in South America in the early 16th century. Seeds taken back to Europe flourished in the Mediterranean climate and the tomato quickly became integrated into the cuisine of countries such as Spain and Italy.

Not so in England, however, where tomatoes continued for some time to be viewed with suspicion because of misguided assumptions about their family ties with deadly nightshade (*Atropa belladonna*) and other plants in the nightshade family (Solanaceae).

The tomato's botanical name seems to reflect this ambiguity about the plant; the genus name, *Lycopersicon*, translates to the ominous sounding “wolf peach.” while



the species name, *esculentum*, means edible. As it turns out, the tomato fruits are perfectly edible, but the leaves and stems contain toxic alkaloids that can cause digestive problems.

Ambivalence about tomatoes spread to North America in the 17th century. As Karan Davis Cutler wrote in *Tantalizing Tomatoes*, “The early American colonists, English to the core, not only brought

Tomatoes with a past: Heirloom varieties that were once grown in American gardens and are now being “rediscovered” include ‘Aunt Ruby’s German Green’, top left, ‘Cherokee Purple’, top right, and ‘Old German’, left.

tomatoes back to this continent, but also imported all the popular prejudices about them.”

## THE GREAT TOMATO MANIA

Gradually—and sometimes grudgingly—American perceptions about tomatoes changed. It helped when scientific gardeners such as Thomas Jefferson started growing tomatoes in the late 1700s and American seed companies began carrying tomato seeds in their catalogs.

Many historians cite the turning point for the tomato in America as 1820, when Robert Johnson, an eccentric resident of Salem, New Jersey, was reported to have made a very public spectacle of eating a bushel of tomatoes on the steps of the Salem Courthouse. But Andrew F. Smith, author of *The Tomato in America*, regards this colorful story as apocryphal.

Whether or not the Johnson incident really happened, tomatoes reached a peak of popularity in America in the 1820s during “The Great Tomato Mania,” which Smith describes as a period of “national tomato obsession.” From near obscurity, the tomato suddenly became a household name. Tomato recipes appeared as if out of nowhere in magazines, newspapers, agricultural periodicals, horticultural works, and medical journals.

By the 1830s, Americans could not get enough of tomatoes, not only for eating, but for a variety of other attributes. Among other things, the tomato became valued, says Smith, for its use as a “beau-

## FRUIT OR VEGETABLE?

Not too many plants have found themselves the subject of debate in the U.S. Supreme Court, but it's a testament to the importance of the tomato that these vegetables... uh... fruits were at the center of a high court decision in 1887. The case pitted U.S. farmers against tomato importers; the stakes, whether tomatoes were vegetables and thus subject to import taxes. The arguments of farm lobbyists swayed the court's decision, which established that for tax purposes tomatoes were to be officially considered vegetables even though botanically they matched the technical definition of fruits—specialized reproductive structures that contain seeds.



tiful green dye, its ability to diminish skunk odors and remove a variety of stains, its cure for pigs' scours and its natural pest-repellent capabilities." And by the early 1850s, he says, tomatoes finally had become *sine qua non*—an intrinsic part of—American existence.

## CULTURAL ICON

Now, more than 150 years later, the legacy of the "Great Tomato Mania" lives on through its place in our popular culture. After all, how many vegetables have been the subject of a cult movie like *Attack of the Killer Tomatoes* (1974)? But the tomato's true role in American culture is exemplified by the abundance of late summer and fall festivals that celebrate tomato harvests throughout the country.

## DUELING TOMATOTOWNS

In three American cities—Carmel Valley, California; Pittston, Pennsylvania; and

Reynoldsburg, Ohio—the tomato is not only celebrated but it is at the center of a friendly rivalry over which city has the right to stake its claim as the tomato capital of America.

In his hometown of Carmel Valley (population: 10,000), Gary Ibsen is once again hosting the annual **Carmel TomatoFest** (September 12), which attracts thousands of tomato lovers and some top-names in the restaurant business. Now in its 13th year, the Carmel TomatoFest has been proclaimed the world's largest tomato tasting arena, featuring more than 300 tomato varieties from around the globe and an ever-changing buffet of tomato dishes created by some of California's best chefs. Visitors can also pick up hundreds of varieties of tomato seeds, including some rare heirlooms.

The TomatoFest, which started as a family get-together, continues to provide



A Little Miss Pittston and a Little Mr. Pittston are crowned at the Pittston festival each year.

a family-friendly atmosphere fueled by live music and dancing. "I want to keep it a community event that has a sense of a quality experience," said Ibsen, who estimates he turns away an average 1,000 visitors each year in order to maintain the festival's original small-town feel. "It's a great experience for the family to share."

In addition to being a fun celebration, the Carmel TomatoFest serves as a community fundraiser. Since 1999 the annual event has raised in excess of \$160,000 for local children's charities.

On the opposite side of America, in Pittston, Pennsylvania (population: 8,000), residents also gather to honor their town's claim to being the "Tomato Capital of the World," which it earned in the 1930s by meeting the high demand for tomatoes from New York City. "We're proud of what we do," said Lori Nocito, a chairperson for the Pittston Tomato Festival Association. "We're into making it bigger and better each year."

This year's 21st annual **Pittston Tomato Festival** (August 21 to 24) pays tribute to the region's tomato growers with a celebration that is expected to bring in more than 40,000 people. "The tomato festival gives people a reason to come and spend a few days in Pittston," says Mayor Mike Lombardo. Adds Nocito, "It's all about the festivities. It's all about the people."

Pittston's festival includes such crowd-pleasers as a five-kilometer race, live entertainment, square dancing, a grand-prize raffle, a children's sing-along, the annual Tomato Competition—in which prizes are awarded for the largest, smallest, ugliest, and most unusual tomato entries—and pageants such as the Tomato Queen



The Carmel TomatoFest in California is a one-day event packed with activities for the entire family. More than 300 tomato varieties are offered for tasting, above left, and California's top chefs use their culinary wizardry to create some spectacular tomato dishes, such as the tomato and bread tower, above right.

Right: The festival's host and founder, Gary Ibsen, left, with actor and Carmel's former mayor Clint Eastwood, a regular TomatoFest attendee.







The tomato festival in Reynoldsburg, Ohio, has the feel of a county fair, left, and is ruled by a court of tomato queens, above.

Scholarship and the Little Miss and Little Mr. Pittston Tomato Festival.

In 2002, things really heated up at the Pittston Tomato Festival with the debut of “Il Pomodoro Tomato Fights,” a sanctioned food fight in the spirit of the well-known “La Tomatina” festival held annually in Buñol, Spain.

As with the Carmel TomatoFest, proceeds from the Pittston Tomato Festival benefit local charities. Last year, through the “Il Pomodoro Tomato Fights” alone, Nocito says more than \$4,000 was raised for local soup kitchens. “If we didn’t have the festival, a lot of civic organizations would not receive funds,” she said. “What really drives me is giving back to the community through donations.”

When it comes to tomato flavor, Pittston—located in an area that has rich acidic soil and a perfect tomato-growing climate—claims its tomatoes are better than all the rest. “(Other towns) can claim the birthplace, they can claim quantity, they can claim whatever, but when it comes to quality our tomatoes are the best,” says Nocito. “We will challenge any group to a taste test.”

One state west, in Reynoldsburg, Ohio (population: 32,000)—designated “The Birthplace of the Tomato”—townspeople are preparing for the 39th annual **Reynoldsburg Tomato Festival** (September 8 to 12), which honors former town resident Alexander W. Livingston (1821–1898) for his successful



If you can’t get to a tomato festival this summer, celebrate the harvest in your backyard.

## Resources

**The Great American Tomato Book** by Robert Hendrickson. Reprinted by Stein and Day, New York, New York, 1984.

**The Great Tomato Book** by Gary Ibsen, Ten Speed Press, Berkeley, California, 1999.

**Tantalizing Tomatoes: Smart Tips and Tasty Picks for Gardeners Everywhere** edited by Karan Davis Cutler. Brooklyn Botanic Garden, Inc., Brooklyn, New York, 1997.

**The Tomato Festival Cookbook** by Lawrence Davis-Hollander. Storey Publishing, North Adams, Massachusetts, 2004.

**The Tomato in America: Early History, Culture, and Cookery** by Andrew F. Smith. Reprinted by University of Illinois Press, Champaign, Illinois, 2001.

## Sources for Heirloom Tomatoes

**The Cook’s Garden**, Londonderry, VT. (800) 457-9703. [www.cooks-garden.com](http://www.cooks-garden.com). Catalog free.

**The Natural Gardening Company**, Petaluma, CA. (707) 766-9303. [www.naturalgardening.com](http://www.naturalgardening.com). Catalog free.

**Seed Savers Exchange**, Decorah, IA. (319) 382-5990. [www.seedsavers.org](http://www.seedsavers.org). Catalog free.

**Southern Exposure Seed Exchange**, Mineral, VA. (804) 973-4703. [www.southernexposure.com](http://www.southernexposure.com). Catalog \$2.

**Tomato Growers Supply Company**, Fort Myers, FL. (888) 478-7333. [www.tomatogrowers.com](http://www.tomatogrowers.com). Catalog free.



## CELEBRATE THE TOMATO HARVEST

Here's a sampling of some of the many regional tomato festivals scheduled for the remainder of this harvest season. Look for the one nearest you and join in the celebration of this all-American favorite.



### JULY

- 24 The 7th annual Shocktoe Tomato Festival**, 17th and Main Street, Richmond, Virginia. Contact the Farmers Market at (804) 646-0477 or visit [www.17thstreetfarmersmarket.com](http://www.17thstreetfarmersmarket.com).
- 23–25 The 12th annual Grainger County Tomato Festival**, Rutledge, Tennessee. Call (865) 828-3433 or visit [www.graingercountytomatofestival.com](http://www.graingercountytomatofestival.com).

### AUGUST

- 4 The Fairfield Tomato Festival**, Texas St., Fairfield, California. Contact the Fairfield Downtown Association at (707) 422-0103 or visit [www.fairfielddowntown.com](http://www.fairfielddowntown.com).
- 7 Thomas Jefferson's Tomato Faire**, Lynchburg, Virginia. Contact the Hill County Master Gardeners at (434) 847-1585.
- 11 The 16th annual Great Tomato Festival**, Minot, North Dakota. Contact Jerry Kaup at (701) 852-1045 or e-mail him at [jkaup@ndak.net](mailto:jkaup@ndak.net).
- 21 International Tomato Festival**, downtown, Yuba City, California. Contact Coolidge Public Relations at (530) 671-9600 or visit [www.tomatofestival.net](http://www.tomatofestival.net).
- 21–24 The 21st Annual Pittston Tomato Festival**, Pittston, Pennsylvania. Contact Lori Nocito at (570) 823-2101 ext. 136 or the Greater Pittston Chamber of Commerce at (570) 655-1424 or visit [www.pittston.com](http://www.pittston.com).

### SEPTEMBER

- 8–12 The 39th Annual Reynoldsburg Tomato Festival**, "Tomatoes Galore in 2004," Reynoldsburg, Ohio. Call (614) TOMATO (866-2861) or e-mail [tomatofestival@aol.com](mailto:tomatofestival@aol.com) or visit [www.reynoldsburgtomatofestival.org](http://www.reynoldsburgtomatofestival.org).
- 11 The 8th Annual Kendall-Jackson Heirloom Tomato Festival**, Kendall-Jackson Wine Center, Fulton, California. Contact the Kendall-Jackson Wine Center at (701) 571-8100 or visit [www.kj.com](http://www.kj.com).
- 12 The 13th Annual Carmel TomatoFest**, Quail Lodge Resort, Carmel Valley, California. Call (888) 989-8171 or visit [www.tomatofest.com](http://www.tomatofest.com).

### OCTOBER

- 23 & 24 The 3rd Annual Green Tomato Festival**, Juliette, Georgia. Contact the Honeysuckle Café at (478) 974-0716 or visit [www.juliettega.com](http://www.juliettega.com).

development of the Paragon tomato, the nation's first commercial tomato.

"We take our tomatoes pretty serious here," says Mayor Bob McPherson, known affectionately as "The Head Tomato" by his wife. "People in Reynoldsburg are proud that this is the place where it all started. Without Alexander Livingston and the Paragon tomato, we don't know how many years it would have been before Americans had an edible tomato."

Besides the crowning of a Tomato King and Queen, Tomato Prince, and Princess, and the Senior Tomato King and Queen, the five-day Reynoldsburg festival features a tomato contest, exhibits, and sales, free tomato juice for refreshment, live entertainment, rides, arts and crafts, a car cruise-in, and a grand parade.

Not too far from the festivities sits the original Livingston house—a beautifully restored circa 1800 frame house complemented by period flower, herb, and vegetable gardens—that is now a museum. Last year, the house, which is listed on the National Register of Historic Places, was awarded a historical marker by the State of Ohio Bicentennial Commission and the Longaberger Legacy Initiative.

No matter what anyone else might say, many people in Reynoldsburg hold strong to the belief that their town is the real deal with respect to tomatoes. "Everyone's looking to cash in on celebrity status, but only Reynoldsburg is the birthplace of the tomato," McPherson says.

Gary Ibsen personally tends not to get swept up in the competitive hoopla, but he feels it's perfectly fine for others to tout their tomato titles. "Whatever the reason people are shouting about tomatoes, it's great," he says. "All these celebrations play important roles."

So while Reynoldsburg, Pittston, Carmel, and other cities may dispute the title of tomato capital of America, one thing is certain: Americans are still crazy about their tomatoes. Through friendly civic rivalry—and the pride of backyard tomato growers everywhere—we know that tomato mania in this country is happily alive and well and will carry on for years to come.

*Daphne Rozen is a free-lance writer based in Houston, Texas.*



# Call for Nominations...



## the GREAT AMERICAN GARDENERS AWARDS

SINCE 1953, the American Horticultural Society Great American Gardeners Award Program has recognized individuals and institutions that have made significant contributions to American horticulture. Nominations are now being accepted for 2005 and may be submitted by anyone. Nominate your "horticultural hero"—a memorable professor, a favorite garden book author, or a city's incredible community project! The awards are listed below. See if one of them brings to mind someone who has inspired *you* to garden greatness!

Award recipients will be profiled in *The American Gardener* magazine and have their awards presented to them in Orlando, Florida, in April 2005.

Nomination forms are available on the American Horticultural Society Web site at [www.ahs.org](http://www.ahs.org) or by calling (800) 777-7931. Or simply send us the nominee's name, title, address, telephone number, and a brief summary of their achievements, along with your own contact information.

**The deadline for nominations is September 1, 2004.**

### BALL HORTICULTURAL COMPANY 2004 National Achievement Award



Anna Ball, center, accepts the 2004 National Achievement Award for Ball Horticultural Company from AHS President Katy Moss Warner and AHS President Emeritus H. Marc Cathey

### the awards

**Liberty Hyde Bailey Award.** Recipients of this award reside on the North American continent and have made significant contributions in at least three of the following areas of horticultural activity: teaching, research, writing, plant exploration, administration, art, business, and leadership.

**Luther Burbank Award.** Recognizes extraordinary achievement in the field of plant breeding.

**H. Marc Cathey Award.** Recognizes an individual who has enriched horticulture through outstanding and notable research.

**Paul Ecke Jr. Commercial Award.** Given to an individual and/or institution committed to the highest standards of excellence in the field of commercial horticulture.

**G. B. Gunlogson Award.** Given to an individual for the creative use of new technology in home gardening.

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

**Horticultural Therapy Award.** Recognizes significant contributions to the field of horticultural therapy.

**Horticultural Writing Award.** Given to a person whose excellence in writing has made a significant contribution to horticulture.

**Landscape Design Award.** Acknowledges an individual whose work had expanded the awareness of horticulture in landscape architecture.

**Local Horticulture Award.** Given to an individual or group who has contributed to the improvement of horticulture in the host city for the awards ceremony.

**Meritorious Service Award.** Awarded to a member or friend of the Society to recognize outstanding and exemplary service in support of the Society's goals, services, and activities.

**National Achievement Award.** Recipients have

shown an exemplary dedication to horticulture on a national scale.

**Frances Jones Poetker Award.** Given for significant contributions to the appreciation of creative floral designs in publications, on the platform, and to the public.

**Professional Award.** Given to the director of an arboretum or botanical garden whose career achievements represent a significant contribution to horticulture.

**Catherine H. Sweeney Award.** Given for extraordinary and dedicated efforts in the field of horticulture.

**Jane L. Taylor Award.** Awarded to an individual or organization that has nurtured future horticulturists through children's and youth gardening.

**Teaching Award.** Recognizes an individual whose ability to share his or her knowledge of horticulture has contributed to a better public understanding of plants and their impact on man.

**Urban Beautification Award.** Given to an individual and/or an institution for significant contributions to urban horticulture.







Just because you garden in shade doesn't mean you can't grow grasses and grasslike plants. Try some of these shade tolerant species.

BY PATRICIA ACTON

# Grassy Ornamentals *for* Shady Gardens

THOSE OF US who garden in shady places and who love ornamental grasses do not need to start hacking down the trees. Fortunately for gardeners like me who “toil in the shadows” cast by persimmons, oaks, hollies, and the like, there are a half dozen or so species of grasses that thrive in shady or partly shady conditions.

It is true that the vast majority of grasses prefer sun. When I began using ornamental grasses in my garden about 12 years ago, I started with sun-lovers—three pots of *Miscanthus sinensis* ‘Morning Light’ (USDA Zones 6–9, AHS Zones 9–1) from a tiny local nursery. That was an auspicious beginning and enough to spur me to try other grasses, including *Pennisetum* and *Juncus* spp.

I was delighted to discover the varied textures, colors, shapes and personalities of grasses, and the fact they remain attractive for much of the year. I loved the way they filled the garden with their billowy shapes, fit in beautifully with evergreens and perennials, and swayed in every breeze.

I found that these grasses had lovely inflorescences that looked great both fresh and dried, either on the plant or in a vase. Not only that, but grasses are among the easiest of plants to care for, with few pest and disease problems and no need for deadheading, pruning, or other time-consuming duties.

As years went by, the sunniest spots in my yard became filled not only with ornamental grasses, but roses, crape myrtles, peonies, irises, tomatoes, and string beans. Short of doing away with 200-

year-old oaks, it became apparent that if I wanted to add more ornamental grasses, they would have to go in shady, or partly shady areas of the garden.

Not only did a considerable number of grasses fit the bill, but many of them are outstanding plants.

In addition to the shade-tolerant true grasses, defined as members of the grass family (Poaceae), I discovered that a score of grasslike plants such as sedges, rushes, and sweet flag also appreciate shade. These grass imposters expand the gardener's options for incorporating the texture and movement of grasses into a shady site.



**Above:** Korean feather reed grass. **Opposite:** The variegated leaves of *Carex elata* ‘Aurea’ shine in a shade garden.

## TRUE GRASSES

True grasses are generally classified as either cool- or warm-season, depending upon when they are actively growing. Cool-season types perform best when transplanted in very early spring or in fall. Warm-season grasses do not break winter dormancy until late spring and are best planted in spring. They can be divided anytime from late spring to early summer before they begin blooming.

Korean feather reed grass (*Calamagrostis brachytricha*, Zones 5–9, 9–5) is a warm-season grass that is native to eastern Asia and blooms in early fall. It can be planted in full sun, if there is plenty of moisture, or part shade.

In my Maryland garden (USDA Zone 7, AHS Zone 7), I have a group of three in my “back-of-the-shed meditation” area. It might sound like a mundane spot for relaxing and lofty thinking, but it was the most private place in the yard. Korean feather reed grass, however, has flowers that are anything but mundane: Blooming in early fall, the rosy purple panicles gradually fade to silver. Green foliage forms an upright-to-arching clump about two feet high that becomes tan in winter.

This is a tough plant; it survived both the drought of 2002, as well as a very wet 2003, with minimum attention from me. In my garden, it is lovely surrounded with other moisture- and shade-tolerant plants: ferns, hostas, summersweet (*Clethra alnifolia*), astilbes, and Japanese anemones.

River oats (*Chasmanthium latifolium*, Zones 5–9, 9–5), a warm-season grass, sometimes called wild oats or spangle grass, is one of my favorites because it





looks so much like the sea oats we were tempted to pick from North Carolina dunes when we were kids. Unfortunately, sea oats (*Uniola paniculata*), which helps to stabilize dunes, is now an endangered species due to overpicking and also habitat destruction.

River oat's native habitat is wooded areas and creek bottoms. It grows from two to four feet tall, with light to bright green bamboolike leaves that turn tan in winter. The flowers, suspended on long stems, often cause the plant to droop pleasantly. In summer, the oatlike flowers are green, like the foliage, and mature to tan. They sway and rustle deliciously in a breeze and last for months in a vase. My single specimen is four years old and is now a nice-sized clump; although river grass will self-seed, it has so far stayed where I put it. It grows in shade or with plenty of moisture, in sun. The leaves will appear darker green in shade.

Commonly known as tufted hair grass or fairy wand grass (*Deschampsia cespitosa*, Zones 5–9, 9–1) is native to North America, Asia, and Europe. It has low-growing (one to two feet) dark green foliage that remains evergreen in my garden. The flowers of tufted hair grass

are delicate and airy, rising up two to three feet above the leaves; they appear in summer in shades of green, yellow, or gold and will mature to a tan color and last into winter.

Several cultivars are worth trying, including 'Bronzeschleier', which has bronze-green flowers that may almost obscure the leaves. The flowers of 'Goldstaub', as the name implies, are golden yellow, as are those of 'Goldgehänge' (also known as 'Gold Pendant'). 'Fairy's Joke' is most unusual. It is viviparous, producing plantlets that weigh down the flowers and can root where they touch the ground. Tufted hair grass thrives in moist soil and will grow in sun or part shade. In hot climates, cool-season tufted hair grass will suffer without some shade and plenty of moisture.

Hakone grass (*Hakonechloa macra*, Zones 5–9, 9–2) is probably the best-known true grass for shade. Its graceful, arching leaves (one to three feet) give it a

soft, tousled look that begs you to run your hands through it. Native to Japan, Hakone grass has medium green foliage that turns a lovely copper color in fall. The mounds of foliage spread slowly by rhizomes and stolons and make a fantastic ground cover.

The cultivar 'Aureola' has leaves about a foot tall that are variegated green and lime and may turn pinkish in fall. Variegation often varies according to where the plant is growing. In full shade in my yard, the variegation is a bright lime green, but another plant that receives a half-day of sun is cream-colored. The leaves of 'Albo-variegata' are white and green striped on a plant that is significantly larger than 'Aureola' (to three feet) and a better choice for warmer climates or sunnier conditions. 'All Gold' is shorter, about a foot tall; as the name says, its leaves are all gold with no variegation. Hakone grass thrives in moist but well-drained soils, and, as a warm-season grower, it is best divided in spring. A



**Top:** River oats (*Chasmanthium latifolium*) produces attractive seedheads. **Right:** Variegated Hakone grass is an aristocrat among grasses for shade.





Above: Well named, the bright foliage of *Carex phyllocephala* 'Sparkler' seems to shoot out every which way like fireworks. Above right: Golden wood millet is equally eye-popping.

single plant will greatly enliven a shady spot among spring bulbs, ferns, astilbes, epimediums, or the bold leaves of hostas.

Golden wood millet (*Milium effusum* 'Aureum', Zones 6–9, 9–6) has eye-popping chartreuse foliage in spring. 'Aureum' grows to about 18 inches; the leaves are a quarter- to a half-inch wide and arching. Like the straight species, which is native to moist woodlands of North America and Eurasia, 'Aureum' appreciates moisture and will adapt to a variety of soils. The best leaf color is achieved when plants are grown in light shade. Airy spring flowers dance in the lightest breeze and are held high above the foliage. A cool-season grower, golden wood millet goes partly dormant in summer, especially in hot climates.

The common name of *Spodiopogon sibiricus* (Zones 4–9, 9–1), Siberian gray-beard, refers both to the gray hairs around the flower spikes as well as to its native habitat of Siberia (it also is native to Japan,

Korea, and China). The bright green leaves are a half-inch to five-eighths-inch wide and, bamboolike, stick out almost horizontally from the stems. In heavy shade, the form may be more lax than upright. Growing to four feet, with airy, long-lasting flowers held 14 to 18 inches above the foliage, it blooms July through August. It is also known as frost grass because its reddish-brown fall foliage looks beautiful when coated with frost.

### GRASSLIKE PLANTS

Grasslike plants look like true grasses, but belong to other families. Among grasslike plants that adapt well to shade are a few "tame" clumping bamboos.

Fountain bamboo (*Fargesia nitida*, sometimes listed as *Sinarundinaria nitida*, Zones 5–9, 9–5) is very cold-hardy, typically six to eight feet tall, and suitable for planting in some shade. As a lovely specimen or for screening, these plants

## Resources

**The Color Encyclopedia of Ornamental Grasses** by Rick Darke, Timber Press, Portland, Oregon, 1999.

**The Encyclopedia of Ornamental Grasses** by John Greenlee. Rodale Press, Emmaus, Pennsylvania, 1992.

**Pocket Guide to Ornamental Grasses** by Rick Darke. Timber Press, Portland, Oregon, 2004. (Available August 15, 2004.)

## Sources

**Kurt Bluemel, Inc.**, Baldwin, MD. (800) 498-1560. [www.kurtbluemel.com](http://www.kurtbluemel.com). Catalog \$3. (Minimum order \$50.)

**Limerock Ornamental Grasses, Inc.**, Port Matilda, PA. (814) 692-2272. Catalog \$4.

**New England Bamboo Company**, Rockport, MA. (978)-546-3581. Catalog \$5. [www.newengbamboo.com](http://www.newengbamboo.com).



## GRASS EXPERTS ON SHADE FAVORITES

Grass fancier and author of *The Color Encyclopedia of Ornamental Grasses* Rick Darke says river oats (*Chasmanthium latifolium*) is a favorite, despite its reputation for self-sowing. “We pick out seedlings, but it’s never a problem,” says Darke. “It’s one of the few grasses that will grow within the root systems of big trees and looks good for three-quarters of the year.”

John Greenlee, president of Greenlee Nursery in Pomona, California, and author of *The Encyclopedia of Ornamental Grasses*, is enthusiastic about *Pogonatherum paniceum*, a grass that is relatively new to cultivation in the United States. The grass, which he has nicknamed “little bamboo,” forms “an absolutely perfect, tiny mound of foliage—a perfect little boxwood ball.” Says Greenlee, “It is native to Southeast Asia and probably a USDA Zone 8 plant. It would make a fine annual or dish garden subject in colder climates.”

Grass expert Kurt Bluemel, President of Kurt Bluemel Nursery, Inc., in Baldwin, Maryland, and former AHS Board chair, recommends *Milium effusum* ‘Aureum’ for its “excitement” value. “It can handle dry and dense shade,” says Bluemel. “It seeds itself but is not invasive.”

form large clumps that slowly increase in diameter, only two to three inches annually. They do not send out runners to devour all available real estate. The culms or aboveground stems of clumping bamboo

may be dark and glossy or covered with a blue or purplish waxy bloom. The evergreen leaves are bright green or gray-green, up to five-eighths of an inch across and four inches long. A spot in sun or part

shade and protection from wind is desirable or the leaves may curl up. ‘Eisenach’ is a shorter cultivar, six to eight feet and with small, dark leaves.

‘McClure’ is one of the tallest clumping bamboos, growing up to 18 feet. ‘Nymphenburg’ has very fine-textured foliage on a plant 12 to 14 feet tall. Plants may cost well over \$50; however, if a neighbor has one, they are easily divided with a sharp spade in spring.

*Carex*, a genus with about 1,000 species, the majority of which prefer moist conditions, is a member of the sedge family (Cyperaceae). Many sedges also appreciate some shade. *Carex dolichostachya* ‘Kaga Nishiki’ (Zones 5–9, 9–5) has attractive, variegated gold-and-green leaves that form a low mound to two feet across and serve as an evergreen ground cover into USDA Zone 6.

*Carex elata* ‘Aurea’ (sometimes listed as ‘Bowles Golden’) is a lovely sedge with bright yellow leaves edged in green. Leaves may be under one-eighth inch wide, and usually form clumps two feet tall and as wide. Flowers are brown and arch out from the leaves. The plant likes plenty of moisture, is attractive by water, and great as a specimen or massed for a dazzling blast of yellow color that turns greenish by late summer. It can be grown in light to medium shade in hot climates. In full sun, its color is more intense.

A native to eastern North America, mace or morning star sedge (*C. grayii*, Zones 3–8, 8–1) grows a bit taller, to three feet, with arching green foliage. The name “mace sedge” comes from quirky seedheads, which look like the spiked head of a medieval war club, or mace, in early summer. *C. grayii* ‘Morning Star’ has larger seed heads than the species. Both like plenty of moisture and a shady to partly sunny site.

*Carex morrowii* var. *temnolepis* (Zones 5–9, 12–1), native to Japan, differs from other sedges, with its very thin, threadlike leaves only an eighth inch wide. The cultivar ‘Silk Tassel’ is variegated dark green and white, growing to a foot tall and up to two feet wide, with a very fine texture and arching form. If grown in sun, it needs plenty of moisture.

*Carex phyllocephala* ‘Sparkler’ (Zones 7–10, 10–7) has gorgeous variegated leaves, green in the center with white margins.



The grasslike wood rush (*Luzula sylvatica* ‘Aurea’) blooms golden in a Oregon garden in April.



## MORE GRASSY ORNAMENTALS FOR SHADY SITES

Name	Height/width (inches)	Use	Other features	Origin	USDA Hardiness/AHS Heat Zones
<i>Arrhenatherum elatius</i> subsp. <i>bulbosum</i> 'Variegatum' (striped bulbous oat grass)	12/12	accent edger, rock garden; spreading foliage	part shade minimizes die-back in hot, humid climates; new growth when weather cools	Europe	5–8, 8–5
<i>Carex flaccosperma</i> and var. <i>glaucodea</i> (blue sedge)	8/12	woodland ground cover, accent	deep, blue-green, evergreen leaves	Eastern N. America	6–8, 8–6
<i>Carex pensylvanica</i> (Pennsylvania sedge)	3–8/4–6	good lawn substitute under trees	very fine foliage, evergreen in warmer climates	Eastern N. America	4–8, 8–1
<i>Elymus hystrix</i> (bottle-brush grass)	36/6–12	wild garden, woodland edge	spiky inflorescence; tolerates dry shade	Eastern U.S. SE, Central U.S. and Canada	4–8, 8–1
<i>Luzula acuminata</i> (hairy wood rush)	6–12/6–12	ground cover, accent for woodland garden	tufted, clumping evergreen that thrives in moist, rich soil	Northern and Eastern U.S. and Canada	4–8, 8–1
<i>Sesleria caerulea</i> (blue moor grass)	8–12/10	ground cover, accent for alkaline soils	has attractive two-toned, blue-green/dark green foliage and spiky flowers	Europe, including British Isles	5–8, 8–5

Eight to 10 inches long, they radiate from the stems forming an upright-arching plant two to three feet tall. 'Sparkler' delights in moist shade or in sun with plenty of moisture.

Several members of the 80-species-rich genus *Luzula*, sometimes called wood-rushes, are suitable for partly shaded sites. Mostly grown for their foliage, wood rushes are often evergreen and edged or covered in soft down, which sparkles in dew.

Brownish or tan flowers emerge in spring. *L. nivea* (Zones 4–9, 9–1), snowy wood rush, has gray-green, evergreen downy leaves, a quarter-inch wide, on a plant about a foot tall and as wide with white or near white flowers. Greater wood-rush (*L. sylvatica*, Zones 4–9, 9–4) forms dense clumps of lush, shiny green foliage on a plant about a foot tall. It produces brownish flowers in spring. Preferring part to full shade and moisture, *Luzula* will adapt to

drier conditions and serve as a ground cover. Especially fine with its leaves spilling down over the edge of the pot, it is a very classy plant with subtle good looks all year.

*Acorus*, a member of the arum family (Araceae), contains the oil calamus, which emits a spicy-sweet fragrance from all parts of the plant, hence the common name, sweet flag. Japanese sweet flag (*A. gramineus*, Zones 7–9, 12–2) will grow in full sun or part shade and likes moist to wet, boggy soils. *Acorus* forms clumps of arching, evergreen foliage, six inches to one foot tall. In my garden, it thrives in a half-day of sun in a dampish spot. It is easy to divide. 'Ogon' grows 10 inches tall with gold-variegated leaves and is one of most beautiful cultivars. For a smaller plant, try 'Pusillus', just five inches tall with fine-textured green leaves.

With all of these choices, it is clear that gardeners do not have to give up their big shade trees to grow ornamental grasses. Those "toiling in the shadows" can simply regard shade as a golden opportunity to enlarge their gardens' plant palette with some stunning ornamentals that like it better in the shade.

*Patricia Acton is a garden writer who lives in Deale, Maryland.*



Golden Japanese sweet flag (*Acorus gramineus* 'Ogon') forms neat clumps of variegated foliage.



# Gardeners Anticipate

Gardeners and the horticulture industry are adapting practices and plant choices in the face of subtle but steady climate changes.

BY ALEXANDRA GOHO

**E**ACH SPRING, a wave of green spreads across the land, signaling the start of the growing season. Embedded in this wave are the telltale signs of a changing climate. Over the last half-century, the timing of leaf bursts, flower blooms, bird migrations, and other seasonal activities has shifted gradually in response to rising global temperatures. Although these shifts are subtle—and variable—from year to year, historical records show that the long-term trend is clear: Spring is arriving earlier. These records also offer a preview of what the world might look like in a warming environment. No, it won't be the over-the-top catastrophe depicted in this summer's blockbuster movie *The Day After Tomorrow*, but gardeners are already encountering challenges to adapt to climate changes.

Despite the odd bone-chilling winter, there is widespread consensus among scientists that the world indeed is getting warmer. Average global temperatures have increased 1.3 degrees Fahrenheit (0.6 degrees Celsius) over the past 100 years. In the northeastern United States, the winter month temperatures have increased by 3.4 degrees F (1.6 degrees C). The 1990s alone were the warmest decade on record. All in all, winters are getting shorter as the growing season is getting longer.

In some cases, that could bode well for farmers and gardeners alike. However, climatologists warn that some regions could expect more floods while others get exten-



**“Whether gardening is your hobby or your business, it’s going to be directly affected by climate change.”**

—David Wolfe, plant physiologist, Cornell University

sive periods of drought. Colorado garden centers are already adapting to dry conditions by selling more drought-tolerant plants, says Melanie Hinkle, industrial relations manager at the American Nursery and Landscape Association in Washington, D.C. “This practice is increasing because droughts have really become less of a phenomenon and more of a norm countrywide,” she says. “In the Midwest, people are also adapting to these conditions.”

One way gardeners can adapt is by changing the types of plants they choose to grow. In England, where climate change trends have received more public

recognition than in the United States, “more and more private gardens are moving towards Mediterranean-style gardens or dry gardens,” says Richard Bisgrove of the Centre for Horticulture and Landscape at the University of Reading. Bisgrove and his colleague, Paul Hadley, recently completed a report titled “Gardening in the Global Greenhouse” (see “Resources,” page 39). The report, commissioned by the U.K. Climate Impacts Programme and sponsored by the Royal Horticultural Society and the National Trust, offers predictions of how climate change is going to affect gardens in the



# Climate Change



**“Gardeners are discovering a whole new season for flowers because plants...are wintering over that didn’t 30 years ago.”**

—Dr. H. Marc Cathey, American Horticultural Society President Emeritus

United Kingdom and what steps gardeners can take to minimize the effects.

Climate change may also elevate risks to the environment posed by non-native plants, says Lewis Ziska, a plant biologist at the United States Department of Agriculture (USDA) in Beltsville, Maryland. Since the dawn of the industrial age, global carbon dioxide (CO<sub>2</sub>) concentrations in the atmosphere have increased by more than 25 percent. Carbon dioxide, derived from the burning of fossil fuels, traps heat near the Earth’s surface and is the biggest contributor to global warming. According to Ziska, with increasing levels of the

greenhouse gas, imported species have the potential to respond to climate change more aggressively than native plants. Alternatively, “If you bring in something that is normally limited by frost in your area and the number of frost days is decreasing, there’s a chance it could escape and proliferate in the environment,” says Ziska.

Climate change is indeed complex and scientists are struggling to make sense of the myriad factors involved. To get a better handle on all this, researchers like Ziska are hard at work manipulating plants in the laboratory to see how they respond to different stimuli.

Others are keeping track of what’s going on in the wild. Phenology—the study of the timing of biological processes and their relationship to climate—and climate records from the past are yielding important clues on the effects of climate change. Researchers are now racing to collect data on the present.

## **SPRING IS COMING EARLIER**

In the 1960s, the USDA established a network of lilac-monitoring stations throughout the northcentral and northeastern United States, with more than 90 sites spanning eight states in the Northeast alone. All of the sites were planted with the same clone—genetically identical selection—of Chinese lilac (*Syringa × chinensis* ‘Red Rothomagensis’). The USDA distributed brochures to all the participants describing how to measure first leaf and first bloom. Every year thereafter, researchers at agricultural stations, horticulturists, and local citizens have recorded the signs of the onset of spring.

Although the original purpose of the project had nothing to do with climate change—it was designed to provide phenological information to help farmers determine when to plant their wheat or whether to expect an infestation of insects due to a milder winter—the data on lilac bloom dates is now offering scientists a glimpse of the effects of climate change.

David Wolfe, a plant physiologist at Cornell University, and Mark D. Schwartz, a climatologist at the University of Wisconsin–Milwaukee, pooled all the lilac phenology data for the Northeast and looked for trends. “Based on our analysis, we’re definitely getting earlier blooms,” says Wolfe. From 1960 to 2000, lilacs bloomed on average one to three days earlier per decade; at some specific sites, first flowering dates advanced by nearly two weeks.

This phenomenon is not just restricted to the Northeast. By Schwartz’s calculations, compared with the late 1950s, spring



is arriving on average six days earlier across North America. By pooling all the bloom data for lilacs in the East with those in the West, as well as in parts of Canada, and by modeling lilac growth in response to changes in weather, Schwartz was able to detect a dramatic trend continent-wide.

The studies on lilacs are consistent with other studies in the United States and abroad. Researchers from the Smithsonian Institution's Department of Botany found that the Japanese cherry trees around the Tidal Basin and elsewhere in Washington, D.C., are flowering about a week earlier than they did 30 years ago. In Wisconsin, between 1936 and 1998, spring events advanced by six days. In the south-central parts of England, the average first flowering date has advanced by four and a half days in the past decade alone. The latter study, conducted by researchers at the University of York, was based on an analysis of 385 different plant species.

By combining the records of studies conducted around the world, researchers at the University of Texas in Austin identified a so-called "fingerprint of climate change." In addition to plant response, the researchers looked at frog breeding, bird nesting, and the arrival of butterflies, among other events. Overall, the researchers found that spring had advanced at a rate of 2.3 days per decade over the last century and many species had shifted their



The bloom times of lilac, above, have been collected in the Northeast since the 1960s. In research, weeds such as yellow star thistle, right, exhibited aggressive growth when exposed to high levels of carbon dioxide.

natural range toward the poles at a rate of nearly four miles per decade.

### UPSETTING THE BALANCE

Although mounting evidence suggests that plants are indeed changing their behavior in response to increasing temperatures, studies of the effects of CO<sub>2</sub> on this process offer mixed results. Plants absorb CO<sub>2</sub> from the atmosphere and—with the help of sunlight—convert it to food. Increasing this food source could actually benefit many plants, causing them to grow more. "Higher CO<sub>2</sub> levels have been viewed as being a positive aspect of global change," says USDA's Ziska. "But it isn't necessarily positive with respect to weeds like kudzu, cheatgrass, and ragweed."



To prove this, Ziska and his colleagues grew six noxious weeds, including yellow star thistle (*Centaurea solstitialis*) and Canada thistle (*Cirsium arvense*), in growth chambers under varying concentrations of CO<sub>2</sub>. After an 18-month period, the researchers found that plants grown under current atmospheric CO<sub>2</sub> levels had twice the biomass of those grown under turn-of-the-20th-century CO<sub>2</sub> conditions, with Canada thistle being the most aggressive. The growth of these weeds was also three times greater than for any of the plants species previously studied.

Next, Ziska wondered if the efficacy of herbicides might be affected by a warming environment. He found that higher CO<sub>2</sub> levels could, in fact, make herbicides less effective. As temperatures and CO<sub>2</sub> increase, plants grow faster "so the window of opportunity that you have for control by chemical means is much smaller," says Ziska. He and his colleagues grew some Canada thistle plants under normal CO<sub>2</sub> concentrations and others under CO<sub>2</sub> concentrations projected for the atmosphere in the next 50 years. The researchers then sprayed all of the plants with the same glyphosate-based herbicide. After six weeks, only 20 percent of the plants grown under normal CO<sub>2</sub> conditions came back. Yet all of the sprayed plants grown under elevated CO<sub>2</sub> levels came back.

As noxious weeds expand their range, so too will plant pests and pathogens, says Stella Coakley, a plant biologist at Oregon State University. Already, plant pathogens cost the U.S. economy \$137 billion per year, 20 percent of which is due to exotic pathogens introduced from other countries. Viruses and fungal pathogens, notes



Left: The world-famous Japanese cherry trees around the Tidal Basin in Washington, D.C., are now blooming about a week earlier than they did three decades ago.





Warming temperatures mean pests like grain aphids (*Sitobion avenae*), right, emerge earlier to pass diseases such as BYDV on to crops such as winter barley, above, which shows symptomatic yellowing of the leaves.



Coakley, can exist at low levels in a given area but then suddenly erupt into an epidemic as soon as the conditions become favorable. If winter temperatures continue to warm, many pathogens that normally die off during the cold months could survive and become especially virulent the following summer, she says.

Such predictions are not merely theoretical. Many regions in the world are already experiencing the effects of rising temperatures on plant pathogens. For instance, in Britain, aphids that carry the barley yellow dwarf virus (BYDV), among other pathogens, have advanced their spring flight times by three to six days over the past 25 years in association with increases in temperatures. If aphids are arriving earlier in the season, then plant viruses can potentially infiltrate plant populations earlier when the plants are more vulnerable.

## DEALING WITH UNCERTAINTY

Based on computer climate models, the United Nations' Intergovernmental Panel on Climate Change predicts a 3 to 12.3 degrees F rise in global temperatures along with a potential doubling of CO<sub>2</sub> levels over the next century. However, scientists still debate exactly how different regions of the globe will respond to those changes. "Climatologists say no doubt we're warm-

ing," says Wolfe. "But they can't reach consensus on how fast it's going to warm and how precipitation will be affected. There's tremendous regional variability."

What exactly that means for the average American gardener is still unclear, but most experts caution against making radical changes to planting practices. "You don't want to be too quick to relate poor plant performance to climate changes," says AHS President Emeritus Dr. H. Marc Cathey. "Every plant is an experiment, and there are microclimates in every garden—problems may be related to poor site choice or disease or pest susceptibility rather than to climate change."

Yet Cathey acknowledges that temperature and weather trends over the past few decades have altered the way we gar-

## Resources

**Heat-Zone Gardening: How to Choose Plants that Thrive in Your Region's Warmest Weather** by H. Marc Cathey with Linda Bellamy. Time-Life Books, Alexandria, Virginia. 1998.

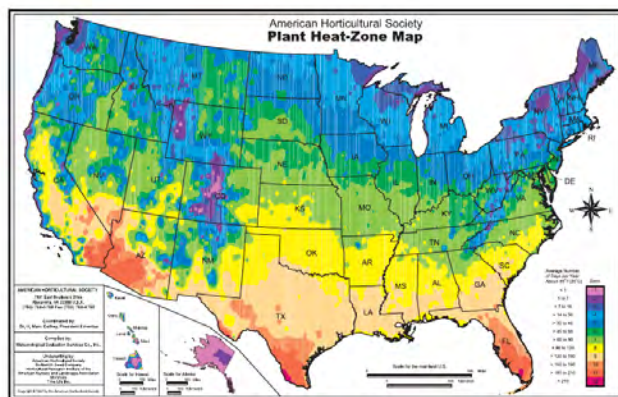
**AHS Plant-Heat Zone Map.** To order a 2-by-3-foot map for \$9.95, call (800) 777-7931, or visit [www.ahs.org](http://www.ahs.org) and click on Publications.

**"Gardening in the Global Greenhouse: The Impact of Climate Change on Gardens in the UK,"** by Richard Bisgrove and Paul Hadley. The UK Climate Impacts Programme, Oxford, England, 2002. This report can be viewed online at [www.ukcip.org.uk/gardens/gardens.htm](http://www.ukcip.org.uk/gardens/gardens.htm).

den. "Drip irrigation systems are becoming a way of life for gardeners," notes Cathey. "Many gardeners are also discovering a whole new season for flowers because plants—like kale, pansies, and violets—are wintering over that didn't 30 years ago."

In 1997, Cathey coordinated the development of the AHS Plant-Heat Zone Map and a new coding system designed to help gardeners select plants suited to their region's summer heat. The map is divided into 12 zones based on the average number of days per year in which the temperature rises above 86 degrees (see "Resources," above), which is the point at which plant physiologists have determined that plant cells begin to break down.

Another potential effect of warming



Until the debut of AHS's Heat Zone map in 1997, American gardeners primarily relied on cold-hardiness in choosing plants appropriate for their gardens. Now plants can also be selected based on how well they tolerate heat, an increasingly important criteria as average temperatures rise.



## GETTING INVOLVED

If you're interested in playing an active role in monitoring climate change, a number of organizations across Europe and the United States are getting local citizens involved in tracking phenological events such as first leaf dates, bird migrations, first frosts, and other marker activities.

The U.K. Phenology Network has more than 14,500 volunteers in the country collecting data. The European Phenology Network, based in the Netherlands, integrates phenological data from a number of countries in Europe and monitors continental trends related to climate change. "Germany has a network that is institutionalized," says University of Wisconsin climatologist Mark Schwartz. "It's part of the national weather service."

Recently, in the U.S., Cornell Plantations in Ithaca, New York; Harvard University's Arnold Arboretum in Boston, Massachusetts; and Missouri Botanical Garden in St. Louis, Missouri, have committed to join David Wolfe and Mark Schwartz's lilac phenology monitoring program.

In addition, Schwartz hopes to enhance the lilac program by setting up a national phenology network that would involve not just botanic gardens, but federal agencies, institutions, local citizens, and just about anyone interested in phenology.

Participants will monitor seasonal changes for half a dozen native plant species and enter the data on the network's Web site. The National Climatic Data Center has agreed to produce the site and manage the data. The Web site, which is currently under construction, would have a map of the United States and users would click on the region where they live and a list of different plants for that area would pop up, says Schwartz.

Individuals or organizations interested in participating in this project can contact Mark Schwartz at [mds@uwm.edu](mailto:mds@uwm.edu) or David Wolfe at [dww5@cornell.edu](mailto:dww5@cornell.edu). —A.G.



**Boston University students Dan Primack and Carolyn Imbres record flowering times of pinkshell azalea (*Rhododendron vaseyi*) at the Arnold Arboretum in May 2003.**

climates is that in some areas certain plants—such as spring bulbs and fruit trees—may no longer get enough winter chilling to flower and fruit properly. "When you buy your trees and perennials, you might want to make sure their range isn't on the edge of the USDA plant hardiness zones for your area," says Oregon State University plant biologist Coakley. "Instead, assume that it's going to get warmer and pick a plant that grows right in the middle of your zone range."

To address issues like these, the American Society for Horticultural Science held a symposium in Providence, Rhode Island last fall titled "Impacts of Climate Change on Horticulture." Scientists specializing in everything from climate studies to plant disease management discussed the evidence and pondered solutions. One of the participants, the University of Reading's Richard Bisgrove, noted that water conservation is going to become critical in the future. In areas afflicted with drought, gardeners will have to adapt by capturing rainwater in storage tanks, for instance, and switching to water-thrifty plants.

### ADJUSTING ATTITUDES AND PRACTICES

Coping with changing climate will require changing attitudes and expectations built up over time. Bisgrove says that over the last several years some British gardeners

have noticed their lawns turning brown in the summer because of the reduced rainfall in the country, once legendary for its soggy weather. Before the climatic reality check, Bisgrove notes, "We just assumed that lawns would be green year round."

As the climate changes, gardeners will no doubt find ways to adapt their practices, says Bisgrove. But he points out that the natural world is far less equipped to handle such changes. For instance, as mountainous regions get warmer, alpine species will migrate up the mountain in search of cooler temperatures. But they can only migrate so far. Hence entire plant populations can become endangered.

Gardeners can address climate change proactively in many ways notes Don Rakow, director of Cornell Plantations in Ithaca, New York. By monitoring changes in their own backyards, gardeners can help scientists better understand the complexities of climate change and how it affects plant and animal ecology (see sidebar, left). Gardeners can also work to persuade government and industry leaders to alter their practices and policies, he says. Bisgrove concurs, noting that "gardeners could play a huge role in promoting awareness of the global impacts of climate change."

*Alexandra Goho is a science writer based in Washington, D.C.*



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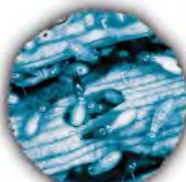
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# Seeing Metaphors in Gardens

*This is the fourth article of an ongoing series on garden design.*



**I**N THE LAST FEW articles we have approached the concept of gardens and design from a philosophical and theoretical perspective. The discussions have hopefully stretched our minds and made them elastic enough now to wrap around one of the most essential parts of the design process—metaphorical thinking.

Design is all about seeking and delving into the unknown. A vital design process demands the creation and testing of almost countless opportunities and alternatives for a garden. Often the process necessitates looking at things in novel ways. Designing is rarely a linear process, and designers require something that stimulates their thinking to the point where it can ricochet from one idea to the next one.

So how does a person look at the ordinary and coax from it the different, the innovative, and even, on occasion, the extraordinary? What throws existing elements and ideas into new com-

binations and perspectives? I have found metaphors useful and stimulating design tools because they encourage an approach to the unknown in terms of the familiar. Metaphors, for a time, fragment reality and allow designers to test and choose between new combinations and relationships. The act of recombining is the very crux of designing. The more ways a designer is able to catalyze combinations, the more versatile and flexible he or she will be.

And professional landscape designers don't have a monopoly on metaphorical thinking—gardeners will find this process equally helpful to view their landscapes with a fresh eye.

## THE GARDEN AS METAPHOR

Metaphors work at various levels, conscious and subconscious, obvious and subtle. The key to creativity is being able to open our minds to metaphorical possibilities of all kinds and then to follow them where they might lead. Let's start by looking at some fairly common garden metaphors, and then move on to consider less overt ideas.

Most of us are familiar with the concept of thinking about gardens in terms of rooms, ceilings, walls, and floors. These metaphorical comparisons to interior architecture describe garden areas in terms of spaces we already understand and feel comfortable with, making garden design seem less intimidating.

Japanese-style gardens rely heavily on metaphor. The elements of the garden follow structured conventions to represent things they are most definitely not. Carefully sited rocks stand for mountains, clipped shrubs substitute for topography, and drifts of pebbles represent rivers. This is successful if visitors understand the basic premise and are willing to adopt the metaphorical framework. Not everyone is able to do so, a limitation that reminds us that some metaphors have their basis in specific cultural and temporal contexts.

Louis XIV's garden at Versailles is metaphorical in the heavy-handed way only megalomaniacs ever achieve. Statuary alluding to stories of gods and goddesses compared Louis to Olympian divinities. The garden's seemingly infinite central axis of ordered alleés, canals, and avenues originates from what was the king's bedroom—a symbolic testament to the monarch's control of the universe and his central position in it. Without interpretation, of course, most of the allegorical content is lost on today's visitor. The metaphor, and by association,



## EXPLORING THE POSSIBILITIES OF METAPHORS

■ It can be a mind-opening exercise to look for metaphors when you are next taking a casual stroll in a garden. Take the time to delve into the meaning of the words and the metaphorical associations they spark. Put your judgment on hold, give your sense of humor free rein, and follow the associations. I wager you will come up with ideas and metaphors you hadn't previously identified on a conscious level.

■ What kind of furniture might grace a garden room? Tables are obvious enough, but what about a potting bench for a side table. Brick edging may be the new base molding. Could a low fence provide wainscoting? A thin grove of bamboo might act as sheer drapes to allow in light while blocking a view. What might provide a chair rail and crown molding?

■ How might a tree's crotch wear the pants in the garden? Perhaps, a carefully pruned clematis or climbing rose might add the sartorial splendor (and a bit of modesty as well). Or, slap on a *Hydrangea anomala* subsp. *petiolaris* for the tree who does not wear gaudy floral patterns. Bellbottoms are a retro possibility with a climbing *Euonymus*.

Open up your eyes and mind. What do you see when you look at this garden feature? Is it just a path of crushed stone? Or could it be a river flowing through the flatlands of some imaginary world?



the garden, have lost part of their once manifestly potent meaning and intent. Poor Louis.

### METAPHORS IN THE GARDEN

But not all garden metaphors are so obvious—we use small-scale garden metaphors all the time, often without really thinking about them. After all, we tuck our treasures into beds, a strongly loaded term. The word “bed” brings to mind comfort, security, and rest—concepts seemingly alien to the struggle gardening can become. The word also raises erotic and downright lustful associations in our culture, but that's not the sort of thing one discusses in polite company!

With a little imagination, we can expand the metaphor of a bed even further. A soft, enfolding loamy soil suggests the comfortable embrace of a favorite duvet; hard-packed clay a prison cot. Sheets of ground covers (see how the metaphorical unintentionally slips in when we least suspect it!) might be, well, sheets, or a decorative throw over the duvet.

Plant names—thanks, in many cases, to the efforts of marketers—are often delightfully suggestive of all sorts of wonderful things completely unrelated to the plants' biology (for more on this, read the wickedly delightful chapter on roses in Michael Pollan's book *Second Nature*). *Rosa* 'Sea Foam', for instance, evokes a gently exuberant cascade of cool, frothy white under which any gardener would want his or her garden to drown.

Sometimes, when you least expect it, simple metaphors can evolve into exciting and inspiring ideas. Suppose you envision

a “river of flowers” in your garden. Easy enough, but a little dull—just plant a hundred purple coneflowers (*Echinacea purpurea*) in a meandering line. But let's allow the metaphor to ricochet. An arcing evergreen hedge becomes a “dam” and gives structure and definition to the chaotic torrent. Good, but this metaphor offers more ideas. A circular area of stone the color of still water could form a safe “harbor,” a place to relax and rest outside the busy current of life—any port in a storm. And a planting of that ‘Sea Foam’ rose might lap at the base of the dam. Sure, “river” is a freshwater metaphor and “sea foam” is marine one, but let's not let technicalities ruin a creative run.

So, how can we harness the potential and power of metaphors? As shown above, a designer may construct all sorts of mental images, comparisons, and frameworks to generate and evaluate ideas. Like metaphors, a garden rarely says what it means or means what it says. Indeed, carefully choreographed ambiguities and multiple meanings actually energize a strong garden design. Metaphors can give gardens human meaning. Such gardens beg for interpretation and encourage the visitor to engage them with their imaginations as well as their senses.

I hope I have successfully interested you in the stimulating and useful metaphorical world of the garden. In the next issue, we will take this one step further as I share some practical metaphorical tools for approaching the actual process of designing gardens. 🌿

*Tres Fromme is a landscape designer at Longwood Gardens in Kennett Square, Pennsylvania.*



## Havens for Endangered Plants

by Elizabeth Garcia-Dominguez

**F**OR HER WORK in native plant conservation, Kayri Havens, director of the Institute for Plant Conservation at the Chicago Botanic Garden, has been called botany's Wonder Woman. Yet, in person, Havens' serenity and easy laughter belie the stereotype of the passionate, hard-driving research botanist.

"Kay is a quiet visionary," says co-worker Pati Vitt, conservation scientist at the Institute. "She's not one of those intense, talkative, out-there kinds of people." However quietly, Havens has worked tirelessly to prevent the extinction and achieve the recovery of vulnerable native plant species. "What she's managed to do in terms of implementing and growing a conservation program here at the Chicago Botanic Garden in such a short time," says Vitt, "has been spectacular."

When Havens joined the conservation team at Chicago Botanic Garden (CBG) seven years ago, her work with imperiled native plants was just one part of a large research department. But by 2002, Havens and her team had launched the Institute for Plant Conservation at CBG, formalizing a partnership with Loyola University through which CBG offers university-accredited courses in plant conservation.

"It's so important to reach the next generation of applied plant conservation biologists by getting involved in teaching

and outreach at a variety of levels," says Havens. "In the federal agencies there's a well-documented shortage of plant conservation biologists, so we're helping them bring in people who have that applied conservation background."

With only 12 full-time staff, 10 students and interns on site, and 40 interns housed at Bureau of Land Management field offices around the country, the Institute still manages to play a major role in the preservation of native American flora, especially the plants of the tallgrass prairie. Havens and her team take a two-pronged



Whether in the laboratory or in the field, Kayri Havens' focus is on saving endangered plants.

approach, contributing to restoration projects in the wild but also solving botanical mysteries off site through greenhouse and laboratory experiments.

### PRESERVING GENETIC DIVERSITY

One current project is helping map the genetic diversity in *Cirsium pitcheri*, a threatened dune thistle native to the Great Lakes region. "With the Morton Arboretum, we've been looking both at DNA variation and quantitative trait variation of the *Cirsium* at Illinois Beach

State Park," says Havens. "Growing lots of individuals from several populations and comparing traits like leaf length and stem height helps us determine how far away we should go to collect seeds—and from how many populations—in order to assure genetic diversity in the restored population."

Havens' lab is also helping botanists at Fairchild Tropical Botanic Garden in Florida and the National Tropical Botanic Garden in Hawaii study genetic diversity in *Brighamia insignis*, a Hawaiian endemic of which only 15 or 20 individual plants remain in the wild.

Havens and her colleagues analyzed samples of *B. insignis* taken from plants in the collections of botanic gardens and found "a surprising amount of genetic diversity." Now she plans to compare the DNA in those samples with that found in wild populations. If the diversity in the wild samples is not as high, she says, it might be possible to augment wild populations with plants propagated from those in the botanic gardens.

Havens' insight and hard work have made her a sought-after expert in plant conservation. She makes frequent presentations to both professional groups and the general public. Along with Ed Guerrant of Berry Botanic Garden and Michael Mauneder of Fairchild, Havens co-edited and wrote *Ex Situ Plant Conservation*, the latest technical volume from the Center for Plant Conservation (for more on this publication, visit the CPC at [www.centerforplantconservation.org/Publications.html](http://www.centerforplantconservation.org/Publications.html).)

So where does Havens get the energy to continue her work? "I find my inspiration by going out and seeing intact natural areas whenever I can," she says, "and by hoping that we can maintain areas like that for future generations."

*Elizabeth Garcia-Dominguez is the communications coordinator for the CPC.*

The non-profit Center for Plant Conservation relies on grass-roots support to preserve America's endangered plants. To learn how you can help, call (314) 577-9450 or visit the CPC's Web site at [www.centerforplantconservation.org](http://www.centerforplantconservation.org).



## Preserving Cut Flowers

by Dr. H. Marc Cathey

**M**Y FIRST JOB after graduating from North Carolina State University in 1950 was as a manager of a florist's greenhouse in Mooresville, North Carolina. Our closest wholesale florist was located 40 miles away in Salisbury. Three times a week a refrigerated, bucket-filled truck visited our shop to supply us with fresh cut flowers for our business. The roses that came from Salisbury were grown by John Hanford, the father of Elizabeth Dole, who is our current Senator for North Carolina and my second cousin. The only way to offer truly fresh cut flowers in those days was to transport them directly from greenhouse to market.

Looking back over the past 54 years, it's amazing to realize how all the research and marketing information developed since then has greatly expanded the potential of the commercial florist industry. An astonishing variety of cut flowers—as well as foliage, berries, seedpods, and mosses—are now grown in South America, Africa, Asia, Australia, and New Zealand, not to mention North America and Europe, and then shipped around the world.

Now that the cut-flower industry has become a global business, every new flower introduction comes with specific protocols for production and post-production care. As has happened with fruits, commercial cut flowers are no longer “seasonal” because they can be held in controlled atmospheres and conditioned with chemicals, such as ethylene, that keep them looking fresh far longer than I ever would have dreamed. The technical details of this process are now incredibly complex, but who can argue with success? Cut roses can now last as long as 16 to 25 days (compared with five days 50 years ago) and carnations can last 35 to 45 days.

### FEED FOR FRESHNESS

Despite all the advances in the commercial side of the industry, the key ingredients and techniques that home gardeners need to keep flowers looking fresh are



**Dr. Cathey and a young guest get a close look at one of his floral arrangements at church.**

still basically the same as they were 50 years ago. These ingredients—the same ones florists provide in those little packets they distribute—are sucrose (table sugar) and citric acid.

That's why lemon-lime soda, which contains both those key ingredients, makes great cut flower food if you don't have one of those packets handy. This simple mix works because the sugars help supply the cut flowers with food, and the

low pH of the acid helps to keep the plant's vascular system unclogged and open for water and food uptake. With this food, the life of the flower's chlorophyll and retention of its colorful pigments will last for a longer period of time. Without it, the vascular system is open to attack by a variety of microorganisms and soon becomes impassable.

### CLEAN MATTERS

Another important technique for extending cut flower life at home is to use clean, sharp pruners to cut your flowers and then immediately get the stems into a bucket of cool water and recut the stems underwater on an angle. This keeps the plant's cut stems from initiating natural defenses and clogging up with cells meant to protect and heal the cut surface.

Disinfect your pruners from time to time by dipping them in a 10 percent solution of household bleach in water.

The secrets for success with cut flowers at home wouldn't come as any surprise to John Hanford, but I wish he were around to see what has happened to his favorite roses. He would be amazed at how long they stand proud with straight stems, vivid color, perfect foliage, and fine fragrance.

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



# Making a Difference

A young gardener sows the seeds of a national program.

BY JESSIE KEITH

**K**RISTEN STRYKER knows a lot about growing things, from plants to programs and community awareness. Four years ago, at the youthful age of 14, the precocious teenager founded an innovative community outreach program for Ohio's incarcerated youth. Through her program, inmates at youth detention centers and correctional facilities have learned to raise vegetable produce to supplement community programs such as soup kitchens, food banks,



Kristen Stryker tending her garden in Ohio, above, and with Jacqueline Heriteau, above right, receiving the Plant-A-Row Star Gardener Award in 2003.

and shelters. Stryker's community service efforts have been recognized with numerous local and national awards—including the President's Community Volunteer Award (2002) and the Volvo for Life, Hero Award (2004)—and now, four years after she started the program, it is slated to go nationwide.

Her accomplishments are rooted in a modest pastime—vegetable gardening. “I’ve always loved to grow vegetables,” says Stryker, who began helping her mother,



Patti, in the garden when she was only a toddler. Gardening success did not come immediately, however. “Once, my mom and I were gardening together not long after I’d learned to pull weeds,” recalls Stryker. “She turned her head away from me for two seconds; when she turned back, I had weeded out *all* of her bean plants.”

At the age of nine, Stryker planted and cared for a large vegetable garden of her own as part of a 4-H project. The plot generated so much produce that she began searching for ways to use it.

Someone told her about Plant a Row for the Hungry (PAR), a national program developed by the nonprofit organization Garden Writers of America that encourages people to donate extra produce to soup kitchens and food banks. Stryker began donating her produce to local organizations, and, a year later, she started her own PAR program to help support the Allegheny Indian Center and a local homeless shelter.

## HARVESTING AND HEALING

Personal experiences shaped Stryker's

next community service venture. After her brother got in trouble with the law, she became familiar with the minimum-security Multi-County Juvenile Attention Center, which was only five miles from her home. Her ongoing work with PAR helped Stryker develop the idea of using gardening to help youth at Multi-County help themselves *and* the community through gardening.

“My brother didn’t understand my desire to do something for the community through Multi-County,” says Stryker, “but I was sure that he

would see its value once it started to help people.” Her efforts became even more personally meaningful after her brother’s untimely death in 2003.

In 2001, Stryker formally presented her idea to the Multi-County Board of Directors, after which their superintendent, Donald Thernes, approved it. The next step was to present it to a group of boys from the center, ages 14 through 18. “That was pretty intimidating,” says Stryker, “I was shy, nervous, and only 14, and most of the boys were extroverted, tough, and older than me. In the beginning they seemed skeptical, but after our first harvest of beans, tomatoes, squash, and other produce, it changed. We all had a feeling that we’d accomplished something.”

And they had. A year after the program’s success in Multi-County, Stryker sought to expand it to Ohio’s other youth detention centers. With the help of Attorney General Betty Montgomery and Ohio’s Community-Volunteer Service Director for Youth Services, Chris Baker,



the program was instated in 12 centers throughout Ohio. In 2002 these facilities produced approximately 2,500 pounds of fresh produce for the hungry through the statewide program.

Jacqueline Heriteau, PAR's Director from 1995 to 2003, emphasized Stryker's substantial accomplishments, "PAR shows that gardeners have enormous power to give to the community. Kristen is an extraordinary example of this. She planted one little seed of an idea and look at all the great fruits of her work."

Stryker attributes some of the success of the program to the fact that people like to help others. "At Indian River Juvenile Correctional Facility [a maximum-security facility in Massillon, Ohio], some of the guys were homeless before coming to the center," she says. "The program motivated them because their vegetables helped feed hungry people in their own communities."

Says Curtis Peirce, the Multi-County delegate facilitating the center's gardening program, "Kristen helped inspire teamwork and created a positive

experience for both staff and the center's youth. Her focus helped inspire staff to get involved and contribute plants and supplies."

### NATIONWIDE SUCCESS

Now all Stryker needed was a way to take her program to the next level. Opportunity knocked in 2002 when President George W. Bush presented her with the President's Community Volunteer Award. While press photographers took their photographs, she seized the chance to bend the president's ear "about my ideas for the future of the program," she says. "He encouraged me to continue my work." This endorsement allowed Stryker to connect with the USA Freedom Corps, a program set up to encourage summer volunteer service in America. Through this initiative, her program, which continues to be affiliated with PAR, will now be offered nationwide. According to Stryker, several states have already expressed interest in testing the program.

Stryker graduated from high school in May and will attend Oklahoma State

## Resources

**Garden Writers Association**, 10210 Leatherleaf Court, Manassas, VA 20111. (703) 257-1032.

[www.gardenwriters.org](http://www.gardenwriters.org).

■ Sponsors the Plant a Row for the Hungry (PAR) program.

**USA Freedom Corps**, 1600 Pennsylvania Avenue, NW, Washington, DC 20500. (877) USA-CORPS.

[www.usafreedomcorps.gov](http://www.usafreedomcorps.gov).

■ Volunteer service initiative.

University in Stillwater to study biochemistry this fall. Eventually, she hopes to pursue a career in the forensic sciences. But for now she expects to continue her work with the garden program while in college. "I plan to stay with it for as long as I can," she says.

*Jessie Keith is editorial intern for The American Gardener.*



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## Horticultural News and Research Important to American Gardeners

### **SUDDEN OAK DEATH QUARANTINE AFFECTS CALIFORNIA NURSERIES**

In March, after nursery stock infected by a disease known as Sudden Oak Death (SOD) was discovered at two major California nurseries, the U.S. Department of Agriculture's Animal and Plant Health Inspection Service (APHIS) issued an amended quarantine requiring that all of the estimated 1,500 nurseries in California be inspected and found free of the SOD fungus before susceptible plants could be shipped over state lines. These include popular ornamental plant genera such as *Rhododendron* and *Camellia*, some selections of which were in short supply this spring in eastern nurseries and garden centers.

SOD was first identified in the 1990s, when tanoaks (*Lithocarpus densiflorus*) in Marin County, California, began dying from a mysterious disease. The disease was traced to a funguslike organism (*Phytophthora ramorum*) that is associated with no fewer than 59 host plants. Shortly after, when SOD was found in 11 more counties in coastal California, all 12 counties were quarantined.

This year's amended quarantine restrictions came at the height of California nurseries' spring shipping season and has caused additional losses in a business that has already been slowed by the fear of contagion. Even before the amended quarantine, Canada and 16 U.S. states—Alabama, Arkansas, Delaware, Florida, Georgia, Indiana, Kentucky, Louisiana, Mississippi, Montana, North Carolina, Oregon, Tennessee, Washington, West Virginia, and Utah—had established their own guidelines, restricting shipments of plants, soil, wood products, and greenery from California.

Many California nurserymen view the quarantine and other restrictions as unfair or misguided. "There's growing concern about the possibility of unfair or retaliatory trade practices in horticulture



**Top: Coast live oaks, weakened by SOD, are easy prey for ambrosia and other beetles. Above: The boring of adult western oak beetles produces a tell-tale red frass.**

products by states and U.S. trading partners," reports the California Farm Bureau Federation.

Many in the nursery industry believe not enough is known about the disease to predict its capacity to spread to unaffected areas. "USDA's recent action to quarantine all California nurseries...reflects a

balance between what we know about the pathogen, and the many uncertainties," says Craig Regelbrugge, senior director of government relations with the Washington, D.C.-based American Nursery & Landscape Association. "Theories abound, with some scientists fearing impacts elsewhere in the country, and others seeing a 'perfect storm' of favorable climate and highly susceptible hosts in the coastal areas of California and the Pacific Northwest, but less risk elsewhere," adds Regelbrugge.

In May, responding to industry concerns, Agriculture Secretary Ann M. Veneman announced that \$15.5 million is being made avail-

able to APHIS to finance a study of the pathology of SOD and ways to halt the spread of the disease to uninfected parts of the country.

To see a list of plants that are known hosts for SOD, visit the APHIS Web site at [www.aphis.usda.gov/ppq-ispm.sod](http://www.aphis.usda.gov/ppq-ispm.sod).

### **STEWARTIA 'SCARLET SENTINEL'**

In 1992, a decade after planting what he thought was a seedling of the Korean stewartia (*Stewartia pseudocamellia*) in front of his house, Peter del Tredici, a senior research scientist at the Arnold Arboretum in Boston, Massachusetts, was disappointed in his tree's bark. Unlike the showy exfoliating bark of *S. pseudocamellia*, his tree's bark flaked off in linear strips. Del Tredici had begun to contemplate replacing the tree with a "proper Korean stewartia" when, one fine morning, he spotted a spent flower on the ground.

"I picked it up," says del Tredici, and



## Gardeners: Get Your Tetanus Booster

Up until the 1940s, when tetanus and diphtheria immunizations (abbreviated Td) became routine, there were 500 and 600 cases of tetanus each year in the United States, many fatal.

Today, most adults under 60 years of age have received a primary series of Td shots, but the Centers for Disease Control and Prevention (CDC) estimates that fully 53 percent of adults over the age of 20 are not or are no longer protected against these diseases. The reason is that immunity expires; those who were immunized as children will remain protected only if they receive a Td booster shot every 10 years. Most people over 60 years old, who never received the initial immunization, are totally unprotected.



The bacterium that causes tetanus is present in soil.

While diphtheria is now extremely rare in the United States, it has been contracted by travelers to other parts of the world, including Africa, South America, the Caribbean, the Near and Far East, and all countries of the former Soviet Union.

Tetanus, on the other hand, is a bacterium that is widespread in the environment and naturally present in soil, potting media, and manure. This puts gardeners at great risk of contracting a tetanus infection. In a 2004 National Gardening Association (NGA) survey, 80 percent of respondents reported incurring some type of tetanus-prone injury while working around the home, garden or yard, while 40 percent reported that they have not had a tetanus shot in the last 10 years.

"Since minor breaks in the skin due to gardening injuries can allow the tetanus bacteria to enter the system," says Susan Rehm, president of the National Foundation for Infectious Diseases (NFID), "it is doubly important for everyone who gardens to be up to date on their tetanus vaccine."

The symptoms of tetanus can appear up to three weeks after exposure and may include elevated blood pressure and heart rate, fever, sweating, and muscle spasms, as well as lockjaw—neck stiffness and trouble swallowing—the onset of a paralysis that starts at the top of the body and works its way down. Even with prompt medical treatment, the disease is fatal in one in 10 cases.

The NGA has joined with the NFID and the National Coalition for Adult Immunization (NCAI) to spread the news about these two diseases. The message is simple: Immunity doesn't last forever. "A simple injection, once every 10 years," says Rehm, "provides protection against this serious—and potentially fatal—disease."

Nursery in Hamden, Connecticut ([www.broken\\_arrownursery.com](http://www.broken_arrownursery.com)), and is now available by mail-order through Roslyn Nursery in Dix Hills, New York, (631) 643-9347, [www.roslynnursery.com](http://www.roslynnursery.com).

Other specialty nurseries are also picking up 'Scarlet Sentinel', but because stewartias tend to be tricky to propagate, del Tredici knows this rare and beautiful selection is unlikely to become a staple at high-volume nurseries. "Most of the stewartias have propagation issues," says del Tredici, "so this is always going to be a collector's plant."

### LOCATE LOCAL LANDSCAPING BUSINESSES

Looking for a garden center or landscape firm in your area? Visit the American Nursery & Landscape Association's (ANLA) Web site, [www.anla.org](http://www.anla.org), click on the consumer search button, and plug in your zip code. Your search will yield the 25 ANLA member firms closest to your location, along with their contact information.

### NEW ORCHID SPECIES DISCOVERED

Bud Ewacha, President of the Conserve Native Plants Society, Inc. in Winnipeg, Manitoba, is a man who has so spent many years studying orchids, he can spot them through his car window. And that is what he did while driving to a seeding project in the summer of 2000; he spotted showy (*Cypripedium reginae*) and yellow (*C. parviflorum*) ladyslipper orchids growing in the wild. Mixed in



among them was a natural hybrid between the two species. It was named *C. xherae* by Charles Sheviak, curator of botany at the New York State Museum in Albany, who is a plant systematist specializing in North American orchids. Sheviak named the golden lady slipper after the goddess Hera, who reputedly wore golden slippers.

"It flowers at the same time as the showies and the yellows, at the end of June or July," says Ewacha.

The orchid is being propagated for eventual commercial sale, but it will take at least three years for enough plants to be grown from seed.

found, in contrast to the standard yellow filaments of *S. pseudocamellia*, "to my amazement, it had a ring of bright, cherry-red anther filaments."

Finding the flower spurred del Tredici to learn the tree's identity. His tree had grown from a seedling found under mature specimens of *S. pseudocamellia*—originally collected in Korea by plant hunter E.H. Wilson in 1918—growing on the Chinese Path at the Arnold Arboretum. Del Tredici specu-



lated that his plant was a hybrid between Wilson's Korean stewartias and a native mountain stewartia, *S. ovata* var. *grandiflora*, collected in North Carolina by T.G. Harbison in 1925, and growing nearby. Later, genetic analysis confirmed his hypothesis.

"It's a great plant and really different," says del Tredici of the tree, which has been introduced under the name 'Scarlet Sentinel'.

The new stewartia has been propagated by Richard Jaynes of Broken Arrow



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13 HYDROPONICS To See MORE NEW FLOWERS and LEAVES, HEALTHIER, STRONGER — MORE BEAUTIFUL	14 FIELD CROPS To See MORE NEW FLOWERS and LEAVES, HEALTHIER, STRONGER — MORE BEAUTIFUL	15 BONSAI To See MORE NEW FLOWERS and LEAVES, HEALTHIER, STRONGER — MORE BEAUTIFUL	16 TISSUE CULTURE To See MORE NEW FLOWERS and LEAVES, HEALTHIER, STRONGER — MORE BEAUTIFUL
17 HYDROSEEDING To See MORE NEW FLOWERS and LEAVES, HEALTHIER, STRONGER — MORE BEAUTIFUL	18 LANDSCAPING To See MORE NEW FLOWERS and LEAVES, HEALTHIER, STRONGER — MORE BEAUTIFUL	19 PROPAGATION To See MORE NEW FLOWERS and LEAVES, HEALTHIER, STRONGER — MORE BEAUTIFUL	20 ART EROSION To See MORE NEW FLOWERS and LEAVES, HEALTHIER, STRONGER — MORE BEAUTIFUL
21 ENVIRONMENTAL IMPROVEMENT To See MORE NEW FLOWERS and LEAVES, HEALTHIER, STRONGER — MORE BEAUTIFUL	22 FLOWERING PLANT COMPETITIONS To See MORE NEW FLOWERS and LEAVES, HEALTHIER, STRONGER — MORE BEAUTIFUL	23 INTERIORSCAPING To See MORE NEW FLOWERS and LEAVES, HEALTHIER, STRONGER — MORE BEAUTIFUL	24 GOLF COURSES To See MORE NEW FLOWERS and LEAVES, HEALTHIER, STRONGER — MORE BEAUTIFUL
25 WEATHER DAMAGE To See MORE NEW FLOWERS and LEAVES, HEALTHIER, STRONGER — MORE BEAUTIFUL	26 WATER GARDENS To See MORE NEW FLOWERS and LEAVES, HEALTHIER, STRONGER — MORE BEAUTIFUL		

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## 'PRINCETON' ELM RECOGNIZED BY GARDEN CLUB OF AMERICA

The Garden Club of America, based in New York City, has awarded its 2004 Montine McDaniel Freeman Horticulture Medal to the 'Princeton' elm (*Ulmus americana* 'Princeton'). The annual award recognizes a North American native plant that is "little known but deemed worthy to be preserved, propagated, promoted and planted."



This 25-foot 'Princeton' elm was just eight to 10 feet tall when it was planted at AHS headquarters at River Farm three years ago.

This elm was found growing at Princeton Nurseries in New Jersey and introduced in 1922. In tests at the National Arboretum in Washington, D.C., it was found to be highly resistant to Dutch elm disease. Many specimens planted along New Jersey streets in the early 1930s are still healthy and now about 70 feet high. This fast-growing tree can reportedly be grown in most regions of the country.

One mail-order source for 'Princeton' elm is Riveredge Farms, (888) 680-1922, [www.americanelm.com](http://www.americanelm.com).

## NEW STUDIES CITE DANGERS OF PESTICIDE EXPOSURE

In April 2004, after a comprehensive review of research on the effects of pesticides on human health, the Ontario

College of Family Physicians (OCFP) issued a strong recommendation that people avoid exposure to all pesticides. Citing consistent links to serious illnesses, the review also shows children are particularly vulnerable.

Among the diseases linked to pesticide exposure are cancer of the kidney and brain and hematologic tumors in children, including non-Hodgkin's lymphoma and leukemia. According to the OCFP findings, children exposed *in utero* to lawn and garden insecticides and herbicides had an overall increased risk of acute leukemia. A separate study, conducted at the Marshfield Clinic in Wisconsin, indicates exposure to low levels of common pesticides may harm developing embryos before a woman even knows she's pregnant. That research was published in the May 2004 issue of the journal *Environmental Health Perspectives*.

"We're basically in agreement with [the OCFP] report," says William B. Weil Jr., a retired pediatrician and member of the American Academy of Pediatrics (AAP) Committee on Environmental Health. He points out that while there are not scientific data to prove that a specific pesticide causes a specific disorder, there is plenty of guilt by association. "The more pesticides that are being used," says Weil, "the more you find problems after being exposed. It's indirect, but kids are a lot safer in their absence. The data are strong that people who do use stuff in their yards will have kids with more pesticides in their urine."

In the United States, says Weil, "you have to have good scientific data to ban something. Europe and Canada tend to use the precautionary principle: If it looks dangerous, stay away from it." In the absence of government bans, says Weil, "we're trying to get people to avoid using pesticides on their own."

If pesticides must be used, says Janice Kim of the AAP's Committee on Environmental Health, "We recommend when possible looking for alternatives that are safer." Organic and less-toxic products for lawn, garden, and indoor pest control are widely available now.

To view the OCFP study, visit the Ontario College's Web site ([www.ocfp.ca](http://www.ocfp.ca)). To view the study published in *Environmental Health Perspectives*, visit [ehp.niehs.nih.gov/docs/2004/16774/abstract.html](http://ehp.niehs.nih.gov/docs/2004/16774/abstract.html).



## SEASONAL GARDEN GOODS

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Add a touch of romance to the garden with this detailed **Victorian Rose Garden Bench**. Heavy cast aluminum is protected with a rust-resistant white enamel. About 39 inches long by 18 inches wide and 37 inches high. \$199.98. Lillian Vernon. (800) 545-5426. [www.lillianvernon.com](http://www.lillianvernon.com).



You don't need two trees to enjoy these colorful **Hammocks**. The 13-foot-long oak spreader bars can be set anywhere in the garden. Quilted weather-resistant fabric available in pink and in a floral print. \$228. Bolster for neck support sold separately, \$58. Gardener's Eden. [www.gardenerseden.com](http://www.gardenerseden.com).



Outdoor furniture goes sleek and modern. The **Headlands Outdoor Dining Table** is made of teak and measures 38 inches long by 38 inches wide and 30 inches high. \$400. Other pieces in this line also available. Edge\*Modern. (800) 506-6541. [www.edgemodern.com](http://www.edgemodern.com).

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

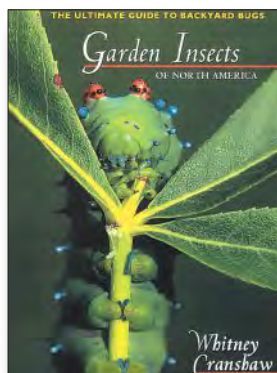


## Recommendations for Your Gardening Library

### Garden Insects of North America: The Ultimate Guide to Backyard Bugs.

Whitney Cranshaw. Princeton Press, Princeton, New Jersey, 2004. 656 pages. Publisher's price, softcover: \$29.95.

INSECTS ARE EVER present in our gardens and yards. When we find them, we want to know what they are, whether they are potentially damaging to our homes and gardens, and what steps—if any—we should take to control them. Whitney Cranshaw's new book, *Garden Insects of North America*, has now made this process much easier for gardeners.



Cranshaw has produced an impressive garden reference that doubles as a field guide. Wherever you live in North America, your insects are included here. This text is well researched and covers 1,420 species of yard and garden pests. There is also a substantial section on beneficial insects, so we can recognize and encourage their presence.

Easy to follow and organized in a systematic fashion, the book's chapters are arranged according to the type of plant damage and which plant part is affected. Thus, leaf chewers and sap-suckers are given the largest chapters. Cranshaw also includes a taxonomic discussion of the pests and detailed information about signs of damage, their favorite plants, life history, and habits. The more than 1,400 color pictures of insects and their damage are truly impressive and will be invaluable in helping readers track down the culprits of their plant injury.

One limitation of this book is that it does not give specific management information for all insects listed. However, Cranshaw discusses management for the most common groups of insects, and in some cases specific insects, such as Japanese beetles. So the odds are that most readers will find the information they need to tackle their insect pest problems. Control techniques are presented in an integrated pest management approach that incorporates cultural, biological, mechanical, and chemical mechanisms.

This wonderful reference will certainly become a classic alongside works such as Cynthia Wescott's *The Gardener's Bug Book*. Whether you are a professional or a home gardening enthusiast, this is an indispensable reference.

—Jeffrey Hahn

*A professor of entomology with the University of Minnesota Extension Service, Jeffrey Hahn specializes in insects commonly found in urban homes and gardens.*

### The Passion for Gardening.

Ken Druse. Clarkson N. Potter Press, New York, New York. 2003, 256 pages. Publisher's price, hardcover: \$50.

AS AN UNABASHED how-to kind of person, I was initially a bit reluctant to review what I thought would be a pretty coffee table book. But once I started reading *The Passion for Gardening* by Ken Druse, I was almost immediately charmed by the author's relaxed, personal writing style. Perhaps it was



Druse's analogy comparing the making of a garden to creating a sand castle on the beach, or his description of a garden is a living work of art—always changing, an act in progress that is never finished.

This is a “why to” rather than a “how to” book, yet some “how to” couldn't help but come through, as gardeners are always ready to share their wisdom. In the section “You Can Take It

With You,” Druse offers practical advice on how to effectively transplant trees, shrubs, and perennials. And, in another section, he describes how he converted lawn to garden by smothering the turf with mulch-covered cardboard in a variant on the classic “lasagna” gardening technique.

The plainspoken anecdotes and opinions throughout the book reminded me that gardeners have a lot in common. I related strongly to Druse's discomfort when asked about his favorite plant—he compares it to asking a parent which child they favor. When Druse discussed a pair of old cycads that he's had since he lived in his first college apartment in 1975, it made me think of a now portly jade plant that I started from a single leaf cutting in my college plant propagation class in 1978.

Druse's personal writing style comes through most strongly in a section titled “Junior Partner,” where he invites readers into his own garden of nine years by way of a diary of his visions for the garden. I found myself sharing both his excitement and reservations, and mourning with him over the tolls nature had taken along the way.

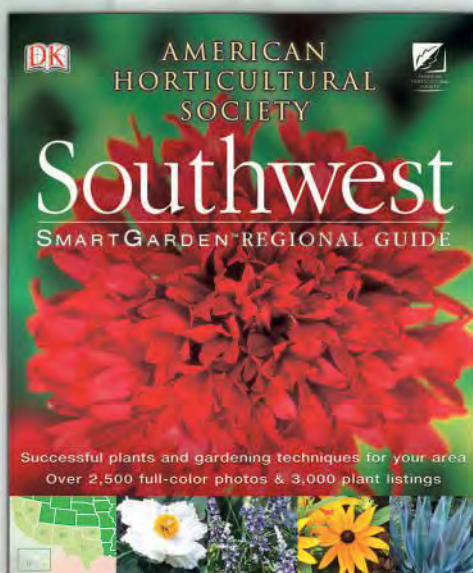
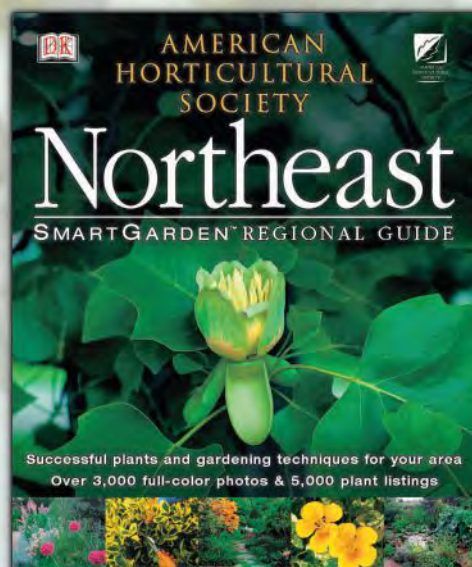
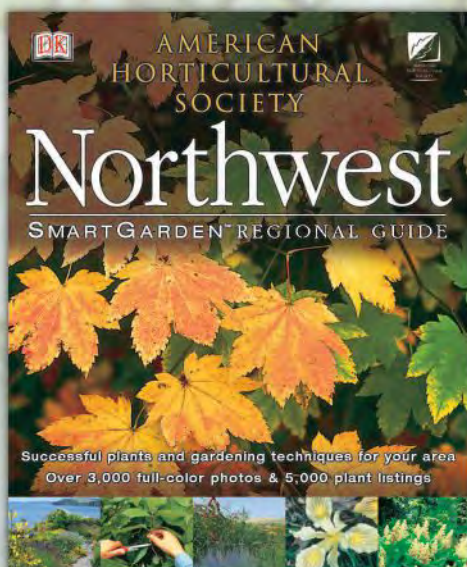
As with Druse's other acclaimed garden books, the text is paired with equally rich photographs taken by the author and Adam Levine. Among the more than 250 images, the most memorable for me include the cacti chorus, the moss stairway, and the spectacular views of the garden at Chanticleer.

This inspiring garden book, which received the American Horticultural Society's 2004 Book Award, reminds us all that





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our gardens will become our own as we develop our own personal style and taste for individual plants and design schemes. We are never too young or too old to garden. There's no question that Druse chose the perfect title for a book in which he shares and promotes his unabashed passion for gardening.

—B. Rosie Lerner

*An avid writer and gardener, B. Rosie Lerner is the consumer horticulture Extension Specialist at Purdue University's Department of Horticulture and Landscape Architecture.*

### Uncommon Fruits for Every Garden.

Lee Reich, Timber Press, Inc., Portland, Oregon, 2004. 308 pages. Publisher's price, hardcover: \$34.95.

TIRED OF THE same-old same-old? Need some fresh new flavors to jazz up your low-fat, high-fiber diet? Check out Lee Reich's *Uncommon Fruits for Every Garden*, an expanded sequel to his highly regarded *Uncommon Fruits Worthy of Attention*, published in 1991.

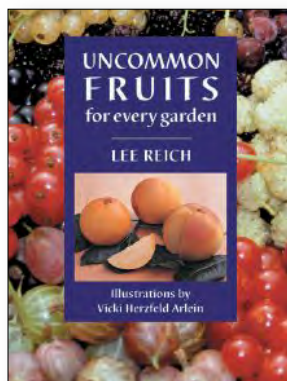
Reich presents 23 fruits that have, for one reason or another, been largely overlooked and underplanted by American gardeners. His criteria for inclusion are "that a fruit be able to tolerate winter cold, be uncommon, and—most importantly—be good for fresh eating." Many of the fruits covered are also valued for cooking.

Reliable cultural information on uncommon fruits can be difficult to come by, and having it in a single source is very handy. Reich's prose is flavored with humor and anecdotes—good reading as you plan your own backyard orchard. His advice and opinions are based on years of growing experience.

Each chapter covers one fruit, including a brief botanical history. A concise description of both the overall plant and its fruit provides both landscape and culinary attributes; after all, this book is intended primarily for backyard gardeners, and the ornamental quality of an edible plant is a distinct asset. Practical cultivation information—site considerations, spacing, fertilizing, pruning, etc.—are clearly presented, followed by propagation methods, harvesting, and use. This information enhanced in several appendices.

The subjects include North American natives such as Juneberry (*Amelanchier* spp.), pawpaw (*Asimina triloba*), persimmon (*Diospyros virginiana*), and lowbush blueberries (*Vaccinium angustifolium*) more often observed in the wild than in cultivation. Reich suggests that readers reconsider them as a source of good eating, suitable for cultivating in backyard gardens.

Some of the "uncommon fruits" are, or were, actually quite familiar in other cultures. Ancient Greeks and Romans grew the Cornelian cherry (*Cornus mas*) for its fruit, and medlars (*Mespilus germanica*)—which resemble small russeted apples—

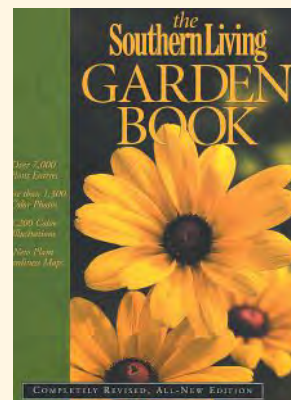


## Revised Southern Living Garden Book

The newly revised edition of the **Southern Living Garden Book** (Oxmoor House, Birmingham, Alabama, 2004. 720 pages. Publisher's price, softcover: \$34.95), edited by Southern Living's senior writer Steve Bender, is a comprehensive garden encyclopedia for those living in all 17 states in the

South. This useful reference breaks down southern growing regions into five discrete climate zones and offers information on more than 7,000 plants, which are augmented by 1,300 color photographs, 1,200 color illustrations and plenty of vital information on origin, habit and culture.

Within its pages readers will also find a lengthy how-to dictionary of techniques and a



wealth of tips from some of the South's most renowned gardening experts. A large section called "Resource Directory" provides listings of botanical gardens in the South to visit, mail-order sources for plants, a glossary of gardening terms, and a useful discussion on "Solving the Mystery of Botanical Names." Some of this book's more substantial additions include 2,000 new plant listings as well as USDA Hardiness Zone and AHS Heat Zone designations. This is a vital reference for all gardeners in the American South.

were popular in Europe during the Middle Ages. About jujube (*Ziziphus jujuba*), Reich says, "If this book were written in China, this chapter would be omitted. The Chinese have been eating jujubes for more than four thousand years." And reflecting on lingonberries (*Vaccinium vitis-idaea*) he says, "Merely utter the word 'lingonberry' to someone Scandinavian and watch for a smile on their lips and a dreamy look in their eye."

Perhaps the most exotic entry—certainly the least familiar to me—is shipova (*×Sorbopyrus auricularis*), an intergeneric hybrid of the European pear and a species of *Sorbus*, probably *S. aria*, the common whitebeam. Reich states that "although shipova fruit is pear-like in flavor and appearance, its whitebeam parent has not necessarily been an idle onlooker in developing that flavor." My curiosity is sufficiently tweaked. I guess I'll have to grow it myself! Fortunately, Reich has included an appendix of mail-order sources for each fruit.

For those gardeners who, like me, are always searching for something a bit out of the ordinary for both their gardens and their tummies, this book is a gem.

—Rita Pelczar

*Formerly associate editor of The American Gardener, Rita Pelczar writes and gardens in Chesapeake Beach, Maryland.*

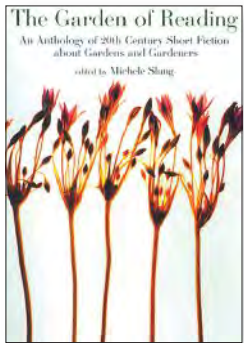


## Summer Reading

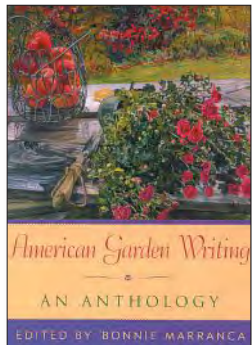
**T**HE LAZY DAYS of summer are here, and if you're a gardener who misses plants and getting soil under your nails while you're vacationing at the beach or in a cabin in the woods, just take along one of the books listed here. The staff of *The American Gardener* has selected them based on overall interest, entertainment value, and ease of reading.

### GARDEN LITERATURE ANTHOLOGIES

FINE BEDTIME READING, *The Garden of Reading*, subtitled "An Anthology of 20th Century Short Fiction about Gardens and Gardeners," edited by Michele Slung (The Overlook Press, Woodstock, New York, 2004. \$24.95), is a bouquet of many and varied stories. In each one—"Blue Poppies," "The Lawnmower Man," "A Curtain of Green," "The Fig Tree"—the way people interface with the natural world is the starting point, the setting, or the crisis of tales by authors such as Colette, Eudora Welty, Steven King, James Thurber, and Barbara Pym.



In *American Garden Writing: An Anthology*, edited by Bonnie Marranca (Taylor Trade Publishing, New York, 2003, \$18.95), gardeners will find American garden history served up in thick, delicious slices. Each entry is meaty, but short. From George Washington ("The more I am acquainted with agricultural affairs, the better I am pleased with them") to J.I. Rodale ("One of these fine days the public is going to wake up and...pay...for high quality products such as those raised by organic methods."), this collection allows us to see how we came to garden as we do.

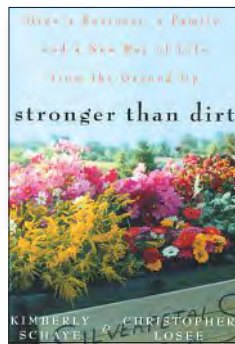


—Carole Ottesen, Associate Editor

### GARDEN EXPERIENCE

URBAN PROFESSIONALS Kimberly Schaye and Christopher Losee made a dramatic life change in 1996 when they decided to chuck the city noise, lights, and bustle of New York City for the not-so-simple life as greenmarket farmers in the Hudson Valley. In *Stronger Than Dirt* (Three Rivers Press, New York, 2003. \$14), they chronicle the ups and downs of starting and running their new business. Despite the laborious hurdles the authors had to cross, reading the book made me want to buy a

nice big plot of land and start a small working farm full of cool specialty herbs, vegetables, and flowers.



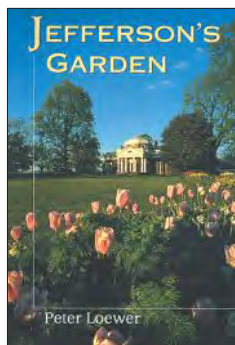
shortly afterwards, though, when they found success and started to earn sufficient profits.

This inspiring, funny, and well-written book is just right for a good afternoon read in the summer—filling, yet not overindulgent.

—Jessie Keith, Editorial Intern

### PLANT HISTORY AND LORE

IN ADDITION TO authoring the Declaration of Independence and serving as the third United States president, Thomas Jefferson was also a seasoned gardener. In *Jefferson's Garden* (Stackpole Books, Mechanicsville, Pennsylvania, 2004. \$21.95), Peter Loewer highlights some of the ornamental plants Jefferson was known to have grown or probably encountered on his Virginia estate, creating an informative and very readable book that will especially appeal to gardeners interested in history.



The bulk of the book is comprised of 60 plant profiles, each a little descriptive gem full of history and folklore. Among the featured plants are ones you'd expect, such as hollyhocks and lilacs—and more unusual ones such as Venus flytrap and balsam apple (*Momordica balsamina*).

Interesting tidbits of information abound in these pages. For instance, seeds were so highly regarded at one time that unscrupulous politicians were known to send them to potential voters to gain favors. Loewer informs us that Jefferson considered poison ivy an ornamental plant, and John Bartram even sold it in his Philadelphia nursery.

These anecdotes and Loewer's conversational tone make *Jefferson's Garden* a great summer read.

—Mary Yee, Managing Editor and Designer





## REGIONAL HAPPENINGS

### Horticultural Events from Around the Country

#### NORTHEAST

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

**RAP** Through Sept. 5. **Plants of the World.** Garden exhibit. The Brooklyn Botanic Garden. Brooklyn, New York. (718) 623-7200. [www.bbg.org](http://www.bbg.org).

**RAP** THROUGH AUG. 29. **Enchantment.** Indoor/outdoor art exhibit. Wave Hill. Bronx, New York. (718) 549-3200. [www.wavehill.org](http://www.wavehill.org).

**RAP** AUG. 7 & 8. **35th Annual Flower Show.** Berkshire Botanical Garden. Stockbridge, Massachusetts. (413) 298-3926. [www.berkshirebotanical.org](http://www.berkshirebotanical.org).

AUG. 12-15. **Northeast Organic Farming Association Conference.** Barre, Massachusetts. (978) 355-2853. [www.nofamass.org](http://www.nofamass.org).

**RAP** AUG. 16. **Fourth Annual End of Summer Island Tour.** The Coastal Maine Botanical Gardens. Boothbay region island, Maine. (207) 633-4333. [www.maine-gardens.org](http://www.maine-gardens.org).

**RAP** SEPT. 11. **Fall Gardener's Day.** Blithewold Mansion, Garden & Arboretum. Bristol, Rhode Island. (401) 253-2707. [www.blithewold.org](http://www.blithewold.org).

SEPT. 10-13. **Garden Writers of America Annual Symposium.** Marriott Melville, Long Island, New York. (703) 257-1032. [www.gardenwriters.org](http://www.gardenwriters.org).

SEPT. 12. **Taste! Organic Connecticut.** Topmost Herb Farm. Coventry, Connecticut. (203) 888-5146. [www.ctnafa.org](http://www.ctnafa.org).

#### MID-ATLANTIC

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

**AHS** JULY 29-31. **2004 National Children & Youth Garden Symposium.** American Horticultural Society. Cornell University, Ithaca, New York. (703) 768-5700 ext. 132. E-mail: [youthprograms@ahs.org](mailto:youthprograms@ahs.org). [www.ahs.org](http://www.ahs.org).

AUG. 6. **Orchids are Different: The Pollinator Connection.** Demonstration. U.S. Botanic Garden, Washington, D.C. (202) 226-7674. [www.usbg.gov](http://www.usbg.gov).

**AHS** AUG. 13-15. **In the Garden with the Experts.** Symposium. The Homestead Resort,

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

Events hosted by botanical gardens and arboreta that participate in AHS's Reciprocal Admission Program are identified with the **RAP** symbol. Current AHS members showing a valid membership card are eligible for free or discounted admission or other benefits. Contact the host site for details or visit [www.ahs.org/events/reciprocal\\_events.htm](http://www.ahs.org/events/reciprocal_events.htm).

Hot Springs, Virginia. AHS President Katy Moss Warner is a speaker. (800) 838-1766. [www.thehomestead.com](http://www.thehomestead.com)

**RAP** THROUGH OCT. 31. **Butterflies LIVE!** Walk-through exhibit. Lewis Ginter Botanical Garden. Richmond, Virginia. (804) 262-9887. [www.lewisginter.org](http://www.lewisginter.org).

**RAP** THROUGH OCT. 10. **Tropical Bonsai Exhibit.** Phipps Conservatory and Botanical Gardens. Pittsburgh, Pennsylvania. (412) 622-6914. [www.phippsconservatory.org](http://www.phippsconservatory.org).

#### Looking ahead

SEPT. 11. **Fall Native Plant Sale.** Adkins Arboretum, Ridgely, Maryland. (410) 634-2847. [www.adkinsarboretum.org](http://www.adkinsarboretum.org).

**AHS** SEPT. 25. **Through the White House Gates to River Farm.** AHS annual gala. River Farm, Alexandria, Virginia. (703) 768-5700. [www.ahs.org](http://www.ahs.org).

**AHS** OCT. 5-9. **Northeast Regional Master Gardener Conference.** Holiday Inn Select. Timonium, Maryland. (888) 531-1754. [www.agnr.umd.edu](http://www.agnr.umd.edu).

#### SOUTHEAST

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

JULY 27. **University of Kentucky Horticulture Field Day.** Horticulture Research Farm, Lexington, Kentucky. (859) 257-8605. [www.uky.edu/Agriculture/Horticulture](http://www.uky.edu/Agriculture/Horticulture).

JULY 31. **GingerFest.** The Fairchild Tropical Botanic Garden. Coral Gables, Florida. (305) 667-1651. [www.ftg.org](http://www.ftg.org).

AUG. 6-8. **22nd Annual Quilt Competition**

& Exhibit. The North Carolina Arboretum. Asheville, NC (828) 665-2492. [www.ncarboretum.org](http://www.ncarboretum.org).

AUG. 14. **Butterfly Gardening Symposium.** Museum of Life and Science and the Carolina Butterfly Society. Durham, North Carolina. (919) 220-5429. [www.ncmls.org](http://www.ncmls.org).

AUG. 19. **Garden Mixers: Tropicals and Twisters.** Garden social. The Birmingham Botanical Garden. Birmingham, Alabama. (205) 414-3900. [www.bbgardens.org](http://www.bbgardens.org).

**RAP** AUG. 22. **Orchid Auction.** Central Florida Orchid Society. Harry P. Leu Gardens, Orlando, Florida. (407) 246-2620. [www.leugardens.org](http://www.leugardens.org).

#### Looking ahead

SEPT. 14. **Garden Design with Flower Pots.** Class. The Biedenharn Museum & Gardens, Monroe, Louisiana. (318) 387-5281. [www.bmuseum.org](http://www.bmuseum.org).

#### NORTH CENTRAL

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

THROUGH OCT. 10. **A Genius for Place: American Landscapes of the Country Place Era.** Photography exhibit. Lilly House. Indianapolis Museum of Art. Indianapolis, Indiana. (317) 920-2660. [www.ima-art.org](http://www.ima-art.org).

**RAP** AUG. 13-22. **Chili Pepper Festival.** Cleveland Botanical Garden. Cleveland, Ohio. (216) 721-1600. [www.cbgbgarden.org](http://www.cbgbgarden.org).

**AHS** AUG. 21. **The Art and Science of Container Gardening.** Seminar. Michigan State University's Horticultural Gardening Institute. Leila Arboretum Society. Battlecreek, Michigan. (517) 432-8265. [www.gardeninginstitute.com](http://www.gardeninginstitute.com)

**AHS** AUG. 22-24. **The Grand Hotel: Gardens of Mackinac Island.** Event with Allan Armitage to launch new online educational program on herbaceous perennials. Mackinac Island, Michigan. Hosted by the MSU Master Gardener volunteer program. (517) 432-1950 ext. 4. [www.gardeninginstitute.com](http://www.gardeninginstitute.com).

**RAP** AUG. 6. **Children's Garden Day.** Leila Arboretum Society Children's Garden. Battle Creek, Michigan. (269) 969-0270. [www.leilaarboretumsociety.org](http://www.leilaarboretumsociety.org).



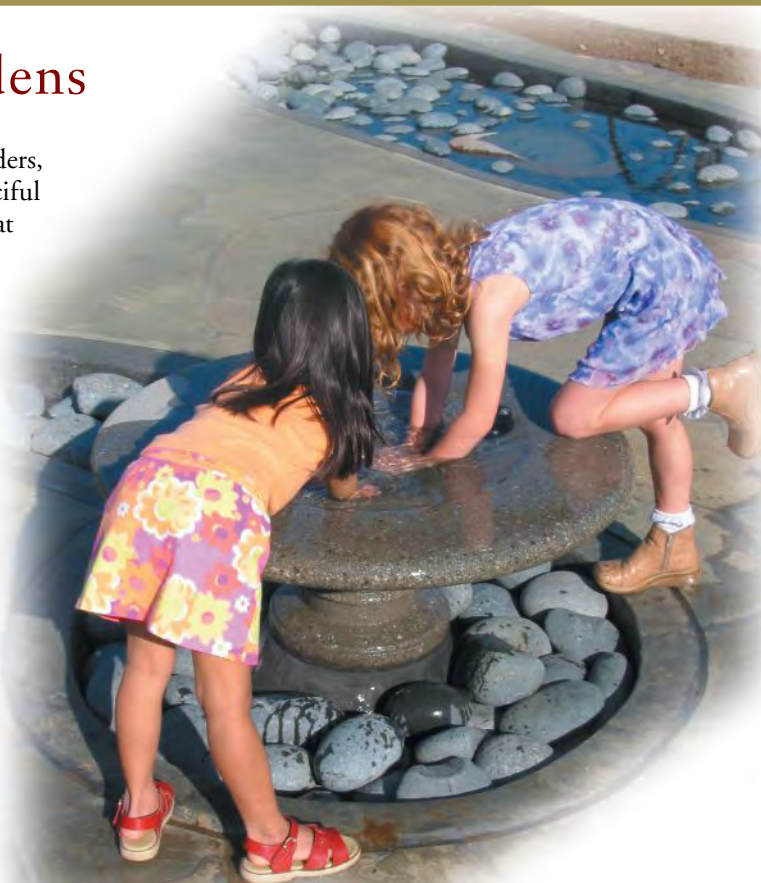
## Grand Children's Gardens

CHILDREN LOVE GARDENS. Brightly colored borders, garden mazes, or super tree houses create fanciful worlds full of appealing smells, spaces, and textures that motivate children's active minds and bodies. This is why gardens and garden exhibits designed expressly for children are popping up across the country with a flourish. And, this summer, several brand new children's gardens and special exhibits are worth planning a vacation around.

How many themed gardens and fun activities can you fit into one five-acre children's garden? You'll have to come to the **Frederick Meijer Gardens & Sculpture Park\*** ([www.meijergardens.org](http://www.meijergardens.org)) in Grand Rapids, Michigan, to find out. On June 20th, they celebrated the grand opening of the **Lena Meijer Children's Garden**, now one of the nations largest children's gardens. The garden is comprised of many sections, which include everything from a butterfly maze to a rock quarry, and the Kid-sense Garden that allows children to touch and smell many pleasing sensory plants.

At **Longwood Gardens** ([www.longwoodgardens.org](http://www.longwoodgardens.org)), a new outdoor children's garden, **Bee-Amazing**, opened in May, and it is, literally, amazing. Jen Pennington, Longwood's display specialist and lead garden designer, created an extraordinary garden that unites the modular construction of honeycomb with themes that emphasize the dependency between plants and honeybees. "We knew we wanted a maze, and the hexagonal patterns of honeycombs worked perfectly," says Pennington. "Honeybees are key pollinators as well as nature's modular architects; the garden contains layers of meaning that create an ideal framework for discovery learning and story telling." Bee-Amazing includes a honeycomb maze, flower fountain, and winding Buzz Trail that depicts the flight patterns of bees.

The **Helen and Peter Bing Children's Garden**, which opened in June at the **Huntington Botanical Gardens** in San Marino, California ([www.huntington.org](http://www.huntington.org)), features nine elemental sculptures that are magical in both function and appearance. Designed by Huntington's Director Jim Folsom and kinetic artist Ned Kahn, each sculpture encompasses an interactive learning experience that allows children to explore the four key components of life: air, water, light, and earth.



Two young visitors are fascinated by the vortex in the Helen and Peter Bing Children's Garden at the Huntington Botanical Garden.

Whether hiding out, watching birds, or touching the tree-tops, kids like nothing better than the lofty seclusion of a good treehouse in a nice branch-filled, girthy tree. This summer, three separate exhibits hold the promise to fulfill every child's treehouse dream: **InTREEguing Treehouses** at the **Morton Arboretum\***, Lisle, Illinois ([www.mortonarb.org](http://www.mortonarb.org)), **Totally Terrific TreeHouses** at the **Minnesota Landscape Arboretum\***, Chaska, Minnesota ([www.arboretum.umn.edu](http://www.arboretum.umn.edu)) and **TREEmendous TREEHouses** at the **Norfolk Botanical Garden\***, Norfolk, Virginia ([www.nbgs.org](http://www.nbgs.org)). These independent exhibits will show many unique treehouses created by different top architects, builders and designers. Minnesota's treehouse creations will be "unlike your typical backyard treehouse," in Illinois they promise a "grand-scale, interactive, outdoor exhibition," and those in Virginia will offer "fantasy and whimsy." These exhibits will last throughout the summer.

—Jessie Keith, Editorial Intern

### BBG CELEBRATES 90 YEARS OF CHILDREN'S GARDENING



The **Brooklyn Botanic Garden\*** (BBG) takes pride in having the oldest children's gardening program in the country. Last December, they put out a call for the program's thousands of alumni, spanning from 1914 to the present, to reunite for their 90-year reunion celebration to be held on September 12th. Alumni can learn more about the reunion at [www.bbg.org/alumni/](http://www.bbg.org/alumni/).

\*AHS members receive free admission and some other benefits at these gardens, which are participants in the AHS Reciprocal Admission Program—for more details visit our Web site ([www.ahs.org/events/reciprocal\\_events.htm](http://www.ahs.org/events/reciprocal_events.htm)).



AUG. 19. **The Prairie Garden. Tour.** The Holden Arboretum, Kirtland, Ohio. (440) 946-4400. [www.holdenarb.org](http://www.holdenarb.org).

**RAP** AUG. 21. **Afternoon Tea at Lantern Court.** Feng shui gardening class. The Holden Arboretum, Kirtland, Ohio. (404) 946-4400. [www.holdenarb.org](http://www.holdenarb.org).

**AHS** SEPT. 9. **The Art and Science of Container Gardening.** Event and online educational course. Horticulture Gardening Institute and Ohio Master Gardeners Program. (517) 432-1950 ext. 4. [www.gardeninginstitute.com](http://www.gardeninginstitute.com).

#### Looking ahead

SEPT. 14. **Heritage Museum and Gardens: Past Present and Future.** Lecture. Indianapolis Museum of Art, Indianapolis, Indiana. (317) 923-1331. [www.ima-art.org](http://www.ima-art.org).

### SOUTH CENTRAL

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

**RAP** JULY 17–25. **Henry Shaw Cactus Society Show and Sale.** The Missouri Botanical Garden. St. Louis, Missouri. (800) 642-8842. [www.mobot.org](http://www.mobot.org).

JULY 24 & 25. **Sooner State Iris Society Rhizome Sale.** Will Rogers Exhibition Center, Oklahoma City, Oklahoma. (580) 323-1132.

**RAP** AUG 13–22. **8th Annual Festival of Butterflies.** See butterflies in conservatory, children's activities, crafts, and plant sale. Powell Gardens. Kingsville, Missouri. (816) 697-2600. [www.powellgardens.org](http://www.powellgardens.org).

**RAP** AUG. 14 & 15. **Conservation Development Symposium.** Lady Bird Johnson Wildflower Center. Austin, Texas. (512) 292-4100. [www.wildflower.org](http://www.wildflower.org).

AUG 21. **The Pelican Plant Sale.** New Orleans Botanical Garden and City Park. New Orleans, Louisiana. (504) 483-9386. [www.neworleanscitypark.com](http://www.neworleanscitypark.com).

**RAP** AUG. 28. **Daylily Sale.** Botanica, The Wichita Gardens. Wichita, Kansas. (316) 264.0448. [www.botanica.org](http://www.botanica.org).

**RAP** THROUGH OCT. 15. **Danville Chadbourne Sculpture Exhibit.** San Antonio Botanical Garden. San Antonio, Texas. (210) 829-5100. [www.sabot.org](http://www.sabot.org).

### SOUTHWEST

AZ, NM, CO, UT

**RAP** THROUGH AUG. 31. **Summer Body and Sole Series.** Fitness sessions in garden setting. Tucson Botanical Gardens. Tucson, Arizona. (520) 326-9686 ext. 10. [www.tucsonbotanical.org](http://www.tucsonbotanical.org).

AUG. 7. **Taos Garden & Home Tour.** Los Jardineros Garden Club of Taos. Taos, New Mexico. (505) 776-2275. [www.gardencluboftaos.com](http://www.gardencluboftaos.com).

#### Looking ahead

**AHS** SEPT. 24–26. **The Fall Beautiful Home & Landscape Show.** Arizona State Fairgrounds. Phoenix, Arizona. (602) 485-1691. [www.phoenixhomeshow.com](http://www.phoenixhomeshow.com).

### WEST COAST

CA, NV, HI

**RAP** AUG. 27. **Night Walk.** Descanso Gardens. La Cañada, California. (818) 949-7980. [www.descansogardens.org](http://www.descansogardens.org).

THROUGH AUG. 16. **UnNaturally.** Art exhibit. COPIA: The American Center For Wine, Food & the Arts. Napa, California.

## Topiaries with an International Twist at Biltmore

THIS SUMMER, life-size topiaries with an international theme will greet visitors to the 125,000-acre Biltmore Estate in Asheville, North Carolina. The late 19th-century estate was the country retreat of George W. Vanderbilt, whose grandfather, Cornelius, had amassed a fortune in shipping and the railroads. The topiaries—wire forms covered with trained ivy and other plants—are part of an exhibit titled “Garden Journeys: A World of Topiaries,” which pays homage to Vanderbilt, a renowned world traveler. The massive topiaries are accompanied by plantings appropriate to each country, along with giant postcards featuring excerpts of letters written by members of the Vanderbilt family during their travels to each country.

Highlights of the exhibit include a Japanese lantern topiary situated in the conservatory's Zen garden, French flowerbeds looming beneath an Eiffel tower topiary, and an English horse and rider topiary in the Shrub Garden. Other countries celebrated in topiary include Russia, Spain, and Germany. The special topiary exhibit ends September 26.

To learn more about the exhibit, call the Biltmore at (877) 245-0647, or visit the estate's Web site at [www.biltmore.com](http://www.biltmore.com).

—Katie Palanjan, Editorial Intern



Left: A topiary lion guards the entrance to the Biltmore Estate. Above: Putting the final touches to the topiary creations in the Russia exhibit.

## African Art at Denver Botanic Gardens

A BIT OF AFRICA comes to Denver this summer with the opening of the exhibit, "Chapungu: Custom and Legend, A Culture in Stone" at the Denver Botanic Gardens, which runs through October 31.

Artists from Zimbabwe, many from the Shona tribe, created the 80 stone sculptures on display over the last 40 years. Now on international tour, the sculpture exhibit is based at the Chapungu Sculpture Park, located in Zimbabwe's capital, Harare.

Roy Guthrie, director of the Chapungu Sculpture Park and curator of the exhibition, emphasizes the uniqueness of this traveling art exhibit. "It's a portrayal of contemporary African art, and there's almost no publicity on contemporary African art," he says. The sculptures, he adds, revolve around various themes such as family, love, the spirit world, and topics that affect each artist.

The sculptures, which have been described as "hauntingly evocative," are situated throughout the grounds of the Denver Botanic Gardens, including an African desert garden and a prairie of plants native to Colorado.

During the exhibition, workshops in botanical illustration, focusing on the flora of Zimbabwe, as well as stone carving workshops, will be offered. For more information, call (720) 865-3500 or visit [www.botanicgardens.org](http://www.botanicgardens.org).

—Katie Palanjian, Editorial Intern

**Chief Consults Chapungu by artist B. Kapeta is one of the sculptures on display at the Denver Botanic Gardens.**



## FUTURE AHS NATIONAL EVENTS AND PROGRAM CALENDAR

Mark your calendars now! More details about all these events will be available soon in *The American Gardener* and on the AHS Web site ([www.ahs.org](http://www.ahs.org)).

- DEC. 2. **Friends of River Farm (FORF) Volunteer Reception**, George Washington's River Farm, Alexandria, Virginia.

### IN 2005

- MAR. 4 & 5. **AHS President's Council Event at the Philadelphia Flower Show**, Pennsylvania Convention Center, Philadelphia, Pennsylvania.

- APR. 1–30. **Washington Blooms!** George Washington's River Farm, Alexandria, Virginia.

- APR. 13–15. **Great American Gardeners Conference**, Epcot International Flower & Garden Festival, Orlando, Florida.

- APR. 16. **AHS Great American Gardeners Award Banquet**, Epcot International Flower & Garden Festival, Orlando, Florida.

- APR. 21–23. **FORF Spring Plant Sale**. George Washington's River Farm, Alexandria, Virginia.

- MAY 6. **Magic of Landscaping Conference**, Orlando, Florida.

- MAY 27. **AHS Member Day at Cleveland Botanical Garden**, Cleveland, Ohio.

- JUNE 2. **Taste of River Farm**, Alexandria, Virginia.

- JULY 28–30. **AHS National Children & Youth Garden Symposium**, Atlanta Botanical Garden, Atlanta, Georgia.

(707) 265-5950. [www.copia.org](http://www.copia.org) or [www.ici-exhibitions.org](http://www.ici-exhibitions.org).

**RAP** AUG. 14 & 15. **19th Annual Inter-City Cactus and Succulent Show 2004**. L.A. County Arboretum. Arcadia, California. (626) 821-3222. [www.arboretum.org](http://www.arboretum.org).

AUG. 24–29. **American Begonia Society 2004 Convention**. Town and Country Hotel and Convention Center. San Diego, California. (619) 262-7535. [www.begonias.org](http://www.begonias.org).

### NORTHWEST

AK, ID, MT, OR, WA, WY

**RAP** AUG. 14 & 15. **Fuschia Society Show & Sale**. The Bellevue Botanical Garden. Bellevue, Washington. (425) 451-3755. [www.bellevuebotanical.org](http://www.bellevuebotanical.org).

AUG. 14–OCT. 10. **Feast Your Eyes: The Unexpected Beauty of Vegetable Gardens**. Smithsonian Traveling Exhibition. Museum of the Oregon Territory. Oregon City, Oregon. (503) 655-5574. [www.orcity.com/museum](http://www.orcity.com/museum).

AUG. 26–28. **The Far-West Show**. Oregon Association of Nurserymen. Oregon Convention Center. Portland, Oregon. (800) 342-6401. [www.farwestshow.com](http://www.farwestshow.com).

AUG. 28–SEPT. 3. **Fourth International Symposium on Japanese Gardening**. Center for Urban Horticulture at the University of Seattle. Seattle, Washington. (206) 286-9644.

### CANADA

JULY 20–27. **20th Annual International Waterlily and Water Gardening Society Symposium**. The Toronto Botanical Garden. Toronto, Canada. (941) 756-0880. [www.iwgs.org](http://www.iwgs.org).

AUG. 1 & 2. **6th Annual A Taste of B.C.** Minter Gardens. Rosedale, British Columbia. (888) 646-8377. [www.mintergardens.com](http://www.mintergardens.com).

**RAP** SEPT. 11. **Plant Sale**. The Arboretum at the University of Guelph. Guelph, Ontario. (519) 824-4120 ext. 52358. [www.uoguelph.ca/arboretum](http://www.uoguelph.ca/arboretum).

### INTERNATIONAL

**AHS** SEPT. 20–OCT. 3. **Gardens of Tuscany**. AHS Travel Study Program. For information, contact Leonard Haertter Travel, St. Louis, Missouri. (800) 942-6666. [www.haerttertravel.com](http://www.haerttertravel.com).



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**WE ARE LOOKING FOR A FULL-TIME PROFESSIONAL GARDENER** for a small estate outside Reading, Pennsylvania. The home was built in 1912 with landscaping designed by the Frederick Law Olmsted firm in New York City. The original plan had rose gardens, walking paths, nut and fruit orchards, market gardens and a small grape vineyard with many specimen trees on the property. We would like to restore this lovely estate to its "former glory." Please send resume to: Ms. Susan Montgomery, Penn National Gaming, 825 Berkshire Blvd., Wyomissing, PA 19610. Or e-mail: [mwchome@supernet.com](mailto:mwchome@supernet.com).

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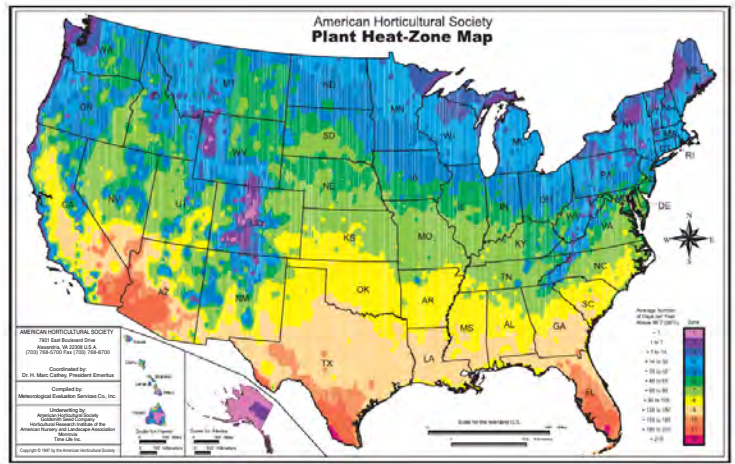
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## PRONUNCIATIONS AND PLANTING ZONES

Most of the cultivated plants described in this issue are listed here with their pronunciations, USDA Plant Hardiness Zones—based on the 2003 revised hardiness map, which is currently under review by the USDA—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](http://www.ahs.org). Hardiness and Heat zone codes are generated by AHS and documented in the Showtime® database, owned by Arabella Dane.



### A–L

***Acorus gramineus*** AK-or-us grah-MIN-ee-us (USDA 7–9, AHS 12–2)  
***Arrhenatherum elatius* subsp. *bulbosum*** ah-ren-AH-ther-um ee-LAY-tee-us subsp. buhl-BO-sum (5–8, 8–5)  
***Asclepias tuberosa*** as-KLEE-pee-us too-bur-O-suh (3–9, 9–2)  
***Calamagrostis brachytricha*** kah-luh-mah-GROS-tiss brak-ih-TRY-kuh (5–9, 9–5)  
***Carex elata*** KAIR-eks eh-LAY-tuh (5–9, 9–3)  
***C. dolichostachya*** C. dol-ih-ko-STAH-kee-uh (5–9, 9–5)  
***C. flaccosperma*** C. flak-ko-SPER-muh (7–9, 9–7)  
***C. flaccosperma* var. *glaucodea*** C. flak-ko-SPER-muh var. glaw-KO-dee-uh (6–8, 8–6)  
***C. grayii*** C. GRAY-ee-eye (3–8, 8–1)  
***C. morrowii* var. *temnolepis*** C. mor-RO-ee-eye var. tem-no-LEP-is (5–9, 12–1)  
***C. pennsylvanica*** C. pen-sil-VAN-ih-kuh (4–8, 8–1)  
***C. phyllocephala*** C. fil-o-SEF-uh-luh (7–10, 10–7)  
***Chasmanthium latifolium*** chas-MAN-thee-um lat-ih-FO-lee-um (5–9, 9–5)  
***Clethra alnifolia*** KLETH-ruh al-nih-FO-lee-uh (3–9, 9–1)  
***Deschampsia cespitosa*** deh-SHAMP-see-uh sez-pih-TOH-suh (5–9, 9–1)

***Elymus hystrix*** EL-ee-mus HISS-triks (4–8, 8–1)  
***Fargesia nitida*** far-JEE-zee-uh NIT-ih-duh (5–9, 9–5)  
***Hakonechloa macra*** ha-kon-ee-KLOH-uh MAK-ruh (5–9, 9–2)  
***Helianthus angustifolius*** hee-lee-AN-thus ang-gus-tih-FO-lee-us (6–9, 9–4)  
***Lithocarpus densiflorus*** lih-tho-KAR-pus dens-ih-FLOR-us (8–10, 10–8)  
***Luzula acuminata*** LOOZ-yew-luh ak-yew-min-AY-tuh (4–8, 8–1)  
***L. nivea*** L. NIH-vee-uh (4–9, 9–1)  
***L. sylvatica*** L. sil-VAT-ih-kuh (4–9, 9–4)  
***Lycopersicon esculentum*** ly-ko-PER-sih-kon es-kew-LEN-tum (0–0, 12–1)

### M–Z

***Milium effusum*** mih-LEE-um eh-FEW-sum (6–9, 9–6)  
***Miscanthus sinensis*** miz-KAN-thus sy-NEN-siss (6–9, 9–1)  
***Monarda punctata*** muh-NAR-duh punk-TAY-tuh (4–9, 9–4)  
***Pelargonium* × *hortorum*** peh-lar-GO-nee-um HOR-tor-um (11–11, 12–1)  
***Phormium tenax*** FOR-mee-um TEN-aks (9–11, 12–6)  
***Pogonatherum paniceum*** po-go-NATH-ur-um pan-ih-SEE-um (8–10, 10–7)  
***Rhododendron vaseyi*** ro-doh-DEN-dron VAY-see-eye (5–8, 8–4)

***Rubus arcticus*** ROO-bus ARK-tih-kus (1–7, 7–1)  
***R. chamaemorus*** R. kam-ee-MOR-us (2–6, 6–1)  
***R. cockburnianus*** R. cock-bur-nee-AN-us (5–9, 9–5)  
***R. idaeus* var. *strigosus*** R. eye-DEE-us var. strih-GO-sus (4–8, 8–1)  
***R. idaeus* var. *vulgatus*** R. eye-DEE-us var. vul-GAY-tus (4–8, 8–1)  
***R. occidentalis*** R. ahk-sih-den-TAL-iss (4–9, 9–1)  
***R. odoratus*** R. o-doh-RAY-tus (3–9, 9–1)  
***R. parviflorus*** R. par-vih-FLOR-us (3–9, 9–1)  
***R. phoenicolasius*** R. fee-nih-koh-LAY-see-us (5–9, 9–5)  
***Sesleria caerulea*** ses-LAIR-ee-uh see-ROO-lee-uh (5–8, 8–5)  
***Solenostemon scutellarioides*** so-len-O-stee-mon skoo-tuh-LAIR-ee-OY-deez (11–12, 12–1)  
***Spodiopogon sibiricus*** spo-dee-o-PO-gon sy-BEER-ih-kus (4–9, 9–1)  
***Stewartia pseudocamellia*** stew-AR-tee-uh soo-doh-kuh-MEEL-yuh (5–8, 8–4)  
***S. ovata* var. *grandiflora*** S. o-VAY-tuh var. gran-dih-FLOR-uh (5–8, 8–1)  
***Syringa* × *chinensis*** sih-REENG-guh chy-NEN-siss (4–8, 8–1)



## Summer Brights in a Container

by Carole Ottesen

CONTAINERS ALLOW us to experiment with adventure-some combinations as well as with plants too tender to overwinter in the garden. The New Zealand flax (*Phormium tenax*) cultivar 'Yellow Wave' in this container belongs to a genus of colorful, grasslike plants, native to New Zealand, that are generally only hardy in USDA Zone 9 and above. Here its yellow-green blades echo the two tones of the zonal geranium, *Pelargonium* 'Happy Thought', while its upright spikiness is a foil for the rounded leaves of both the geranium and those of the coleus, *Solenostemon scutellarioides* 'Solar™ Sunrise'. Taking it a step further, the darkly patterned leaves of the coleus contrast with the New Zealand flax in both color and form. And the bright red flowers of the geranium add, aptly enough, a bright, happy afterthought to the composition. 🌿

Carole Ottesen is associate editor of *The American Gardener*.



**'Yellow Wave' New Zealand flax**, (*Phormium tenax* 'Yellow Wave'), is an evergreen perennial for sun to part shade with bright lime green foliage, USDA Zones 9–11, AHS Zones 12–6.

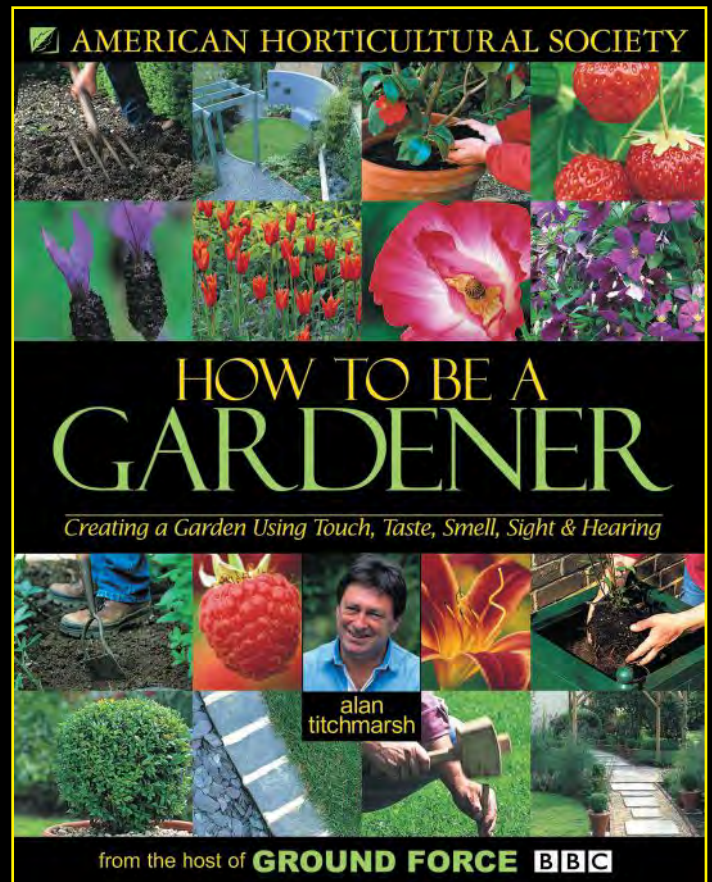
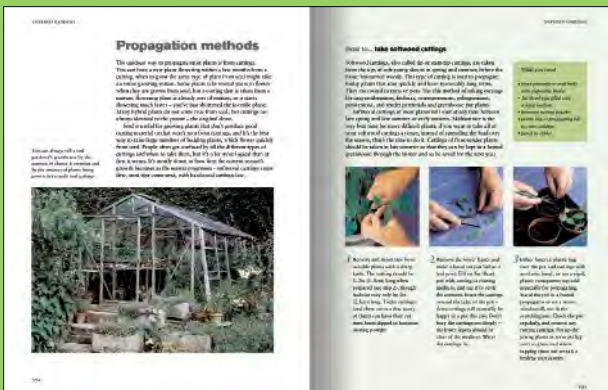
**Geranium 'Happy Thought'** (*Pelargonium xhortorum* 'Happy Thought') has a green, ruffled leaf with a creamy yellow center and red flowers, Zones 11–11, 12–1.

A tender perennial, **'Solar™ Sunrise' coleus** (*Solenostemon scutellarioides*) produces large leaves in intense lime green with deep burgundy, and creamy yellow. Zones 11–12, 12–1.





Alan Titchmarsh is the former host of *Ground Force* on BBC America, and of *Gardener's World* in the UK. He was recently awarded an MBE for his services to horticulture. He is the author of many gardening books, and is also a successful author of fiction.



ISBN: 1-59258-036-X / \$39.95 US / \$58.95 CAN

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