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May/June 2004

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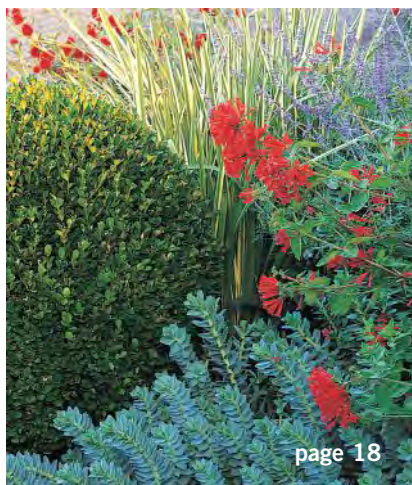
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**RECIPROCAL ADMISSIONS PROGRAM**

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**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**.

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## NOTES FROM RIVER FARM

**S**O OFTEN I have been encouraged to stop and smell the roses. And, dutifully, I would slow down for a few minutes...sniff sniff...and then back to business! But over the past few months, while I have been on sabbatical, I have had many an opportunity to stop and smell the roses and enjoy the beauty of life around me.

Most of my time off was time spent with my family—lots of brothers and sisters, nieces and nephews, and, of course, my incredible parents. However, as I traveled around the country, I also enjoyed visiting many of you, our AHS members. It was so nice to be able to sit down and chat about AHS, and wherever I went, I would see a copy of *The American Gardener* sitting on the kitchen counter or coffee table. From Florida to New York, Colorado, and California, the beautiful columbines on the cover of the last issue greeted me—and, of course, I would hear how the articles in the magazine are inspiring people to search out good plants, look for new ways to combine them, be attentive to environmental practices, and then pick up a trowel and get gardening!

Last month, I was fortunate to visit New Zealand with 25 AHS members as host of an AHS Travel/Study Garden Tour. In 12 days, our adventurous group visited more than 20 incredible gardens and met the remarkable people who created them. In addition, we experienced the outstanding natural beauty of thermal geysers and hot bubbling mud pools on the north island, and snow-capped mountains—think Tolkien's Middle Earth!—and brilliant turquoise glacial lakes on the south island. In between, we marveled at the amazing flora and fauna endemic to that beautiful island nation.

These Travel/Study Garden Tours are truly one of AHS's hidden gems. Each year, 10 to 12 tours take gardeners to destinations ranging from New Zealand to Tuscany, California, and Maine. Each one offers once-in-a-lifetime opportunities to visit unique private and public gardens, and to comprehend the delicate balance between man and nature in these beautiful locations. These tours highlight gardens that are an intrinsic component of artistic expression in the cultures we visit. This is no small message. I cannot encourage you enough to treat yourself to one of these tours if you love travel and love gardens.

To celebrate 20 years of these outstanding programs, the AHS President's Council Dinner, being held on May 14 in St. Louis, Missouri, will honor Leonard Haertter, who has creatively packaged these tours for the AHS since 1984. In that time, Leonard has taken nearly 3,000 AHS members to 200 destinations and some 4,000 gardens worldwide, so you can understand why we celebrate.

And now I am back at River Farm with spring bursting out of the ground and *Washington Blooms!* in full swing. The River Farm meadow will have 40,000 new native plants in place by the end of April... The Master Plan for River Farm will be complete in June... the 2004 National Children and Youth Garden Symposium is on schedule for July 29 to 31 in Ithaca, New York. Your AHS is moving ahead, and we are so glad you are along for the ride!

Happy Gardening!



—Katy Moss Warner, AHS President



*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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## MEMBERS' FORUM

### PEAR WARNING

Rita Pelczar's article on vintage pears in the September/October 2003 issue was great, but I would like to caution readers about Southmeadow Fruit Gardens, which was listed in the article as a source for pear trees. This nursery was also featured last year in a *National Geographic* article on heirloom apples and pears, and I ordered more than a dozen trees from them in January 2003. The check was cashed within a day of receipt, but the trees were never sent. My attempts to contact the company and get a refund or an explanation have failed. Now, more than a year later, I have still to receive my trees, a refund, or an explanation.

While this nursery may have skill and dedication to rescuing vintage fruit trees, it seems to lack the most basic ability to manage its business. I have ordered nursery stock, seeds, and garden supplies

from dozens of companies for more than 20 years and have never had a problem like this. It is disturbing to see this nursery repeatedly featured as a source in national magazines.

*John Reilly  
Newton, Massachusetts*

**Editor's note:** We received letters from two other readers who described similar experiences with Southmeadow Fruit Gardens. We contacted Southmeadow to ask about these reported problems and were told by a staff member that the nursery is now under new ownership and is trying to resolve previously existing complaints about orders. We asked them to investigate John Reilly's order and were assured they would do so. However, as of the time this issue went to press, Reilly still had not received any communication from the nursery.

### WHY WITCH HAZELS?

I enjoyed the article on witch hazels (November/December 2003) by Chris Strand. But why are they called "witch hazels?" I don't think it was mentioned in the article.

*John Bryan  
Sausalito, California*

**Chris Strand's response:** It is not clear how *Hamamelis* received the common name witch hazel. Some have attributed the name to the Colonial practice of using its twigs for water divining, just as the hazel (*Corylus* sp.) is used in Europe. Another explanation is that the name is derived from the Old English word *wice* and refers to the plant's pliant branches.

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

## 2004 ANNUAL AHS GALA *Through the White House Gates to River Farm*

SEPTEMBER 25, 2004

The American Horticultural Society's annual gala event will be held September 25 at its River Farm headquarters overlooking the Potomac River. This year we highlight the restoration of historic gates from the White House that have hung at the entrance to River Farm since the 1930s. The gates will be reinstalled in a prominent spot in River Farm's gardens. Plan to join us at the gala for a sneak peak and to enjoy an evening of dinner and live and silent auctions under the stars. For more information call (703) 768-5700.



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## 2004 Children and Youth Gardening Symposium at Cornell University

SINCE THE INCEPTION of the AHS National Children and Youth Garden Symposia 12 years ago, children's gardens and educational programs have become integral elements in schools and public gardens. Horticultural professionals, educators, and parents all recognize the magical effect gardens have on children, often because they can relate to their own childhood experiences harvesting garden vegetables with mom or dad, helping a grandmother tend her roses, or simply climbing trees. Because it is often informal learning experiences like these that influence us the most, this year's symposium, titled "Branching Out: Beyond Formal Garden-based Education," will focus on less structured approaches to children's garden education.

The symposium, to be held from July 29 to 31 on the Cornell University campus in Ithaca, New York, will feature two prestigious keynote speakers who offer fresh perspectives on children's garden education. **Roger Hart** of the City University of New York's Children's Environments Research group will discuss the importance of "un-designing" children's horticultural programs, and **Frank Rossi**, an assistant professor of turfgrass science at Cornell, will share success stories about his amazing teaching tool—turf.

"We are so excited about this year's keynotes," says **Nancy Busick**, AHS youth programs coordinator. "Roger Hart was

a keynote speaker during the first AHS symposium in 1993, where he gave a memorable presentation on the message of earth-stewardship that gardens can instill in young people. And Frank Rossi is a real innovator who is well known for his enlightened and entertaining presentations." In addition to the keynote presentations, attending symposium participants will be able to sign up for 12 idea-filled sessions given by noted youth gardening experts.

Throughout the symposium, attendees will enjoy a variety of field trips and workshops that will highlight Cornell's wealth of garden-related opportunities for youth, including the Ithaca Children's Garden and Garden Mosaics. There will also be plenty of time for networking and informal exchanges of ideas. Cornell Plantations—the arboretum

established by the legendary Liberty Hyde Bailey—will be the site of the first symposium dinner, which will feature a performance by the Compost Theatre of Tompkins County. A second dinner, held at Baker's Acres herb and perennial farm, will feature a signature New-York-style summer barbecue.

Located in the scenic Finger Lakes region of Upstate New York, Ithaca offers visitors many things to do and places to see. Symposium attendees may want to plan for some extra time to explore the surrounding region.

To learn more about the 2004 symposium, contact Nancy Busick at (800) 777-7931 ext. 132; e-mail: [nbusick@ahs.org](mailto:nbusick@ahs.org), or visit [www.ahs.org](http://www.ahs.org). A registration form is now available online.



The herb garden at Cornell Plantations in Ithaca.



**André Viette**, center, receives AHS's Liberty Hyde Bailey Award from AHS President Emeritus **H. Marc Cathey** and AHS President **Katy Moss Warner** at the Great American Gardeners Award Banquet April 2 at the Ritz-Carlton Pentagon City.

## Indoor Plant Experts at *Washington Blooms!*

"IT WAS a treat to be involved with the AHS indoor plants garden course," says **Marianne Polito**, coordinator of *Washington Blooms!*, "because the speakers were all experts in the field." This new AHS Garden School program, held April 1 and 2, boasted an impressive line-up of indoor plant specialists that included **Holly Shimizu**, director of the U.S. Botanic Garden (USBG); **Byron Martin** of Logees Greenhouses in Danielson, Connecticut; author, horticultural consultant, and educator **Steve Frowine**; garden writer and AHS Board member **Felder Rushing**; interior plantscaping expert **Linda Wiseman**; Smithsonian orchid specialist **Tom Mirenda**; AHS Horticulturist **Peggy Bowers**; and AHS President Emeritus **Dr. H. Marc Cathey**.

In addition to learning about indoor plants from the industry's finest, attendees also enjoyed behind-the-scenes guided tours of some of Washington, D.C.'s best interior plantscapes and the production greenhouses at the USBG. "The orchid greenhouses were particularly fascinating," says Marianne. "We learned so much



about correct techniques for orchid care." During the USBG tour, Holly Shimizu shared with the group her experiences during the renovation of the conservatory.

Participants in the garden school left not only with lasting memories, they took home an African violet, a topiary they created in one of the workshops, and a copy of *Passalong Plants*, co-authored by Felder Rushing and Steve Bender.

## Spring Bulbs Light Up River Farm

PEAKING AT THE perfect time for the events and programs during *Washington Blooms!*, the spring bulb display at River Farm was really something special this year. More than 13,000 daffodils, tulips, crocuses, and other bulbs wowed visitors everywhere they looked. "This year, we also planted dozens of containers with tulips and daffodils and used them to decorate the entrances to buildings and in a few key locations on the grounds," says AHS Horticulturist **Peggy Bowers**. "Grouping several containers at each location really created a dramatic show of color."

Among the tulips, Peggy particularly likes early-flowering *Tulipa praestans* 'Van Tubergan's Variety', a low-growing scarlet species tulip that she massed in a perennial border, and 'Monte Carlo', a double-flowered yellow that she interplanted with purple and yellow pansies in several locations. Her favorite daffodils include 'Salome', which has white petals and a salmon-colored cup, and 'Accent', which has white petals backing a pink cup.



River Farm shines with spring color in April thanks to a variety of bulbs. Top: Yellow 'Monte Carlo' tulips. Above left: 'Washington' tulips and 'Salome' daffodils. Above right: 'Van Tubergan's Variety' species tulips.

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Mother Nature, with an assist from the AHS horticultural staff, gets credit for the glory of this year's show, but none of it would have been possible without the generous bulb donations from **K. Van Bourgondien and Sons, Old House Gardens,** and **C.J. Zonneveld and Sons** of the Royal Dutch Wholesaler's Association for Flowerbulbs and Nurserystock.

## Spring Kid's Gardening Programs a Success!

FOR THE SECOND YEAR of *Washington Blooms!*, AHS boosted its spring celebration with four new programs designed specifically for our youngest visitors and budding future gardeners. Each Saturday throughout the month of April, children from across the Washington area joined AHS staff members and volunteers at River Farm for down-in-the-dirt garden fun.



Children making mud pies at River Farm.

AHS Youth Programs Coordinator **Nancy Busick** organized and facilitated the Saturday programs, which ranged from making flower arrangements in tuna cans to seed-picture painting and making mud pies. "We really had an impressive turnout and it was great to watch the children let loose and have fun in the garden," says Nancy, who admitted the grown-ups had fun, too.

The success of these programs would not have been possible without the dedication and resources of volunteers from Alexandria-area garden clubs. Special thanks go to **Mary Wright** of the Dominion Valley Garden Club, **Jo Sellers** of the Fort Belvoir Garden Club, and **Babs McClendon** of the Yacht Haven Garden Club.

If you're interested in getting involved with next year's children's programs, please contact Nancy Busick at (703) 768-5700 ext. 132 or by e-mail to [nbusick@ahs.org](mailto:nbusick@ahs.org).

## Advancing the Cause of Youth Gardening in America

IN LATE APRIL, members of the **Partnership for Plant Based Learning (PPBL)**, a national initiative of five organizations with a vested interest in youth gardening in America, hosted a meeting at River Farm to discuss goals, identify needed resources, and establish a common vision. The meeting included some 60 stakeholders from across the nation. The PPBL hosts are the **AHS, the Chicago Botanic Garden, the United States Botanic Garden (USBG), the National Gardening Association, and the National Wildlife Federation.** The meeting was held April 29 and 30, after this issue of the magazine went to press. "This initiative is in its earliest stages," says **Christine Flanagan**, the USBG public programs manager. "It is our hope to generate ideas and cooperation that will advance plant-based education across the United States. All children should learn through first-hand experience that our well-being and survival are critically dependent on plants."

*Articles in this section are by AHS Editorial Intern Jessie Keith.*

NANCY BUSICK

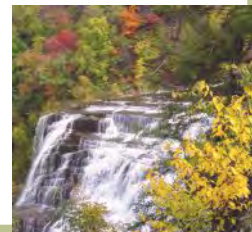
## American Horticultural Society's 2004 National Children & Youth Garden Symposium Ithaca, New York July 29–31, 2004



The AHS, Cornell Cooperative Extension, and the Horticulture Department of Cornell University invite you to join us for three days of inspirational keynotes, informative sessions, idea-filled field trips and workshops, friendship, networking, and much more...

- Hear from Dr. Roger Hart on "Un-Designing for Children and Youth: Rethinking Horticultural Programs for Young People in an Increasingly Programmed World"
- Discover "Two Keys to Success with Children's Gardens" and find out about "Plants that Dazzle and Delight Kids"
- Visit the nationally renowned Cornell Lab of Ornithology, climb a six-story treehouse, and see how community spirit is blooming at the Ithaca Children's Garden project
- Enjoy an evening at Cornell Plantations, explore the gardens, have dinner with new and old friends, and be treated to an entertaining and informative performance by the acclaimed Compost Theatre of Tompkins County
- *And much more!* Don't miss out on this opportunity to experience the natural beauty, wonder, and richness of the Finger Lakes Region!

For more information and to register for the symposium, visit [www.ahs.org](http://www.ahs.org), e-mail [youthprograms@ahs.org](mailto:youthprograms@ahs.org), or call (703) 768-5700 ext. 132.



## 2004 AHS Book Award Winners

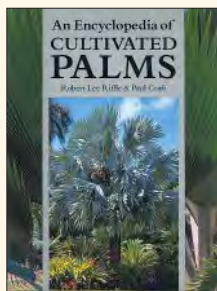
**F**IVE GARDENING BOOKS published in 2003 have earned the American Horticultural Society's Annual Book Award. The winning books, profiled below, are *An Encyclopedia of Cultivated Palms* by Robert Lee Riffle and Paul Craft, *The Passion for Gardening* by Ken Druse, *Time and the Gardener* by Elisabeth Sheldon, *Tropical Flowering Plants* by Kirsten Albrecht Llamas, and *Your House, Your Garden* by Gordon Hayward.

The award winners were selected by the AHS Book Award Committee, chaired by **Dick Dunmire** of Los Altos, California, a former editor of the *Sunset Western Garden Book*. The other members of the committee are **Linda Askey** of Birmingham, Alabama, formerly senior writer for *Southern Living* magazine; **Keith Crotz**, who owns American Botanist Booksellers in Champaign, Illinois; **Laurie Hannah**, a horticultural librarian at Santa Barbara Botanic Garden; **Rommy Lopat** of Richmond, Illinois, editor of *weedpatch.com*; **Lucinda Mays** of Chadron, Nebraska, a garden writer and former host of the Southern edition of PBS's *The Victory Garden*; and **Ray Rogers**, an author and book editor from North Brunswick, New Jersey.

Books that have received the AHS annual award can be distinguished by a gold seal embossed with the Society's name. Seek out these books in your local bookstore or order them through a link to [amazon.com](http://amazon.com) posted on the AHS Web site ([www.ahs.org](http://www.ahs.org)).

**An Encyclopedia of Cultivated Palms** by Robert Lee Riffle and Paul Craft. Timber Press, Portland, Oregon. Publisher's price, hardcover: \$49.95.

"AS A HORTICULTURAL librarian, I am constantly looking for good books on palms," said Laurie Hannah, "and I can tell you that this book is top of the list. Not only is it useful, accurate, and authoritative, but the authors' poetic language brought life to the book." Rommy Lopat agreed, noting, "For an encyclopedia, I found it very readable. The authors are opinionated and offer interesting stories and history along with the plant descriptions."



**The Passion for Gardening** by Ken Druse. Clarkson Potter, New York, New York. Publisher's price, hardcover: \$50.

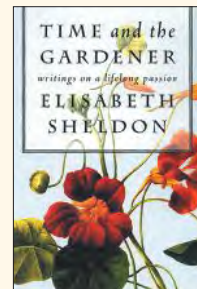
"KEN DRUSE continues to put out spectacular garden books," said Ray Rogers. "Everything about this one is top notch." Lucinda Mays praised it for offering such a wealth of inspirational ideas and photographs for gardeners at all levels of experience. "Books like this make gardening information accessible and en-



courage more gardeners to be successful," she said. "It's a splendid book," added Dick Dunmire, "really informed by passion and from the heart."

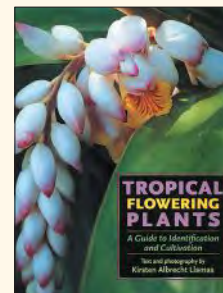
**Time and the Gardener** by Elisabeth Sheldon. Beacon Press, Boston, Massachusetts. Publisher's price, hardcover: \$25.

"I CONSIDER this one in a distinguished line of classic American garden books," said Keith Crotz. "Sheldon is one of those writers, like Elizabeth Lawrence, who takes you on a personal tour that is amazingly close to a garden stroll or armchair chat," said Linda Askey. Lucinda Mays said she had trouble putting the book down. "It combines high-quality writing with good advice on how to think about plants and use them in particular settings," she said.



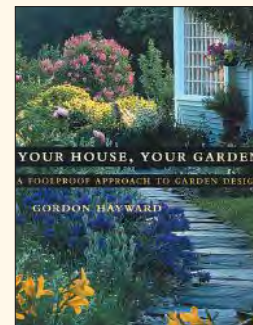
**Tropical Flowering Plants: A Guide to Identification and Cultivation** by Kirsten Albrecht Llamas. Timber Press, Portland, Oregon. Publisher's price, hardcover: \$69.95.

"THIS ENCYCLOPEDIA book covers a very large variety of plants that are becoming widely popular in this country," said Dick Dunmire. "I was impressed with its authoritativeness," said Laurie Hannah, "particularly that the author took so much time to update the nomenclature and went out and measured the plants herself." Ray Rogers said the book is "top-shelf from a production standpoint and from an information standpoint—I like everything about it."



**Your House, Your Garden: A Foolproof Approach to Garden Design** by Gordon Hayward. W. W. Norton & Company, New York, New York. Publisher's price, hardcover: \$39.95.

"I REALLY LIKED that the voice of the book assumes you are a capable human being but might never have set a stone before," said Lucinda Mays. "There are too few books that help us as gardeners put it all together to make it work." Keith Crotz praised the illustrations, particularly the aerial plans of each garden. "The author provided examples from many different residences and discussed ideas that usually don't get covered in design books, such as how to garden over a septic tank," said Laurie Hannah.



If you think legumes are just for the vegetable patch, you may be surprised to learn how many ornamental members of this family are growing in your garden.

BY PAM BAGGETT

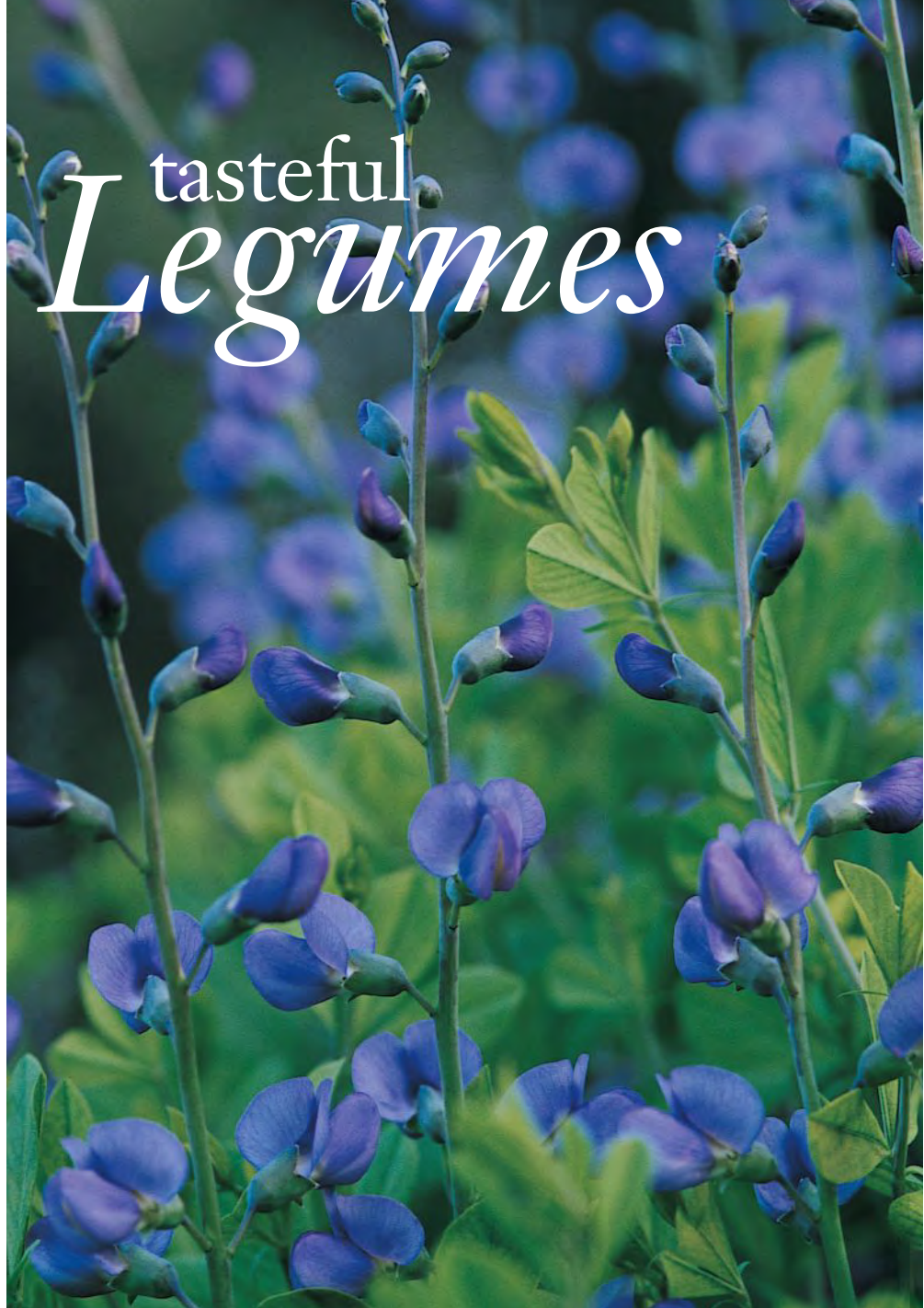
**S**AY THE WORD “legume,” and it’s likely that images of peas, sugar snaps, and green beans will be the first things that spring to mind. And, indeed, several of our most important food crops—including soy beans and peanuts—are legumes. Reach beyond the vegetable patch, though, and you’ll find a wealth of leguminous plants for the ornamental garden, no matter where you live.

A botanical success story, the legume family (Fabaceae, formerly Leguminosae) is the third-largest family of flowering plants, comprising more than 600 genera and nearly 20,000 species of annuals, herbaceous perennials, shrubs, vines, and trees. As a testament to their success, legumes are found all over the world growing in every imaginable habitat from deserts to tropical rainforests and from temperate meadows to alpine screes.

Most legumes share one or more of the following common characteristics: pealike flowers, compound leaflets, and elongated seedpods that dry and split at maturity. Many also have a unique swollen leaf joint, known as a pulvinus, that enables the plants’ leaflets to fold up and reopen in response to stimuli such as light changes or touch—the best known example of this is sensitive plant (*Mimosa pudica*), which enralls children of all ages by magically folding up its leaves when touched.

**This page:** The upright yet loose indigo-blue flower spikes of *Baptisia australis* make a show in the early-summer garden.

**Opposite page:** *Lespedeza thunbergii* bears bright magenta-pink blossoms that contrast beautifully with its silver-edged leaves.



Dig a little deeper into the cultural habits of ornamental legumes and you’ll find another shared trait: They tend to tolerate—and even thrive in—infertile soils. Why? Because legumes have evolved symbiotic relationships with beneficial soil bacteria (*Rhizobium* spp.), which establish themselves in the plants’ roots, converting—or fixing—atmospheric nitrogen into forms that can be taken up by the roots.

So legumes have a lot going for them. The diversity within this enormous family guarantees there’s a legume that will thrive in any garden, while their adaptability to a wide range of condi-

tions—including poor, and often dry, soils—make them sought-after plants by savvy gardeners.

### LUPINE ENVY

My interest in the legume family was first sparked by an unfulfilled love affair with perennial lupines (*Lupinus* spp.)—in particular, the Russell hybrids. Just picturing those great packed spires of perfect pealike blossoms, in a royal range of colors from purple to canary yellow, made me weak at the knees. Alas, the Russells, bred in England, melt in summer heat south of USDA Zone 6 and are best grown as fall-planted, spring-bloom-



## ECONOMIC AND CULTURAL CONNECTIONS

Over the course of human history, legumes have played an integral role in agriculture and been used as a source of many other products of cultural or economic importance.

Soybeans (*Glycine max*), peanuts (*Arachis hypogaea*), peas (*Pisum sativum*), and beans (*Phaseolus* spp.) are major food crops that serve as important sources of protein for people around the world. Legumes such as alfalfa (*Medicago* spp.) and clover (*Trifolium* spp.) are used as cover crops or “green mulch” to prevent erosion and replenish soil nutrients. Licorice root (*Glycyrrhiza glabra*) is the source of the authentic licorice flavoring (as opposed to anise, which is more commonly used in North America) used in some candies and liqueurs. True licorice root also has a long history of herbal and medicinal uses.

Other commercial products derived from legumes include the botanical insecticide rotenone, which is produced from plants in the genera *Derria* and *Lonchocarpus*. The tropical rosewood tree (*Dalbergia* spp.) is the source of wood used for fine cabinetry. American legumes such as mesquites (*Prosopis* spp.) and locust are also valued for their wood, which



The wood of mesquite is commonly used to provide flavor for grilled food.

has traditionally been used, respectively, as firewood to add flavor to cooked foods and as fence posts. A blue dye may also be produced from the genus *Indigofera*. —AHS Staff

ing annuals. There are true annual lupines that would have been better suited my North Carolina garden (USDA Zone 7, AHS Zone 8)—in particular, Texas bluebonnet (*L. texensis*), which showers the Texas countryside with spires of deep blue blossoms each April. But back then, I wanted reliable perennials, which is why I turned, instead, to baptisias, a genus of lupine lookalikes native mostly to the eastern United States.

Sometimes called wild or false indigo, baptisias are tough, long-lived herbaceous perennials that offer years of carefree bloom. Though some baptisia species are indigenous to dry soils and others to wet-

ter areas, they have proven adaptable to a range of soil types and moisture levels. The best known is probably *Baptisia australis* (Zones 3–9, 9–1), which is native to moist woodlands and prairies from New York to Texas. Before the sturdy stems have finished unfurling their blue-green leaves in late spring, spires of violet-blue blossoms emerge, eventually reaching three to four feet tall. A more compact variety, *B. australis* var. *minor* (Zones 4–9, 9–1) is similar to the species but only grows to two feet.

Three-foot-tall *Baptisia alba* (Zones 4–8, 8–1), native from Virginia to Florida, has smoke-gray stems that offer sultry

Despite its bold, tropical looks, *Senna hebecarpa*, right, is native to North America and is hardy to Zone 3.

Below: Eastern coral bean bears scarlet tubular blooms throughout the summer.

contrast to its milky white blossoms. A mature plant can produce 30 flowering stems, each displaying dozens of blossoms. Midwestern gardeners may want to try *B. alba* var. *macrophylla* (Zones 3–9, 8–1), which reaches five feet in height and flowers in midsummer.

Or consider *B. bracteata* (Zones 6–9, 9–7), the creamy false indigo, which produces short clusters of cream-colored flowers that look rather like bunches of sweet peas on 18- to 24-inch stems.

For a change of color pace, use two-to-three-foot-tall *B. sphaerocarpa* (Zones 5–9, 9–5), native from Missouri to Louisiana, whose dramatic spikes of acid-yellow flowers light sparks in the spring garden. The North Carolina Botanical Garden in Chapel Hill has introduced two magnificent hybrids: ‘Purple Smoke’, a chance cross between *B. alba* and *B. australis*, bears charcoal-gray stems topped with dusky grape flowers; and ‘Carolina Moonlight’, which comes by its soft yellow flowers from its parents, *B. alba* and *B. sphaerocarpa*.

If you like the sturdy look of baptisias, you may also enjoy the genus *Senna* (sometimes listed as *Cassia*), which includes more than 500 species, many of which are grown as ornamentals in subtropical regions. Two similar perennials native to the eastern United States, *Senna hebecarpa* (Zones 3–10, 10–4) and *S. marilandica* (Zones 4–9, 9–1), form stout, shrublike, four- to six-foot-tall plants that flower in summer with clusters of chrome-yellow blossoms.

If you’re searching for red flowers, try eastern coral bean or cardinal spear (*Erythrina herbacea*, Zones 7–10, 10–8). Native from North Carolina to Florida and west to New Mexico, cardinal spear sends up spikes of rich red, tubular blossoms that resemble a lobelia. Dark stems contrasted with bright green foliage enhance its good looks, as does its tendency to drop



its flowers before they’ve withered, thus preserving a fresh appearance throughout its several weeks of bloom in midsummer. Even better is *E. ×bidwillii* (Zones 7–12, 12–8), a hybrid between *E. herbacea* and the South American *E. crista-galli*. This six-foot-tall coral bean looks magnificent waving its lipstick-red spikes against a blue sky from June to October.

## SHRUBBY LEGUMES

Among the shrubby legumes, lacy-leaved bush clover (*Lespedeza thunbergii*, Zones 6–8, 8–6), a Japanese native, is a star of the late summer garden. Pest-free and deer-proof, its cultivars coast through hot summers looking crisp and fresh before bursting into bloom in the cooler days of early September. Custom-made for the busy gardener, lespedezas remain happy for years on minimal care, accepting dry or moist, sandy or enriched soils. Although they’re considered woody plants, bush clovers behave like herbaceous perennials in most of the United States—

the stems die over winter and can be cut back so that new ones emerge from the crown in spring.

*Lespedeza thunbergii* ‘Gibraltar’ is the largest selection I grow, its branches arching up and out to six feet tall by 10 feet wide, bedecked in September with vivid rosy-purple blossoms. A single stems bears more than 100 flowers spikes—so just imagine the magnificent sight of a mature multi-stemmed plant in full bloom!

Another cultivar, ‘Pink Fountain’ is smaller and produces bright rose-pink blossoms. In my garden it reaches six feet tall and slightly wider, with a somewhat less arching form than ‘Gibraltar’. If that sounds like too much space to give over to one plant, think seasonally: Since bush clovers go dormant in autumn, the bare ground beneath their branches makes a perfect home for winter annuals like pansies and spring-blooming bulbs.

If you’re partial to white flowers, consider the hybrid bush clovers ‘White Fountain’, which produces a ‘Gibraltar’-sized plant dripping with elegant pearl-white blossoms, and the tidier ‘Albiflora’, which forms a compact five-foot shrubby-looking plant with milky white blooms. Don’t be alarmed if ‘Albiflora’ occasionally produces a few pink or pink-striped flowers as well—this unpredictable trait is natural to the plant.



Thanks to a taproot that can grow 16 feet deep, leadplant is highly drought resistant and well suited to low-maintenance gardens.

Heavy clay soil has kept me from trying leadplant (*Amorpha canescens*, Zones 2–8, 8–1), though perhaps I'm being too timid. It's prairie-tough but visually delicate, with three-foot stems bearing fernlike silvery leaves, crowned in summer by spikes of tiny red-purple blooms. Native from central Canada to Texas, leadplant is drought-resistant and grows best in sandy or loamy soils—its powerful taproot can plunge six to 16 feet deep. Let leadplant reach its full height, or treat it as a cut-back shrub.

### TREES

There are few pleasures that equal seeing great clouds of redbud blossoms in glorious spring bloom. The chubby, heart-shaped leaves of eastern native *Cercis canadensis* (Zones 4–9, 9–2) appear after tight clusters of petite rosy-purple flowers bloom along the stems just prior to dogwood season. I covet, but don't grow, the lovely purple-leaved selection, 'Forest Pansy', and stunning 'Silver Cloud', which has white-splashed leaves.

The JC Raulston Arboretum in Raleigh, North Carolina, is home to a study collection of the world's best redbuds. My favorite there is Texas redbud (*C. canadensis* var. *texensis*, Zones 6–9, 9–6), native to Oklahoma, Texas, and Mexico. I love its leathery deep green leaves, rippled along the edges and shiny, making an attractive feature long after its spring-blooming, red-purple flowers have

## Resources

**The Desert Legume Program**, Boyce Thompson Southwestern Arboretum, 37615 U.S. Highway 60, Superior, AZ 85273. (520) 689-2723. [ag.arizona.edu/BTA](http://ag.arizona.edu/BTA).

## Sources

**Arborvillage Farm Nursery**, Holt, MO. (816) 264-3911. [www.arborvillagefarm.com](http://www.arborvillagefarm.com). Catalog \$1.

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

**Phoenix Perennials Ltd.**, 4153 Yuculta Crescent, Vancouver, BC, Canada V6N 4A9. [www.phoenixperennials.com](http://www.phoenixperennials.com). Catalog \$4; online catalog free.

**Plants of the Southwest**, Santa Fe, NM. (800) 788-7333. [www.plantsofthesouthwest.com](http://www.plantsofthesouthwest.com). Catalog free.

**Yucca Do Nursery**, Hempstead, TX. (979) 826-4580. [www.yuccado.com](http://www.yuccado.com). Catalog \$3; online catalog free.

Twelve years ago, I began growing a woody relative of the lespedezas, *Campyloptropis macrocarpa* (Zones 7–9, 9–7), and I recommend it. It forms an open, airy shrub six feet tall and eight feet wide. The stems do not die back in winter like bush clover; instead it behaves as a permanent woody shrub, assuming a neat vase shape that allows underplanting with low-growing plants. It blooms three to four weeks earlier than the bush clovers, with two-tone reddish purple-and-white flowers.

Summer-blooming Himalayan indigo (*Indigofera gerardiana*, Zones 6–9, 9–6), looks almost like a lespedeza in miniature, sending out stem after stem of rosy-purple flowers from the leaf axils and growing only two to four feet tall. Surprisingly, I've had no trouble growing it in the steamy Southeast, though it's native to the northwest Himalayas. Equally lovely is Chinese indigo (*I. kirilowii*, Zones 6–8, 9–5), with its bright pink, six-inch flower clusters dangling from 18-to-36-inch-tall stems. Best of the bunch may be lofty *I. amblyantha* (Zones 7–9, 9–7), which shoots up to eight feet tall and produces pink blossoms from March to October.

**The striking purplish leaves of *Cercis canadensis* 'Forest Pansy' make it one of the most coveted redbud cultivars.**



fallen. 'Texas White' is a popular white-flowered selection.

Silk tree or mimosa (*Albizia julibrissin*, Zones 6–9, 9–6) is an Asian native that has naturalized across the Mid-Atlantic and South. Although it is sometimes con-

## MORE ORNAMENTAL LEGUMES

Name	Height/width (feet)	Flower color/ Bloom time	Other features	Origin	USDA Hardiness/ AHS Heat Zones
<b>SHRUBS AND SHRUBBY PERENNIALS</b>					
<i>Caragana arborescens</i> 'Pendula' and 'Walker' (Siberian peashrub)	5–7/3–5	yellow/spring	tough shrub for mountain or desert sites	Russia, China	2–8, 8–1
<i>Dalea capitata</i> Sierra Gold™ (Yellow trailing dalea)	1/3–5	yellow/spring and fall	evergreen ground cover	Mexico, SW U.S.	8–10, 11–8
<i>Dalea frutescens</i> Sierra Negra™ (Black dalea)	3/4	purple/winter to spring	evergreen, silvery foliage	Mexico, SW U.S.	8–10, 11–8
<i>Genista pilosa</i> 'Vancouver Gold' (Broom)	1–2/5–7	bright yellow/spring	low-growing shrub	W and Central Europe	9–11, 12–9
<i>Petalostemon purpureus</i> (Purple prairie clover)	1–2/1–2	rosy purple/summer	drought tolerant	W Canada to Texas	6–11, 12–9
<b>TREES</b>					
<i>Acacia baileyana</i> (Bailey acacia)	25/30	yellow/mid-winter	thorny evergreen	Australia, New South Wales	10–11, 12–10
<i>Acacia greggii</i> (Catclaw acacia)	5–25/15	pale yellow/spring	spreading shrub to small tree	SW U.S.	10–11, 12–10
<i>Cladrastis kentukea</i> (Yellowwood)	30–50/40–50	white/late spring to summer	fragrant flowers yellow fall foliage	Central/South U.S.	4–9, 9–1
<i>Parkinsonia</i> Desert Museum™ (Palo verde)	20–25/20	yellow/spring to summer	long-flowering shade tree	SW U.S.	9–11, 12–10
<i>Sophora secundiflora</i> (Texas mountain laurel)	10–20/10–15	violet/late winter to spring	multi-trunked evergreen fragrant flowers	SW U.S.	7–11, 12–7



sidered weedy, I enjoy its pincushion clusters of showy, peachy-pink stamens and the wonderful sweet honey scent that waft over the garden for weeks in summer. All season long, I love how its delicate leaves etch a distinctive tracery against the sky. A healthy tree can grow swiftly to 20 feet or taller; unfortunately silk trees are prone to a disease called vascular wilt. Despite this problem, I intend to try the gorgeous new purple-leaved form, 'Summer Chocolate', which is much too handsome to be without.

Locusts are tough trees often reserved for the worst sites. They tolerate salt exposure, drought, and nearly any soil but a soggy one, though best growth is achieved in rich loam or limestone-based soils.

Both the black locust (*Robinia pseudoacacia*, Zones 4–9, 9–3) and the thornless honeylocust (*Gleditsia triacan-*

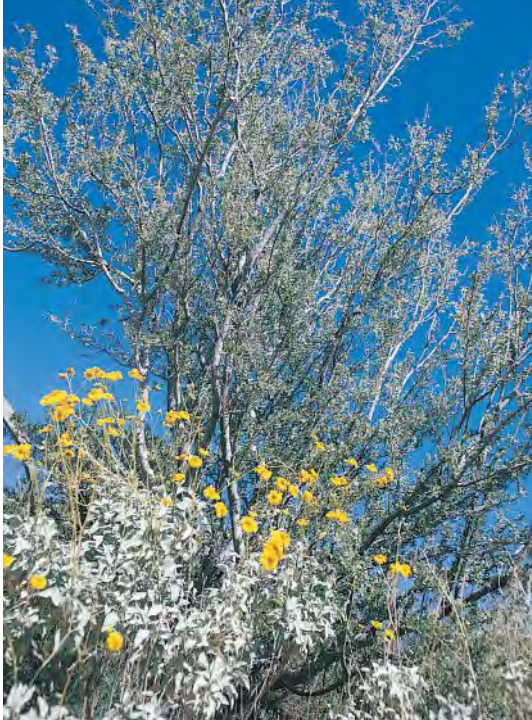
**In late spring, *Robinia pseudoacacia* 'Purple Robe' is covered with magnificent racemes of rose-pink blooms.**

*thos* var. *inermis*, Zones 3–7, 7–1) are natives of the eastern United States, with ranges extending from Pennsylvania south to Oklahoma (*Robinia*) and Texas (*Gleditsia*). Both produce intensely honey-scented flowers. Those of black locust form dense racemes of white blossoms that hang in four- to eight-inch chains from the tree. Honeylocust's two-inch racemes of greenish-yellow flowers are not nearly as sexy, but they have a heavenly smell. Numerous cultivars of each are available. *Robinia pseudoacacia* 'Purple Robe', which offers pretty, dark pink flower chains and bronze-red new growth. I'm partial to the chartreuse-leaved selections: *Gleditsia* 'Summergold' and 'Sunburst'; *Robinia* 'Aurea' and 'Frisia'.

### LEGUMES FOR THE WEST

Gardeners west of the Rockies will find plenty of good options among legumes. An excellent resource for desert gardeners is the Desert Legume Program at the Boyce Thompson Southwestern Arbore-





Desert ironwood, left, is a tough evergreen tree for arid gardens. For subtropical gardens, red bird-of-paradise, right, attracts hummingbirds.

tum in Tucson, Arizona. This program, a joint project with the University of Arizona, collects, evaluates, and displays leguminous plants suited to cultivation in arid areas (see “Resources,” page 15).

If you’re in search of shrubs, consider bush lupine (*Lupinus arboreus*, Zones 8–9, 9–8), native to coastal California and bedecked with its huge trusses of yellow or lilac-blue blossoms on four- to eight-foot stems. Or if you’re like me and crave lupines, try *L. polyphyllus* (Zones 5–8, 8–5), a colorful parent of the Russell hybrids with blue to reddish summer flowers. It thrives in moist sites from California north to British Columbia.

Tree-size legumes include naked coral tree (*Erythrina americana*, sometimes listed as *E. coralloides*, Zones 10–12, 12–10), which hails from Mexico and thrives in southern California and Arizona. Spectacular fat cones of fiery coral red flowers bloom in spring before leaf emergence on this 25-foot tree. The leathery leaves yield yellow fall color and the contorted leafless stems provide textural interest in winter.

Desert ironwood (*Olneya tesota*, Zones 9–10, 10–9), is another architecturally interesting small tree suited to southwestern gardens. It bears racemes of pink or soft purple blossoms in spring, as well as delicate blue-green leaves. Even finer foliage can be had with blue palo verde (*Parkinsonia florida*, formerly *Cercidium floridum*, Zones 9–11, 12–10). Besides its

dainty blue-tinged leaves, it has gorgeous yellow spring blooms and green bark. Both desert ironwood and blue palo verde are native to the American Southwest.

There is also a redbud adapted to western gardens. *Cercis occidentalis* (Zones 9–10, 7–9), native to California, bears magenta-rose blossoms in spring.

Desert locust (*Robinia neomexicana*, Zones 9–11, 12–9) and Idaho locust (*Robinia xambigua* ‘Idahoensis’, Zones 6–10, 10–7) are well adapted to dry and mountain climate gardens, respectively. Desert locust can take the form of a shrub or small tree, growing anywhere from six to 30 feet tall and is distinguished by clusters of dangling pink flowers in spring to early summer. Idaho locust grows to 40 feet tall and spreads slightly less with striking clusters of rose-pink flowers.

### LEGUMES FOR SUBTROPICAL GARDENS

If you live in a region where winters are mild, such as southern Florida or southern California, consider growing the royal poinciana or flamboyant tree (*Delonix regia*, Zones 11–15, 12–8). Native to Madagascar, the tree is crowned in spring with profuse clusters of brilliant red flowers. Growing to 40 feet, it is often used as a street tree in the Caribbean and in southern Africa.

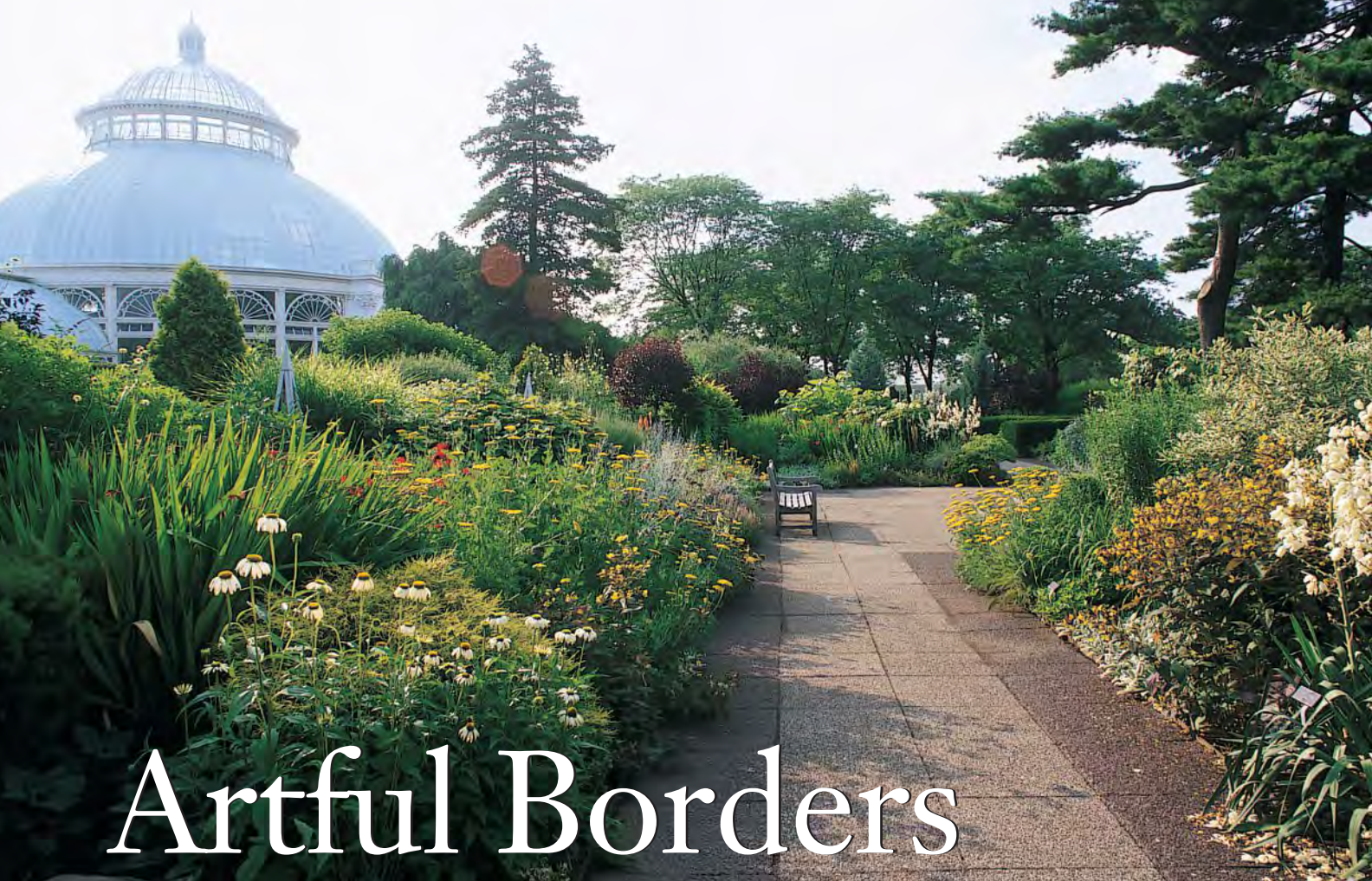
Closely related are the shrubs and small trees in the genus *Caesalpinia*, sometimes called poincianas or bird-of-paradise shrubs. Native to regions of

South and Central America and the Caribbean, they are often evergreen in mild climates and produce attractive clusters of yellow to reddish flowers with contrasting stamens that attract hummingbirds. Red bird of paradise (*Caesalpinia pulcherrima*, Zones 9–11, 12–10) is a fast-growing 10 foot shrub with orange or red flowers; Mexican bird of paradise (*C. mexicana*, Zones 9–11, 12–10) is hardier and has bright yellow flowers.

Another legume suited to mild climates is fairy duster or powder puffs (*Calliandra* spp.), a genus of evergreen and deciduous shrubs that produce dainty globular pink to red flowers. Most are native to areas from South and Central America up to California and the Southwest. Good options include Baja fairy duster (*C. californica*, Zones 13–15, 12–1) and Brazilian flame bush (*C. tweedii*, Zones 11–12, 12–10).

Even though these tender legumes won’t survive in my temperate garden, I really can’t complain because the list of legumes I *can* grow grows longer by the day. I’m almost to the point that I no longer sulk when spring seed catalogs arrive and taunt me yet again with those darn Russell hybrids.

Garden writer Pam Baggett owns Singing Springs Nursery in Cedar Grove, North Carolina, which specializes in uncommon tender plants and choice perennials and tropicals ([www.singsingsprings.com](http://www.singsingsprings.com)).



# Artful Borders

Designer Lynden Miller's Irwin Perennial Garden at the New York Botanical Garden abounds in inspiration for the home gardener.

ARTICLE AND PHOTOGRAPHS BY KAREN BUSSOLINI

**N**O MATTER what the season, every time I visit the Jane Watson Irwin Perennial Garden at The New York Botanical Garden (NYBG), I come away thinking that a visit once a week for a whole year would reveal just about everything there is to know about combining plants. This densely planted half acre of themed garden rooms contains an extravagant variety of plants, yet manages to be always both cohesive and exciting.

A stroll through the gardens reveals mixed borders with small trees, shrubs, perennials, annuals, biennials, and bulbs arranged in one appealing vignette leading to another. Nearby plants seem to speak to each other and to connect with others across the way. Certain plants are repeated, but never in quite the same way. The

effect seems casual, yet every plant is clearly there for a reason once you study why it all works so well. It's as though a talented artist painted her way through the garden, carefully composing each scene, then painted out all signs of her efforts with loose brushstrokes.

An artist is, in fact, responsible for the visual intelligence and artistic quality of this garden. Lynden Miller, instrumental in the renaissance of public gardens in New York City, designed and has continued to shape this private-feeling public garden since 1986.

Her gardening career began in the late 1970s when, after studying at NYBG, she was living and painting in London. She was bowled over by the way English gardeners were painting with plants. "I had never seen that before," she recalls.

After moving back to New York City, she began restoring the Conservancy Garden in Central Park—which she still oversees—and after 1982, she never went back to the studio. "When I left, I became a gardener who paints; before, I had been a painter who gardens," she says. "Now I paint with plants." The elements of putting together a garden, she explains, are exactly the same as those of putting together a painting.

NYBG's teaching mission allows Miller to use a tremendous palette of plants and experiment endlessly. "The point of the garden is to show people what they can grow," she says. "We have a duty to show what's on the market, to use many different varieties."

Although she relies upon plants that thrive in the region and pull their weight

**The Hot Room in June and July. Yellows include *Chamaecyparis pisifera* 'Filifera Aurea', *Lysimachia ciliata* 'Firecracker', and 'Coronation Gold' and 'Moonshine' yarrows. Oranges and scarlets come from *Bouvardia ternifolia*, *Kniphofia* 'Alcazar', and *Crocsmia* 'Lucifer'.**

over a long season, there are always new plants to try, and tender ones with visual qualities too compelling to pass up for their lack of hardiness. Plants are chosen for their foliage —form, texture, color, scale—first. She arranges plants like a collage, playing with their different qualities, moving them until each plant enhances its neighbors. She loves flowers, but considers flower color last, for they simply aren't around as long.

Not every gardener has Lynden Miller's training or eye, and taste in plants, colors, and style may differ. Yet understanding

*The elements of putting  
together a garden...  
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a painting.*

how she employs three big elements of design—form, contrast, and repetition—is bound to improve garden compositions.

The ability to consider all three elements at once and to keep combinations interesting year round comes with experience and constant editing. Her approach to combining plants would work in Alaska or Florida—with different palettes of plants suitable to each region—and it applies equally on the scale of a container, a small bed, or an acres-big garden.

## FORM

The geometric framework within which plants are combined provides a unifying structure that connects and makes sense of a garden's parts. Straight lines and hard-edged forms set off softer plant forms. Miller explains, "It's easy to garden in rows. The hardest kind of planting looks like it just happened. Lanning Roper described my style as 'careless rapture.' I love things that fall over and spill out. The loose, seemingly naturalistic way I plant needs the underpinning of geometry for that luxuriance to play off, or else it looks messy."

Walkways, hard-edged rectilinear beds, and the green architectural forms of tightly clipped yew hedges and globular boxwoods provide that underlying



**Arizona cypress (*Cupressus arizonica* 'Blue Ice') anchors this composition, backed by *Saccharum ravennae* and fronted by *Panicum amplexicaulis* 'Atrosanguineum', and *Salvia guaranitica*.**

structure. Miller also employs geometrical garden ornaments and structures such as wooden tuteurs and an armillary sphere on a pedestal.

Spilling plants may paint over hard edges during the exuberant seasons in the garden, but the underlying structure remains, becoming more obvious and important in winter.

Form also comes from big structural plants, which Miller uses "to keep the garden, with its many small-leaved flowering plants, from looking like what gardener Christopher Lloyd calls 'gaily painted hay'."

Miller always starts her planting plan with small trees and shrubs, such as dwarf blue spruce (*Picea pungens* 'Globosa') and oakleaf hydrangea (*Hydrangea quercifolia*). Favorite shrubs like purple sand cherry (*Prunus ×cistena*), red-twig dogwoods (*Cornus alba* 'Elegantissima'), and barberry (*Berberis thunbergii* 'Rose Glow') might be pruned to tree shape, loose round forms, or hedges. These plants are hardy and adaptable to many parts of the country.

Architectural plants with large leaves also provide structure. "They're not hardy, but tropicals have a wonderful quality

that's hard to get out of the hardy herbaceous materials," notes Miller.

Used judiciously, plants such as cordylines, phormiums, cannas, elephant ears, red castor beans (*Ricinus communis* 'Carmencita'), and large-leafed *Hibiscus acetosella* 'Red Shield' give your eye a sock with their bold forms and color. Among lower-growing herbaceous perennials, hostas (especially *H. plantaginea* with its green pleated leaves), bergenias, and yuccas are among Miller's favorite form-givers.

## CONTRAST

Contrasting colors, textures, and forms make the gardens buzz and zing. Whatever qualities a plant possesses, Miller pairs it with their opposites. She loves strong contrasts and values plants that contrast in several ways.

In the Irwin garden, Miller has designed a Cool Room to contrast with its vibrant opposite, the Hot Room.

Complementary colors (opposite each other on the color wheel) planted together give an exciting jolt. She pairs orange red-hot pokers (*Kniphofia* spp.) and

geums with the opposite hue, using deep blue-flowering *Salvia nemorosa* 'Osriesland,' cool blue spruce, and lavender-blue flowering *Nepeta* 'Six Hills Giant'.

## The hardest kind of planting looks like it just happened.

Dark reds (the complement of green) are crucial. The leaves of purple sand cherry, smokebush (*Cotinus coggygia* 'Royal Purple'), (the cotinus kept cut back to encourage ruby-colored new growth), and 'Red Shield' hibiscus carry the eye around the garden, subtly making the greens appear greener.

Higher-keyed warm reds of *Gomphrena globulosa* 'Strawberry Fields' and *Bouvardia ternifolia* do the same, with higher voltage.

Light silver lamb's ears (*Stachys byzantina*), *Artemisia* 'Powis Castle', and tender *Plectranthus argentatus* contrast, by virtue of both their light value and lack of hue,

with darker and more colorful plants.

Textural contrasts give great variety and interest to plantings. The linear delicacy and soft, flowing quality of golden Hakone grass (*Hakonechloa macra* 'Aureola') is enhanced by its association with *Asarum europaeum*'s tough glossy rounded leaves nestled tightly at its feet. Feathery dill stands out among solid simple leaves of heucheras and hostas. Gomphrena's papery drumsticks and serrated velvet heart-shaped coleus leaves contrast with tough waxy spikes of yuccas in both texture and form. White anemones (*A. hybrida* 'Alba') never looked so delicate as when leaning on a prickly Arizona cypress.

Plants that provide vertical structure play a tremendously important role in Miller's plantings, for they contrast both with the many mounded plants (a steady diet of which could become boring), and the overall horizontal nature of a large garden built on flat ground.

To keep a garden in proportion, Miller recommends using about one third vertical plants to two thirds domed or horizontal forms.



Left: A lively composition of leaves—round boxwood balls, blue *Euphorbia myrsinites*, spiky *Iris pallida* 'Variegata', and misty *Perovskia atriplicifolia*—keeps the garden interesting into winter. Vivid *Gomphrena globulosa* 'Strawberry Fields' and *Bouvardia ternifolia* add punch to the combination. Above: Spiky blue-green *Yucca filamentosa* contrasts in form, texture, color and lightness with the deep red velvety leaves of *Solenostemon* 'Red Carpet'.

Many of the large plants relied upon to provide form—Arizona cypress, and especially thin Alberta spruce trees (*Picea glauca* ‘Conica’) in an allée—are also strong vertical elements by virtue of being tall and pointed.

Miller values the verticality of lofty clumps of silphiums, crocosmias, red-hot pokers, and lilies, as well as the flower spikes of foxgloves, verbascums, and salvias. She uses tall linear ornamental grasses, especially miscanthus cultivars, as exclamation points throughout the garden. Pointed wooden tuteurs function as vertical structural elements. On a lower plane, spiky yuccas and blue oat grass (*Helictotrichon sempervirens*) have a vertical gesture, as do irises, daylilies, and tender phormiums.

## REPETITION

Miller’s true artistry is revealed as you start moving through the garden. Elements—colors, especially those key dark reds and silvers, structural plants, four-season plants, verticals—are repeated again and again, but never in exactly the same way, and never symmetrically, except to mark entrances.

Repetition of forms, colors, plants, and textures binds the numerous parts of the garden together. It amplifies successful combinations and sets up a rhythm that draws the eye—and footstep—into the garden. She flanks entrances to garden rooms with symmetrical elements, such as a pair of Arizona cypresses, pots of agapanthus or the tuteurs. But each one of the pair keeps company with different plants.

Take, for example, a pair of pyramidal tuteurs softened by *Clematis* ‘Etoile Violette’ that flank one path. Each has graceful always-in-motion *Miscanthus sinensis* ‘Gracillimus’ and gray-leaved mounds of lavender-blue-flowering *Nepeta xfaassenii* nearby.

One tuteur arises from a clump of round shiny bergenia leaves and spikes of *Nepeta*, with strappy daylily foliage under the thinner blades of the *Miscanthus*. A



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tall dense clipped mound of *Berberis thunbergii* ‘Rose Glow’ is heavy and dark against those fine textures and light hues. The barberry’s deep somber red, along with that of the purple smokebush be-

**Above:** The Hot Room in fall, looking toward the Cool Room. Flower spikes of *Salvia* ‘Anthony Parker’, *Pennisetum alopecuroides* ‘Moudry’, and *Cuphea micropetala* are repeated in vertical flowers and foliage throughout the border. Dark red *Hydrangea quercifolia* foliage leads the eye to similar tones in barberries, and purple smoke bushes down the line, pulling the eye to the focal point, a large Luna Form pot at the end of the garden. **Left:** A hard-edged tuteur with *Clematis* ‘Etoile Violette’, one of a pair flanking the entrance to the Shade Room.

hind, enhances the greens. Behind the ensemble, violet spires of *Buddleia* soar, echoing the purple and red tones.

The second tuteur anchors a much lighter combination, with large leaves and luscious fat flower clusters of *Hydrangea macrophylla* ‘Maculata’, filagree spheres of *Allium* ‘Globemaster’, and *Thalictrum rochebrunianum*’s lacy foliage and tenuous dancing blooms, all lightness and air.

“Cordylines,” Miller says, “pay two kinds of rent. They are both dark red and spiky verticals.” She places them throughout the garden as accents, lifting them in fall. In the Hot Border, dull purple-red *Cordyline australis* ‘Purple Tower’ accompanied by weaving spikes of *Salvia* ‘Anthony Parker’, with bracts of a similar color stand in spectacular contrast to surrounding vibrant hues.

In the Cool Border, *Tricyrtis* ‘Sino-nome’, with elegant orchidlike flowers, weaves through the cordyline, its spots ex-

**The New York Botanical Garden** is located at 200th Street and Southern Boulevard in Bronx. It is open Tuesday through Sunday 10 a.m. to 6 p.m. April through October; 10 a.m. to 5 p.m. November through March; open on Monday federal holidays; closed Thanksgiving and Christmas. Admission is \$13 for adults, \$11 for seniors and students with a valid ID, \$5 for children two to 12, free for children under two. Parking is \$7. For more information visit [www.nybg.org](http://www.nybg.org) or call (718) 817-8700.

NYBG participates in AHS's Reciprocal Admission Program; AHS members showing a current membership card are admitted free during the week and two for the price of one on weekends.

actly matching the cordyline's color. This is a quieter combination, best appreciated at close range.

Sometimes bold tropical plants are jarring in a garden of more familiar and fine-textured plants. Here, however, these strong spiky accents find echoes

of their form in upright ornamental grasses, irises, daylily foliage, yuccas, and many other repeated verticals. Likewise, big-leafed tropicals like cannas find are echoed by oakleaf hydrangeas, hostas, and other familiar bold-leafed hardy plants.



A dynamic combination for part shade. Blue-green spikes of *Yucca filamentosa* contrast with fronds of Japanese shield fern (*Dryopteris erythrosora*), rounded burgundy *Ajuga* 'Caitlin's Giant', and glaucous columbine foliage, with hardy chrysanthemums providing added color.

## YEAR-ROUND INTEREST

Reliance on structure and foliage rather than just on flowers extends each plant's interest over a long period of time, often well into winter. "Americans focus on spring," says Miller, "but there's so much going on in spring, who has time to look?" Not that the garden is dull for one moment. The fresh light foliage of variegated *Cornus alba* 'Elegantissima' and oakleaf hydrangeas contrast with the dark red shrubs, which are at their most vibrant early in the season.

Mats of silvery velvet lambs ears set off clumps of colorful tulips and pansies. Spikes of *Iris pallida* 'Aurea Variegata' reach for the sky even though they are only a few inches tall, contrasting with cool blue dianthus foliage and snaky blue strands of *Euphorbia myrsinites*. Red-stemmed *Euphorbia amygdaloides* 'Pur-

*Reliance on structure and foliage rather than just on flowers extends each plant's interest over a long period of time.*

purea', with deep purple leaves, contrasts with its own chartreuse flowers and bracts, as well as those of nearby *Helleborus foetidus*.

Excitement builds through summer, as the garden gets taller. In August, when most gardens are tired, the Hot Room sizzles. It is lively well into fall, with good foliage combinations and ongoing blooms of annuals and tender perennials such as salvias and bouvardia, which look as good in November as they do in May.

Autumn's first frosts bring out new hues, textures, and relationships, and berries and seedheads bring their own decoration. As leaves fall, *Cornus alba* 'Elegantissima' hidden in the borders are transformed from variegated backdrop to show-stopping strong, structural, red verticals that will remain the center of attention until spring. The Fall Room features late bloomers like tall deep blue *Aconitum carmichaelii* 'Arendsii' combined with yellow grassy leaves of *Carex elata* 'Aurea' and brushes of *Amsonia hubrichtii*, with golden fall foliage.



*Stipa calamagrostis* and *Astilbe chinensis* 'Superba', left standing for winter interest.

"All my gardens have to be good in winter," Miller says. Winter reveals the garden's structure and the many plants with persistent foliage, seed heads, berries and colored bark.

A large white pine (*Pinus strobus*) sheltering the Shade Room, with its lovely carpet of rust-colored needles, becomes more prominent, and boxwood balls emerge from the garden's summer tangle.

The liveliest evergreens aren't green at all. *Chamaecyparis pisifera* 'Mops', a gold beacon in the winter garden, complements blue Arizona cypress and dwarf blue spruce. Russian sage's stiff silver stems, astilbe seedheads, and *Sedum* 'Herbstfreude' ('Autumn Joy') provide lots of winter interest.

Plumes of ornamental grasses sway, rustling in the wind, while birds flit in a large *Viburnum setigerum*, eating bright berries and bringing life and movement

to the cold season. Yuccas, particularly golden-striped varieties like *Yucca filamentosa* 'Color Guard', are shining stars, with their impressive spiky silhouettes and gorgeous coloration. Pinks, *Ajuga reptans* 'Catlin's Giant', lamb's ears, *Euphorbia myrsinites*, lirioppe, blue oat grass, hellebores, barberries, and many other plants keep their colored foliage for all or most of the winter.

To keep the garden interesting all year, Miller stresses the importance of just sitting on a bench and looking. "You'll always have things to fix," she says. "But gardening is the most creative and exciting art form. It's worth the effort, for it gives so much pleasure to the eye and to the soul." ❧

*Karen Bussolini, trained as a painter, is a garden photographer and writer always delighted by exciting plant combinations.*

## LYNDEN MILLER'S TIPS FOR HOME GARDENS

### On Choosing Plants

- Miller recommends starting with your favorites and repeating them. But, she adds, "One's tastes change. When I started, I didn't like kniphofias or bergenias at all."
- To determine what you like, read catalogs and magazines, visit nurseries and public gardens.
- Drive around the neighborhood to see what's doing well.
- When selecting big and bold plants, consider plants and habit together. "It's silly to design a form and then look for plants."

### On Combining Plants

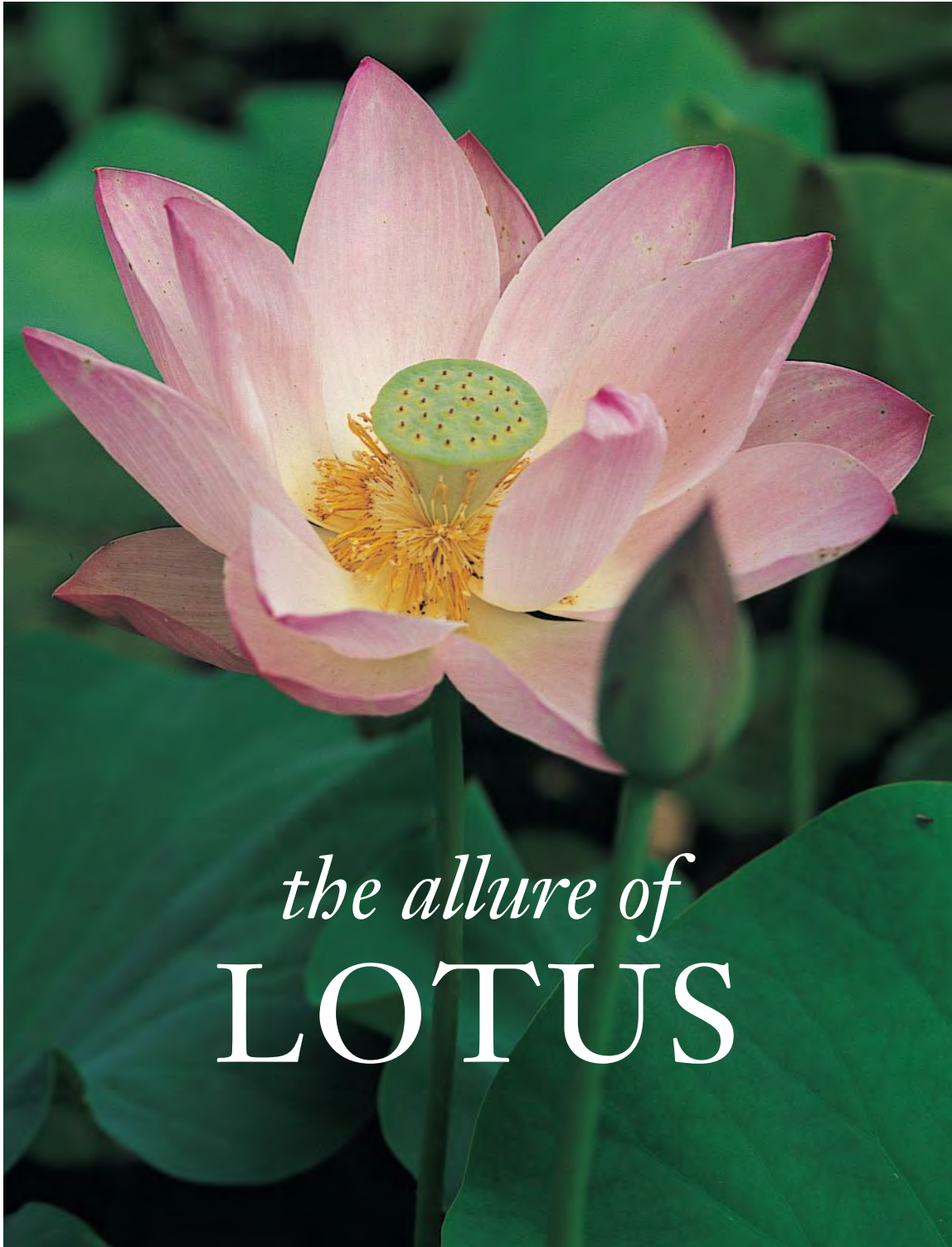
- Make a collage with pictures from catalogs and magazines to help visualize combinations.
- Don't be afraid to experiment. "Move plants around until they look right to you."
- "I don't like holes." Study what needs to be there. Sometimes a spot needs to be filled with something hard edged like an urn. Sometimes you just need a carpet of pine needles rather than more plants.

### On Design

- Think big. "Don't plant in tiny bits. Try seven or 11, not 3. Even better, order 25."
- Get more mileage out of plants by choosing those that contribute more than one essential ingredient, be it color, bold form, a useful texture for creating contrasts, or winter interest.
- "It's hard to have it just right all year round. Make a list of your plants for each season. Try to spread them out so you're not shortchanging less obvious seasons."
- "Try working with colors people are not using. People used to avoid hot colors, but now they are trendy."
- Remember there is no instant gratification in gardening. You just have to be patient. ❧

*Don't have the space or time for a full-size water garden? Growing a lotus in a container can be a satisfying way to get your feet wet.*

BY ILENE STERNBERG



*the allure of*  
**LOTUS**



**T**HE UNDISPUTED STAR of my summer garden is the lotus that I am growing in a large, round, polyurethane container on my terrace. In late summer, intoxicated by the exotic scent of its exquisite pink blossoms that loom as tall and as big as my face and mesmerized by the glistening jeweled water droplets that swirl like quicksilver on its enormous aerial leaves, I sometimes imagine I'm Queen of the Nile! And, as we all know, it's good to feel regal once in a while.

My lotus is an unnamed selection that I purchased already "tubbed," from a local farm cooperative eight years ago, but as far as I'm concerned, it's just as nice as its more pedigreed cousins.

The delight it has given me is well worth the minimal effort it takes to tend, and even if I had a pond, I think I'd prefer growing it as this spectacular pot-bound gargantuan bouquet that I have close at hand all the time in summer. Masses of lotuses are beautiful in ponds, but if not carefully controlled, they can

become a bit of a liability. Dense mats can develop on ponds, lakes, reservoirs, and irrigation channels, impeding flow, overrunning native plants, and inhibiting oxygen.

There are only two species in the genus *Nelumbo*—the sacred lotus (*Nelumbo nucifera*), native to Asia, and the American yellow lotus (*N. lutea*), native to the Mississippi River basin—but hundreds of named cultivars in a wide range of flower colors are available by mail-order or at high-end garden stores. Our native lotus,



a beauty with fragrant yellow flowers, is said to be trickier to grow in a container than the named cultivars.

#### LEGEND AND LORE

Another reason I like growing lotus is that it is one of those plants wreathed in a fascinating blend of history, religion, and mythology. The historical record on sacred lotus is a bit muddled because early chroniclers apparently used that name to refer to what we now know as the blue water lily (*Nymphaea caerulea*).

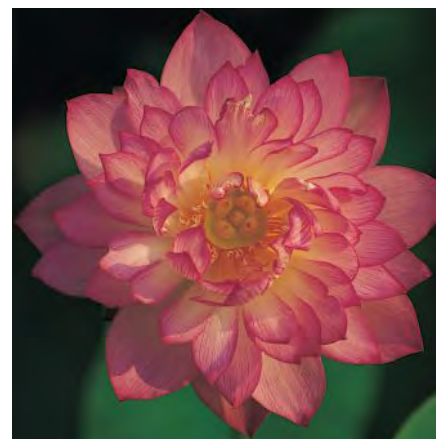


Top right: A lotus growing in a container makes an eye-catching poolside bouquet in the author's yard. Above: 'Mrs. Perry D. Slocum' bears large blooms that open a rose color, later maturing to peach and yellow. Opposite: A pink-flowered sacred lotus (*Nelumbo nucifera*).

But it is generally accepted that lotuses were known, grown, and valued for their beauty starting at least 3,000 years ago in Asia, and had made their way to southern Europe and Egypt by about 500 B.C. Frail bits of lotus petals were found in the tomb of the Egyptian ruler Ramses II, surviving where stone and brass artifacts had long since crumbled away.

Lotuses are revered throughout Asia, where they have come to symbolize purity, beauty, fertility, prosperity, perfection, and the transitory nature of human existence. When ancient peoples witnessed lotus rising from once dried up watercourses following the rains, they regarded them as signs of immortality and resurrection. The plant has a particularly deep association with Buddhism—as legend has it, Buddha was born in the heart of a lotus flower and is often depicted sitting in a lotus blossom or on its leaf.

The plant also has a long history of culinary and medicinal uses. The seeds, petioles, rhizomes, and leaves of lotuses are



Lotuses suited for small containers include ‘Angel Wing’, left, a floriferous white cultivar that grows three to four feet high, and ‘Momo Botan’, right, a pink dwarf that grows two to four feet.

still common ingredients in Asian cuisine. Similarly, native Americans ate the rhizomes and seeds of yellow lotus. Various parts of the plant have been used medicinally to treat everything from sunstroke and syphilis to cardiac complaints, chronic diarrhea, and cancer.

### GROWING LOTUSES

Lotuses are quite hardy and will survive in USDA Zones 4 to 11. But in order to bloom successfully, lotuses require two to three months of temperatures in the 80s, as well as a site that receives at least six hours of sunshine a day, which is why they are rated for AHS Heat Zones 12 to 3. They will bloom in most areas of North America, with the exception of cooler regions of the Pacific Northwest and Canada. But in my opinion, even if you have little hope of flowers, it is still worth growing a lotus for its incredible foliage. The glaucous leaves are slightly upturned, faintly ruffled disks, one to two feet across. Their waxy surface hosts perfect beads of rain or dew, the roll and play of which is simply mesmerizing to watch.

Lotus blossoms last three days, unfolding each morning and closing by evening. They make magnificent cut flowers, with first-day fragrance being most intense. The pods, decorative “showerheads” filled with round rattling seeds, are a wonder themselves and popular in dried flower arrangements.

They start out yellow, then turn green. Ultimately brown when fully ripe, they bend at the neck on their stems and drop their seeds into the water. Seeds germinate easily, although their hard, protective coating keeps them viable for centuries. Dried, gently nicked seeds sprout overnight, and within a week leaves will appear on the water surface. When growing lotuses in tubs in garden ponds, be sure to remove all seedpods before mature seeds can be spread.

Since my container has no recirculating mechanism, I toss in half a Bt (*Bacillus thuringiensis*) donut to prevent mosquito larvae from using my tub for water sports. It doesn't seem to deter the neighborhood cats, however. They drink from the tub all the time, turning up their noses at the fresh water I provide.



A ripe lotus seedhead shows the round seeds ready to harvest. They should be nicked and soaked before sowing.

## Resources

**Water Gardening: Water Lilies and Lotuses** by Perry D. Slocum and Peter Robinson. Timber Press, Portland, Oregon, 1996.

**Water Gardening**, P.O. Box 607, St. John, IN 46373. (800) 308-6157. [www.watergardening.com](http://www.watergardening.com).

■ A bimonthly full-color magazine for water gardening hobbyists. A one-year subscription is \$24.99.

## Sources

**Gardener's Supply Company**, Burlington, VT. (888) 833-1412. [www.gardeners.com](http://www.gardeners.com). Catalog free.

**Lilypons Water Gardens**, Buckeystown, MD. (800) 999-5459. [www.lilypons.com](http://www.lilypons.com). Catalog free.

**Paradise Water Gardens, Ltd.**, Whitman, MA. (800) 955-0161. [www.paradisewatergardens.com](http://www.paradisewatergardens.com). Catalog free.




Free-blooming flowers of 'Perry's Super Star' change from deep pink to yellow then cream over the course of three days.

I also grow parrot feather (*Myriophyllum aquaticum*) in my pot, because it is decorative and helps filter slime, but it spreads quickly and must be scooped out liberally every couple of weeks or it might inhibit flower formation. Parrot feather has the potential to be highly invasive in the wild, so I'm very careful not to dump it anywhere where it might escape into a wetland or stream. You can also keep a small fish or two in the tub with your lotus, but be aware some species may nibble on your prize plant, and they may also need to be provided oxygenation.

### SHARING THE WEALTH

Lotuses proliferate with such exuberance that I have to seek out friends willing to adopt "puppies" every other year. Extras can be sliced, deep-fried, and eaten. You'll find recipes for lotus in most Asian cookbooks.

No matter where you live, it's worth finding space to grow a lotus in a pot. They look great beside a swimming pool, in a pond, or up on a flat roof. Even if I moved to an apartment with only a small balcony for plants, I think I'd still want to grow my lotus. Once you've been Queen of the Nile, you don't want to relinquish the crown. 

*Garden writer Ilene Sternberg grows lotuses on her patio in West Chester, Pennsylvania.*

## CONTAINER CULTURE FOR LOTUSES

Lotuses are easy to grow and care for in a container. Select a dormant rhizome with no rot and a healthy growing tip. Put aquatic or organic fertilizer in the bottom of a round container at least three feet across by one foot deep for a standard size lotus. Containers for lotuses should always be round; otherwise, the growing tips of the rhizomes can get mangled in the corners. Some experts advise against using manure, but Asian growers have successfully cultivated lotuses for centuries using composted manure, bone or fish meal, even soybean or sesame cake covered with several inches of heavy garden mud.



### PLANTING THE RHIZOMES

Place the yamlike rhizome horizontally on the bottom of the container with the "eye" pointing toward the tub's center. Weigh the rhizome down with stones, so it's less likely to float away, and cover with a two- to three-inch layer of soil. Don't use potting mixtures that contain perlite or peat moss, because they will float and create a mess—purchase special heavy-duty aquatic soil through specialty mail-order houses (see "Resources" on facing page) and even at some home supply stores. And, finally, add water—about eight to 12 inches above the top of the soil is ideal. Add water regularly to maintain the level, because the edges of the leaves will dry out and turn crisp if the water gets low.



This bulbous lotus rhizome has two prominent "eyes" (far left and center). These should be planted facing toward the center of a container.

Once you have planted your lotus in a tub or other large container, place the tub on your deck or submerge it to a depth of six to 18 inches below the surface in a pond. The first leaves to emerge lie flat on the water like lily pads. As the temperature warms, newer leaves shoot aloft above the surface.

### WINTER CARE

Move lotus containers to an unheated porch or garage where temperatures remain above freezing in winter. Or, you can lift and save rhizomes in peat moss, taking care not to damage the fragile eyes. This is a little trickier: kept too moist, they may rot; too dry, they may desiccate.

Divide lotuses into sections for planting in spring, with at least two sections connected by their long "umbilical cords." Repot each rhizome to start the cycle anew.

—I.S.



# CONEFLOWERS AN AMERICAN CLASSIC

MARK TURNER

Once considered weedy, coneflowers are now the darlings of plant breeders and summer mainstays in formal and informal gardens.

BY KIM HAWKS

IT'S A no-brainer. No garden of mine will ever be without coneflowers (*Echinacea* spp.). Period. This far-from-ordinary genus of plants brings dependable, long-lasting bloom to gardens in the heat of summer, just in time for July 4th festivities. Some species have flashy hot-pink flowers with iridescent orange centers, while others have more delicate-looking, spidery flowers. These easy-to-grow, drought- and heat-tolerant perennials are butterfly magnets, make great long-lasting cut flowers, and provide seedhead snacks for goldfinches. Some species have medicinal properties to boot.

Given all these positive characteristics, it's hard to fathom that as recently as a couple of decades ago, coneflowers were widely considered weedy wildflowers in their native land. As with other American natives, it was Europeans who started the process of "civilizing" them. German plant breeders developed some early cultivars, such as *Echinacea purpurea* 'Rubinstern' ('Ruby Star'), in the late 1960s, and shortly thereafter European landscape designers began using dramatic masses of coneflowers in the naturalistic design style that came into vogue in the 1970s and '80s.

American gardeners and designers soon embraced this trend, and coneflowers surged in popularity in the 1990s. Recognizing their garden potential, plant breeders have stepped up work on coneflowers over the last decade. The result is dozens of new coneflowers in compact forms, with bright new flower colors, and

**Opposite:** *Echinacea purpurea* 'Magnus' bears slightly broader and more-horizontal rays than the straight species.



*Echinacea pallida* and *Monarda fistulosa* combine well in this colorful prairie garden.

even variegated foliage (for more on breeding programs and new cultivars, see box on page 33).

### ALL-AMERICAN GENUS

Part of the aster family (Asteraceae), the genus *Echinacea* is native exclusively to North America; its eight species are primarily found in eastern and midwestern regions of the United States. All have a prominent central cone—composed of bracts and disc flowers—encircled by a ring of petals (ray flowers) that range from dark rose-purple to white and yellow. The generic name, *Echinacea*, comes from the Greek word for "hedgehog," *echinos*, which refers to the sharp, pointed bracts on the cone. Coneflowers grow best in sunny, well-drained locations and are perfectly suited to perennial borders, prairie gardens, and wildflower meadows. They grow effortlessly in lean soils and don't require rich amendments or fertilizers.

The matriarch of the family is purple coneflower (*Echinacea purpurea*, USDA Zones 3–8, AHS Zones 9–1), the species most gardeners are familiar with. I've always had a fondness—really a passion—

for purple coneflower, which is indispensable in the perennial border. Part of the popularity and garden success of this species can be attributed to its broad natural distribution, ranging from Pennsylvania to Iowa south through Virginia, Kentucky, and Tennessee to Georgia and Louisiana.

Purple coneflowers grow three to four feet tall with a two-foot spread and are thickly cloaked in coarsely toothed, bright green leaves. Starting in late June to early July, the plants are covered with flowers that bloom for four weeks in midsummer and then sporadically until frost, especially if deadheaded.

Three notable cultivars that share similar traits include the Perennial Plant Association's 1998 Perennial of the Year, *E. purpurea* 'Magnus', as well as the cultivars 'Bravado' and 'Bright Star'. 'Magnus' sports horizontally-set pink rays that are slightly broader and flare out more than the species. 'Bravado' has large four to five inch inflorescences with rosy-red horizontal rays, while 'Bright Star' is a dwarf cultivar (two and a half to three and a half feet) with horizontal rose-red rays.



Two compact cultivars named for the author, 'Kim's Knee High', left, and 'Kim's Mop Head', above, are better suited to small gardens or the front of flower borders.

OK, so what's the difference between these cultivars and the straight species? Not much, in my opinion. I've grown 'Magnus' and have been quite pleased with its performance, though I tend to like the relaxed, drooping petals of the wild-type better.

I was fortunate enough to be involved in the selection of the first compact cultivars of purple coneflower. *E. purpurea* 'Kim's Knee High', which grows to only 15 to 20 inches, was developed at Niche Gardens and co-introduced in 1999 by Niche and Sunny Border Nurseries. Its shorter stature makes it suitable for small garden spaces. Compact *E. purpurea* 'Kim's Mop Head', a variant of 'Kim's Knee High', tops out at 18 to 24 inches. Its single, white flowers around a green cone with fringed "mop head" petals that supposedly refer to my "white" frazzled hair. For those of you who enjoy your garden by moonlight, plant 'Kim's Mop Head' along the front of sunny borders or along paths where the pure white flowers illuminate the way.

Other white-flowered *E. purpurea* selections include 'Alba', a creamy white with a greenish-copper central cone, 'White Swan' with bright white, drooping ray petals and a prominent orange cone, and 'White Lustre', distinguished by more-horizontally positioned white rays and a bronzy-orange cone. The differences between these are minimal to my eyes.

### LESSER-KNOWN BUT DESERVING SPECIES

There are several other coneflower species worthy of consideration for the garden. Most are difficult to find in traditional garden centers but can be obtained through specialty mail-order nurseries (see "Sources," page 32).

Pale purple coneflower (*E. pallida*, Zones 4–8, 8–1) is a graceful-looking plant that tops out at three to four feet and has three- to four-inch inflorescences composed of narrow, pink, straplike petals that droop dramatically. Plants may need to be staked to keep them dependably vertical, or pinch them back hard in mid-spring to initiate a more stalwart growth habit. In my North Carolina garden, pale purple coneflower proved to be short-lived, but it is still worth knowing and growing for



'White Swan', a white form of purple coneflower, comes true from seed.

its interesting flower form. Its native range is from Illinois to Minnesota and Montana, south to Georgia and Texas.

A native of prairies from Saskatchewan to Texas, the narrow-leaved purple coneflower (*E. angustifolia*, Zones 4–9, 8–5) is florally similar to *E. pallida* but is shorter (two to three feet) and less stout. Well suited to informal and meadow gardens, *E. angustifolia* is also a candidate for a medicinal herb garden. The Plains Indians had more medicinal uses for *E. angustifolia* than for any other plant; its roots were chewed or steeped in teas to alleviate respiratory ailments and to heal snake and spider bites, toothaches, burns, and hard to heal wounds. In Western herbal medicine, it is considered an important immune-system stimulant and is now a commonplace item among the herbal supplements available at grocery stores.

Smooth coneflower (*E. laevigata*, Zones 6–9, 9–2) is similar in appearance to purple coneflower except the leaves are smooth on their undersides and its ray flowers are a bit narrower. Less vigorous and colorful than purple coneflower, smooth coneflower's historic native distribution was from Pennsylvania south into Virginia, North Carolina, and Georgia. Development and agriculture have reduced its habitat to a few widely scattered sites within that range.

Endemic to limestone glades and limited in the wild to only three counties in

central Tennessee, Tennessee coneflower (*E. tenesseeensis*, Zones 3–9, 9–1) is on the Federally Endangered Species List and can only be purchased from nurseries with a special permit to propagate and sell it. But don't let that stop you from seeking this handsome plant from legitimate nursery sources. Although it is not robust in growth—one reason it's endangered—it grows two to three feet tall with narrow, lance-shaped leaves and attractive flowers that have slightly up-turned rosy-pink petals surrounding a pinkish-green central cone.

Tennessee coneflower hybridizes readily with other coneflowers and is being used in several commercial breeding programs, so having some in your garden may lead to some interesting hybrids. Given its predilection for limestone, this is a good choice for a garden with dryish, neutral to alkaline soils.

Yellow coneflower (*Echinacea paradoxa*, Zones 6–9, 9–2) bears yellow—hence the paradox—ray flowers on two- to three-foot plants. Like Tennessee coneflower, it is partial to limestone soils, but its now-limited natural range is primarily in Arkansas and Missouri. Its unique warm yellow flower petals surround a purplish cone.

## COMPLEMENTARY PLANTINGS

The pastel colors of most coneflowers combine well with other colors—with the exception, perhaps, of fire-engine red—so it's easy to create great compositions with other summer flowers and grasses. Just remember that coneflowers look best *en masse*—so plant them in large groupings for best effect.



Top left: Smooth coneflower (*E. laevigata*) is named for its leaves, the undersides of which are smooth. Top right: Yellow coneflower (*E. paradoxa*) is a standout in a pink-flowered genus.



Endangered Tennessee coneflower (*E. tenesseeensis*), backed here by Russian sage, grows best in dry, neutral to alkaline soil. In the wild, it is found only in limestone glades.

Imagine pairing purple coneflower with burgundy- or mauve-flowered daylilies (*Hemerocallis* spp.), or the contrast of yellow at its base with the compact *Hemerocallis* 'Happy Returns' that rivals *Hemerocallis* 'Stella de Oro' with a long bloom period and warm yellow flowers. 'Stella de Oro' is also a good choice, bearing lots of small sherbet-orange flowers.

For a dynamic pairing, place butterfly milkweed (*Asclepias tuberosa*) close by coneflowers so their electric orange flowers highlight the orange center of the coneflowers. Both will be smothered with butterflies! The purple spikes of gayfeather (*Liatriis spicata*) are wonderful com-

panions; they consume little horizontal space and gracefully ease up beside or behind coneflowers to provide a vertical purple swatch in the composition. Add a three- to four-foot fountain of silver and lavender with Russian sage (*Perovskia atriplicifolia* 'Filigran') nearby and achieve more vertical depth by placing *Phlox paniculata* 'Robert Poore' behind to create a wall of warm-pink flowers.

The two-inch bright yellow flowers of the summer-blooming false sunflower (*Heliopsis helianthoides*) look great with coneflowers, and the compact, soft-textured fountain grass (*Pennisetum alopecuroides* 'Cassian') sways in the slightest breeze and settles comfortably close by. By contrast, *Pennisetum orientale* 'Tall Tails' bears eight-foot graceful tails of summer plumes above five-foot plants and creates a pleasing backdrop for phlox 'Robert Poore' as well as for coneflowers.

Shorter coneflowers such as 'Kim's Knee High' and 'Kim's Mop Head' should be placed, *en masse*, in front of mixed shrub or perennial borders, to create a stunning show of summertime color. Other compact perennials that combine with compact coneflowers include verberna (*Verbena canadensis* 'Homestead Purple'), the needlelike, silvery foliage of lavender cotton (*Santolina rosmarinifolia*



## Sources

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(800) 509-1444. Catalog \$5.

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[www.jungseed.com](http://www.jungseed.com). Catalog free.

**Lazy S'S Farm Nursery Perennials**, Barboursville, VA.  
(540) 832-2334 [www.lazyssfarm.com](http://www.lazyssfarm.com). Web catalog only.

**Niche Gardens**, Chapel Hill, NC. (919) 967-0078.  
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**Plant Delights**, Raleigh, NC. (919) 772-4794.  
[www.plantdelights.com](http://www.plantdelights.com). Catalog 10 stamps or 1 box of chocolates.

**Roots & Rhizomes**, Randolph, WI. (800) 374-5035,  
[www.rootsrhizomes.com](http://www.rootsrhizomes.com). Catalog free.

**Sugar Creek Gardens**, Kirkwood, MO. (314) 965-3070.  
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**Wayside Gardens**, Hodges, SC. (800) 213-0379.  
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## Resources

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**Herbaceous Perennial Plants** by Allan Armitage, Timber Press, Portland, Oregon, 2000.

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

'Morning Mist', dwarf goldenrod (*Solidago sphacelata* 'Golden Fleece'), the two-foot spikes of dwarf gayfeather (*Liatris microcephala*) or the two-foot-tall clump-forming dwarf fountain grass (*Pennisetum alopecuroides* 'Hameln').

White-flowered coneflowers combine well with bright-colored or silvery com-

panions. I've grown *E. purpurea* 'White Swan' and adore it in our white-and-blue border in the company of silver-foliaged *Artemisia* 'Powis Castle' and white-flowered *Achillea millefolium*. Other good companions include white globe thistle (*Echinops sphaerocephalus* 'Arctic Glow') and white-flowered garden phlox such as

*Phlox paniculata* 'David' or 'Delta Snow'.

To bring pleasing blues into the picture, place *Aster laevis* 'Bluebird' behind, along with the compact, upright form of Siberian catmint (*Nepeta sibirica* 'Souvenir D'Andre Chaudron'). Tuck a couple of *Salvia guaranitica* in the rear with a clump of blue lyme grass (*Leymus arenarius*) in front. Add more blue with little bluestem (*Schizachyrium scoparium* 'The Blues') to the side and marvel at the steel-blue grassy foliage transforming in the fall to russet-orange that echoes the central cone of the coneflower. Then sit back as your friends ooh and aaah over the results.

I started growing coneflowers long before they were trendy, but they have not lost any of their luster for me. And even though purple coneflower takes center stage in most gardens, the lesser-known species found in prairies and open fields across the country are all well worth growing. Or try some of the new cultivars just finding their way to retail outlets. Either way, these "weeds" have come a long way, baby.



'Magnus' purple coneflower sets apart the yellow shades of heliopsis (*Heliopsis helianthoides* 'Orange King'), left, and yarrow (*Achillea* sp.), right, in this sun-drenched perennial border.

*Founder and former owner of Niche Gardens nursery in North Carolina, Kim Hawks now enjoys tending a home garden and writing about plants and garden design.*



## CONEFLOWERS GET A NEW LOOK

Over the last decade, plant breeders have stepped up work on coneflowers, recognizing the garden potential for this adaptable, low-care genus. In addition to new white and compact cultivars, breeders are developing bright colors and fancy flower forms through both traditional breeding and plant selection programs.

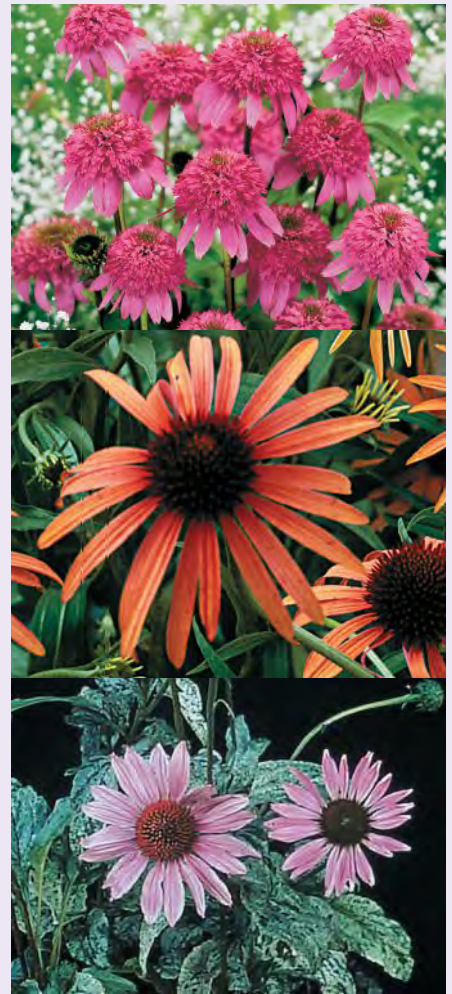
Jim Ault, botanist and head plant breeder at the Chicago Botanic Garden (CBG), established one of the most extensive of these *Echinacea* breeding programs in 1996. The first graduate of the program, an orange-flowered selection *Echinacea* 'Art's Pride', trademarked as Orange Meadowbrite™, was introduced earlier this year to great fanfare.

"*Echinacea* was an obvious candidate for our program," says Ault. "Its species are attractive, tough, and generally easy to grow, and unadulterated *E. purpurea* is a particularly attractive garden ornamental even in its wild-type form. In addition, their species are promiscuous—meaning they hybridize easily—which provides even greater potential for creating new and interesting cultivars." In fact, interspecific crosses comprise many of the plants that CBG is evaluating. "*Echinacea* Orange Meadowbrite™ is an interspecific cross between *E. purpurea* and *E. paradoxa*, selected from a third generation crossing, and many others are in the works, such as *E. paradoxa* and *E. simulata* crosses, and *E. paradoxa*, and *E. angustifolia* crosses," reveals Ault.

The *Echinacea* breeding plots at CBG contain 2,000 to 2,500 plants at any given time. "We have to select for the best ornamental traits possible," says Ault, "so in a given year as many as half of the plants in our plots must be rogued out and replaced with new plants."

Many other plant breeders are actively involved in developing new *Echinacea* cultivars. At Terra Nova in Tigard, Oregon, Dan Heims will soon introduce a coneflower with variegated foliage called 'Sparkler'. Tony Avent of Plant Delights Nursery in Raleigh, North Carolina, and plant breeder Richard Saul worked together to develop a new yellow-flowered dwarf called 'Paranoia' that is also a cross between *E. paradoxa* and *E. purpurea*. Several plant breeders from the Netherlands have developed notable new coneflowers: Piet Oudolf recently introduced *E. purpurea* 'Vintage Wine' and *E. 'Jade'*, and Jan van Winsen created this year's new showstopper, *E. purpurea* 'Razzmatazz', the first "double"-flowered coneflower that has hot-pink ray petals. (For more on these new cultivars, see the chart below.)

—Jessie Keith, Editorial Intern



New coneflowers, top to bottom: 'Razzmatazz', Orange Meadowbrite™, and 'Sparkler'.

### SOME NEW CONEFLOWER CULTIVARS FOR 2004

Name	Height/width (in.)	Rays/discs/diameter/other description	Retail sources
<i>E. purpurea</i> Doppelganger™	30–36/18–24	Pink/orange discs with a second set of pink rays/4 to 5 inches	Big Dipper Farm
<i>E. purpurea</i> 'Fragrant Angel'	20/24	Clean white, horizontal/dark yellow/4 to 5 inches/fragrant	Lazy S'S Farm Nursery
<i>E. purpurea</i> 'Little Giant'	12/16	Rose-purple, ruffled/dark orange/ 5 inches	Sugar Creek Garden
<i>E. 'Paranoia'</i>	10–12/12	Clear yellow, drooping /rich bronzy brown/ 3 to 4 inches/ strappy green foliage	Plant Delights
<i>E. purpurea</i> 'Prairie Frost'	18/20–26	Purple-pink/ dark orange/ 4 inches/ dark green leaves with crisp white margins	Heronwood
<i>E. purpurea</i> 'Razzmatazz'	30–36/18–24	Dark pink/ smaller red-purple, anemonelike rays/ 3 to 4 inches	Wayside
<i>E. purpurea</i> 'Vintage Wine'	35/18	Red-purple, upturned /dark red-tipped/3 to 3½ inches	Roots & Rhizomes, Jung Seed Company

### CONEFLOWER CULTIVAR RELEASES TO WATCH FOR IN 2005

<i>Echinacea purpurea</i> 'Jade'	30/24	White with pinked green tips/dark green/ 3 to 3½ inches
<i>E. purpurea</i> 'Sparkler'	36/24	Bright pink, flattened/ orange-brown/ 5 inches/ white-speckled variegated foliage

# Grounds *for* Sculpture

In New Jersey, an artist and a landscape designer have created an eye-catching synthesis of landscape and art amid an incongruously urban environment.

BY CAROLE OTTESEN



OFFICIALLY, Grounds for Sculpture (GFS), in Hamilton, New Jersey, midway between Philadelphia and New York, is a 35-acre art center specializing in exhibiting contemporary sculpture. Unofficially, it's a magnificent garden filled with plants in symbiotic relationships with the sculptures in their midst. The resulting dialogue between art and landscape—trees, ponds, and undulating earth—lends this park an otherworldly aura.

Even before visitors reach the main entrance gate on Sculptor's Way, they experi-

ence a disjoint, a sense of a departure from the quotidian. It begins as they pass through the industrial neighborhood around the park. Several blocks away, on the sidewalk along Klockner Avenue, a father is helping his daughter learn to ride a bicycle. At first glance, that is. Then comes the realization that this is *First Ride*, one of the life-sized, realistic statues by the park's founder, Johnson & Johnson heir J. Seward Johnson Jr. His real-life characters—businessmen reading newspapers or gossiping women on park benches—elicit double takes wherever they are installed.

Even after recognizing that this is Johnson's work, in this instance and in this setting, it seems perfectly plausible that one fine moonlit night, the cast bronze wheels of this bicycle began to turn and this pair escaped the boundaries of the park to take up residence on the sidewalk in front of a lumber and building materials company. This sense of altered reality is heightened by other incongruous juxtapositions.

In front of the Department of Water Pollution Control for Hamilton County is Phillip Shore's metal sculpture *Armored*. Across the street from the American Stan-



Above: Magdalena Abakanowicz's cast bronze sculpture, *Hand-Like Tree: Cecyna* (1994), with the sculpture museum in background. Right: *Garden State* (1997), by Isaac Witkin, made of Zimbabwe black granite. Opposite, foreground: James Dinerstein's cast bronze *Still Speech* (2000), located by the pond near Rat's Restaurant. Background: Artificial poppies from J. Seward Johnson Jr.'s *On Poppied Hill*.



dard factory, manufacturer of bathroom and kitchen fixtures, stands a figure on a great white horse. It is *Spirit of Freedom* by Andrzej Pitynski. Nearby, Alexander Liberman's huge, bright orange, freeform *Daedalus*, dominates a vacant lot with a view of a UPS facility.

Unexpected in these settings, these works provide a transition between the experience of the workaday industrial area and that of Grounds for Sculpture. The idea for placing these works outside the park came about when the GFS staff learned that a train station for Hamilton

would be constructed a mile away, says Brooke Barrie, director and curator of GFS; "we thought we'd put sculpture along the way" to lead visitors to the park.

When they reach the entrance gate, visitors enter another world. Inside, all is verdant serenity, a setting for art as fitting as the outside neighborhood is incongruous. An arboretum of trees—many rare and unusual—were selected by Brian Carey, project architect of AC/BC Associates in New York City, and Bruce Daniels, Development Coordinator of the park. Hundreds of trees join thousands of roses,

rhododendrons, and other flowering shrubs. Along with herbaceous plants, they clothe the undulating land with allées, bosques, thickets, and hedges. They form secret rooms, frames, backdrops, and landscapes within the landscape to highlight the sculptures. It's hard to believe that this place was ever anything but a garden.

#### HUMBLE BEGINNINGS

"In the beginning," says Carey, whose firm was chosen in 1986 to design a sculpture park after winning an architectural competition, "it was an old stock car track."



Set on a concrete pad that was once part of a grandstand, colonnades and an arborvitae hedge now form the backdrop for Leonda Finke's cast-bronze *Seated Woman* (1988). Creative use of plants and hardscaping have transformed the slab into an attractive asset for the park.

Before that, it was the New Jersey state fair grounds. When Johnson bought the original 22 acres in 1984, it was simply a vacant lot in proximity to his atelier. Originally, he had planned to use it only to show sculptures from his atelier.

## DESIGNER'S TIPS

Gardeners can take some hints for creating privacy from Brian Carey.

- Even small berms can add instant height to the plants growing on them (and they are great places to neatly dispose of rubble).
- Trees, planted closely together, create aerial hedges that can be trimmed into neat shapes.
- Layers of vegetation provide deep privacy. For example, Brooke Barrie and Carey's "maple-henge" is a circle of maples (*Acer* spp.) enclosing a hedge of yews (*Taxus* spp.) and encircled by pear trees (*Pyrus* spp.).

By 1987, Johnson's vision had expanded to include exhibiting a large and varied body of sculpture in both a sculpture garden and in a museum. His goal was to make sculpture accessible so people from all backgrounds could become comfortable with contemporary art. In July 2000, Grounds for Sculpture became a public charitable organization, Public Art Foundation, Inc. Today, as a community arts center, it also hosts music events, poetry readings, and other programs.

Grounds for Sculpture grew "in fits and starts," says Carey, who has a genius for turning lemons into lemonade. In the beginning, he recalls, "we had junk—eight Norway maples, piles of bricks, and a big concrete slab from the former grandstand. Instead of trying to remove it," he says, "we made it look like we wanted it. The slab is now a pad for sculpture."

It was Johnson who had the idea of surrounding the sculpture pad with columns. Now *Arborvitae*, patterned paving, and small garden plots break what was a huge expanse down into rooms, intimate spaces, dedicated to the display of their sculptural inhabitants. The visitor discovers these rooms one by one. A small gate in the *Ar-*

*borvitae* wall opens into a tiny room, walled with *Arborvitae* with a table, two chairs, and a female figure embedded in the hedge: *Inua* by Helena Lukasova.

Elsewhere, a maze of giant grass (*Arun-do donax*) leads to Charlotte Rosengren's *Sirens of the Woods*. In winter, the grass is cut to the ground, but "as it grows," says Barrie, the sculpture is slowly obscured. The gradual and incremental discovery of secret treasures is the fundamental experience of a visit here.

The sense of unfolding adventure is enhanced by the park's topography. When Johnson purchased the site, it was flat as a pancake and strewn with rubble. "We thought since it was so flat, we'd make lakes and valleys," says Carey, who incorporated existing rubble into berms.

Using bulldozers, says Johnson, Carey "made a ripple in the earth—waves of ground with a path cut through these waves." He also designed berms on either side of the path. They "come out like fingers to make little outdoor galleries," says Barrie. The path now meanders through a richly planted, undulating topography that allows for a consecutive disclosure of the park's features.

“Instead of a linear layout, there is kind of a loop and off the loop, and there are other little loops and dead ends,” says Carey. One path leads to a warming hut with a roof planted in herbaceous plants and drooping with winter jasmine (*Jasminum nudiflorum*). The hut is a pleasant place to visit in the winter. “The idea about the place was that there’d be some reason to come back,” adds Carey. “Even after you’d been through several times, you’d still find surprises.” And surprises there are.

For example, visitors walking the path may not notice a small opening in the woodland. If they do, they may momentarily wish they had not. There’s a glimpse of bare flesh—and the thought that what is happening in the undergrowth really ought to be conducted in a private place. Then there’s the jolt of recognition. There, picnicking in the woods, are the characters from Edouard Manet’s *Le Déjeuner sur l’Herbe*—in (and out) of costume. It is Johnson’s work, *Déjeuner Déjà Vu*. He has set these life-sized figures into a real landscape approximating that of the painting.

Others of Johnson’s eleven Impressionist-inspired works are tucked into similarly not-so-obvious places. “You really have to find them,” says Barrie. “A number of them have their own gardens around them.” It was important to give these works the same viewpoint as in the paintings and the actual landscapes had to be reproduced. For example, what now appears as a clearing in the woods in *Déjeuner Déjà Vu* was an open field. It was up to Carey to reproduce the scene as it is depicted in the painting.

## FRAMING ART WITH NATURE

“We’d wander in the woods to look for plants with branching structures similar to those in the painting,” says Carey. “For the golden field in the background, we found yellow foliage plants.” A sycamore (*Pla-*

**Top:** *Déjeuner Déjà Vu*, J. Seward Johnson Jr.’s sculptural interpretation of Edouard Manet’s painting, *Le Déjeuner sur l’Herbe*, is accessible through an opening in the woods. **Right:** The sense of discovery throughout the park is heightened by plantings—such as this autumn vignette of corkscrew willow (*Salix matsudana* ‘Tortuosa’), fountain grass, and miscanthus by the gazebo pond—that divide the grounds into a series of garden rooms.



tanus sp.) leaning into the clearing, says Barrie, had to be wired into position. To represent light and shadow on the ground, Carey interplanted green *Liriope* with black mondo grass (*Ophiopogon planiscapus* 'Nigrescens').

Among Johnson's other works inspired by Impressionist paintings is *On Poppied Hill*, after Claude Monet's *Woman with a Parasol* set in a field of poppies. A woman and boy stand atop a hill that is bright with red poppies in tall grass. In addition to constructing a hill, Carey planted it, mixing "probably 10 different grasses, including *Pennisetum*, *Helictotrichon*, and anything I could find that was 18 inches tall," to achieve the look of a field. The poppies were easier. They are artificial.

Not only did Carey install innovative plantings, says Johnson, "he was good at keeping the bones of what was there." Admiring the terra cotta details on the old state fair buildings, Carey recycled them instead of building anew. The 10,000-foot barn for small animals was renovated and moved to its present site, where it serves as the main museum building. Three of the original building's great steel arches were removed and placed north of the new museum to form an open-air wisteria-shaded sculpture courtyard. This trio of arches is the GFS logo.

Two other fairground structures were recycled. The former Motor Exhibit Hall now houses private art studios. The Domestic Arts Building, where once farmers' wives exhibited their pies, fruits, and preserves, is a combination of museum, museum shop, and café. One of its sides is flanked by the Water Garden.

In the Water Garden, as throughout the park, a large space has been subdivided. Yellow stucco walls, pools, a waterfall, and plants enclose and divide space and pro-

vide each sculpture a private, complimentary setting. At one end of the Water Garden, a spectacular hedge of clipped river birch (*Betula nigra*) creates a brilliant green backdrop for G. Frederick Morante's *Relative*, two identical male figures cast from the same mold and mounted horizontally on opposite sides of a steel beam. On the other side of the hedge is Brower Hatcher's stainless steel, glass, and iron *Time Reversing*. Elsewhere, a rare, umbrella-formed camperdown elm (*Ulmus glabra* 'Camperdownii') separates *Relative* from Martha Pettigrew's oversized women in *Gossip*.



**A neatly clipped hedge of river birch (*Betula nigra*) forms a green wall against which to view G. Frederick Morante's *Relative*, which rises from a rectangular reflecting pool.**

The camperdown elm and the great number of other rare and unusual trees throughout the park seem lavish, but many are the products of "scrounging," insists Carey. "We had a small budget after we did the earth contouring, and we saw it needed a lot of trees. So whenever we saw guys in orange vests doing construction work, we'd stop and ask for free plants. After a while, people knew we were interested. It's very much a recycled park with recycled plants."


Thus, when Trenton Hospital tore out a garden to make room for parking, GFS gained a collection of dogwoods (*Cornus florida*) and mature lacebark pines (*Pinus bungeana*). When a family decided to get rid of the spruces lining their driveway, the park benefited again. Japanese maples (*Acer palmatum*) from an abandoned nursery, planted so close together they grew straight up, became the Japanese Maple Courtyard.

This courtyard and its adjoining Bamboo Garden span the other side of the Domestic Arts Building, providing pleasant outdoor dining for the café. With room to spread, the maple forest casts deep and cooling shade over the tables beneath. At one, a young swain leans toward his stiffly upright female companion. Nearby, a mutton-chopped waiter in a long white apron looks on. But this café is self-serve and this waiter won't refill your cup. He and the couple compose another of Johnson's works, *Eye of the Beholder*.

Sculptures such as *Eye of the Beholder* enhance lunch in the courtyard. Those with more time—and money—

can enjoy a meal at Rat's Restaurant.

A path and a footbridge lead from the park to Rat's, named for Johnson's favorite character in the classic children's book *The Wind in the Willows*. Surrounded by a garden, it overlooks a lake fringed with thousands of irises. After a visit to the park, a meal on its terrace is a feast for the senses.

An art center that is equally a serious garden and arboretum, Grounds for Sculpture may be easy to locate on the map, but passing through the entrance gates will take you right through the looking glass. 

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

**Grounds for Sculpture** is located at 18 Fairgrounds Road, adjacent to the Johnson Atelier Technical Institute of Sculpture, in Hamilton, New Jersey, two miles east of Trenton. It is open to the public Tuesday through Sunday from 10 a.m. to 9 p.m., closed Mondays and holidays. Admission for adults is \$5 Tuesday, through Thursday; \$8 on Friday and Saturday; \$12 on Sunday. For directions and further information, call (609) 586-0616 or visit [www.groundsfor Sculpture.org](http://www.groundsfor Sculpture.org).

# Garden Railroads:

## Full Steam Ahead

This fast-growing hobby presents creative landscaping challenges and a new way to look at plants.

BY PAT HAYWARD

**I**N RECENT YEARS garden railroading in North America—like gifted children and Internet technology—has grown out of its awkward infant stage and entered a more public and incredibly imaginative phase. While many hobbyists still enjoy landscaping their gardens in perfect scale for the railroad, many others are taking the gardening aspect of their railways to new levels.

The hobby of garden railroading traces its origins to the early days of the full-size railroads in the 1830s, when railroad builders used steam-powered models to test theories and show off their latest designs to the public. By the late 1880s, large-

scale models were available for railroading enthusiasts to purchase and operate outdoors. Smaller-scale trains, such as Lionel, became popular during the early 1900s, shifting the hobby indoors as electricity and smaller homes predominated.

In the United States, model railroading remained primarily an indoor hobby until 1968, when the German toymaking company, Ernst Paul Lehmann, introduced sturdy large-scale plastic trains designed to be run outdoors. From there, the hobby has taken off, enchanting people from all walks of life, from dedicated model railroaders looking for greater challenges to gardeners interested in

adding an element of whimsy and entertainment to their landscaped yards.

In 1985, the year of the first annual National Garden Railways Convention—co-sponsored by *Garden Railways* magazine and the Denver Garden Railway Society—about 60 garden railway enthusiasts attended. By the end of the '80s, convention attendance had increased five-fold, and the event, which had been held annually in Denver, began rotating to other cities, a reflection of the hobby's growing national presence. Today there are almost 100 garden railway clubs across the United States, and the readership for *Garden Railways*, the hobby's premier magazine, has

**Above:** Ray and Eileen Torbeck's backyard in Cincinnati has been landscaped by designer Paul Busse to stand out both as a garden and a setting for model trains. Here a whimsical train chugs along a track seemingly constructed amid a forest in the Pacific Northwest.

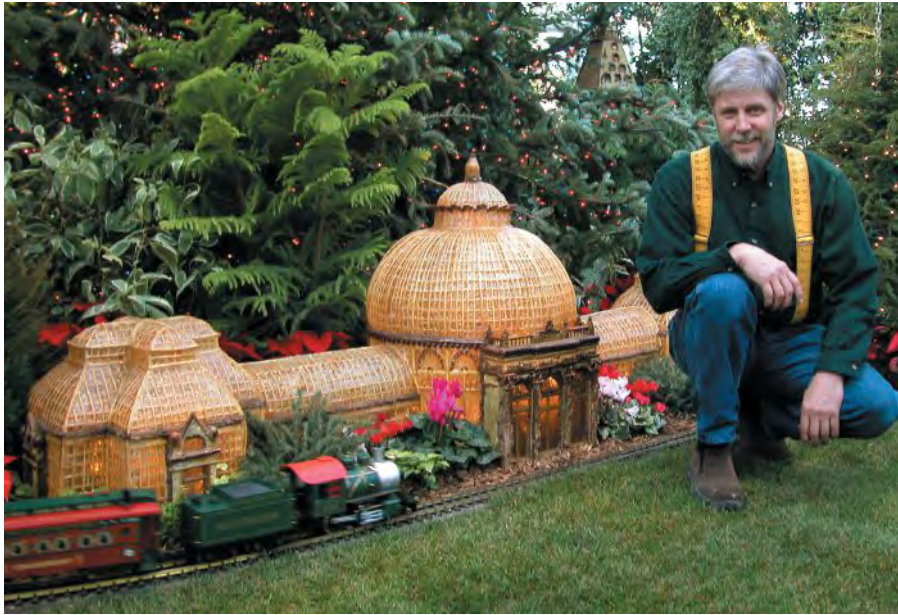
grown from about 19,000 just a few years ago to over 37,000.

## MORE THAN MODEL TRAINS

I joined the staff at *Garden Railways* magazine as horticultural editor seven years ago, and in that time I've visited hundreds of garden railways around the country. Because it's a hobby that encompasses diverse interests such as modeling, history, architecture, engineering, and gardening, every railroad is unique,

but most focus on the railroad; the garden plays only a secondary role. That, however, is changing.

When the National Garden Railway Convention was held in the Cincinnati, Ohio, area in 2002, I saw beautiful railways with fully developed gardens, unique design ideas, and lots and lots of plants. This trend can be attributed, in part, to the very active and multi-talented membership of the Greater Cincinnati Garden Railway Society.



**Top:** Paul Busse in front of an eight-foot-long replica of the Enid A. Haupt Conservatory at the New York Botanical Garden during its 2002 Holiday Train Show. The replica was created entirely from natural materials, including reeds for the window frames, sugar pine for the dome's top trim, and oak bark for the base walls. **Above:** Busse's multi-level railroad at Longwood Gardens is an outdoor summer display.

One member in particular, Paul Busse, has inspired garden railroaders in the region to give the garden aspect of the hobby equal emphasis with the trains and tracks.

A landscape architect by training, model railroader since childhood, and artist at heart, Busse has become one of the hobby's best-known ambassadors through his company, Applied Imagination, based in Alexandria, Kentucky. He began his career by helping design the railways of fellow club members, who often hired him to complete the installations.

The company's early projects were primarily residential, soon expanding to seasonal and holiday displays at nearby Krohn Conservatory in Cincinnati. It didn't take long for word to get out that Busse was creating extraordinary displays, and now his work is in demand throughout the East Coast. In 2003, Applied Imagination created public garden railways at Morris Arboretum, Chicago Botanic Garden, Longwood Gardens, the Texas State Fair, New Orleans Botanical Garden, New York Botanical Garden, and Krohn Conservatory. Busse's railroads are taking hundreds of thousands of visitors for rides through imaginary places and magical gardens never seen before—and bringing many into the hobby as well.

"What makes garden railroads really unique," says Busse, "is that it's such a family-oriented activity—Dad and Mom building the railroad and gardening while the kids play with the trains."

Visiting Busse's railways is something you *do*, not just watch, because they engage all your senses. Slow-moving trains disappear through hollow log tunnels, making you wonder where they'll reappear. Locomotives chug across flowing streams over bridges made of willow branches and pine cone scales. You duck your head as trestles rattle overhead and train whistles softly blow. Rushing water cascades over waterfalls made of scavenged railroad ties. Finally, the textures and colors of ground covers, shrubs, and trees all come together to create fantastic settings.

In planting this miniature world, Busse borrows a page from the magician's handbook. "Instead of trying to be in scale," he says, "we create an *illusion*. In railroad gardens, the plants don't have to be different—it's the way they are applied." A small fern or blooming cyclamen, for instance,





Garden railways can be stellar gardens in their own right. Begun in 1994 by her late husband, Larry, Alice Epperson's railroad near Sacramento, California, above, has continued to grow as a showcase for assorted plants. Plants of all shapes and sizes also take center stage in Paul Busse's design for Ray and Eileen Torbeck's Ohio garden, left.

plantings, they convey the impression of actual—often historically accurate—buildings and structures.

### BACKYARD WONDERLANDS

Several residential garden railways designed by Paul Busse were on tour during the 2002 convention. One of my favorites was at the home of Ray and Eileen Torbeck in Cincinnati, where Busse designed the entire backyard and garden railroad at one time, siting the built-in swimming pool and creating extensive water features with streams, ponds, and waterfalls. A gazebo, potting shed, and winding paths that lead visitors through the gardens were incorporated into the design.

Instead of a realistic railroad, the Torbecks wanted an enchanting setting where Eileen could garden and Ray could run trains. Although the Torbecks' railway includes over 1,000 feet of track, little of it is obvious at first glance because the track runs through, around, and behind plantings. Weathered bridges and tunnels—rather than plastic buildings and resin figures—create a miniature world that is unobtrusive and aesthetically pleasing.

In 2003, the national convention was held in Sacramento, California, and I visited over 30 garden railroads within an hour's drive of the city. The railway with the most extensive gardens was at the home of Alice Epperson in Roseville, California. Built in stages by her husband Larry, construction began in 1994 but ended suddenly when he died three years later. Using truckloads of topsoil and sev-

can be viewed as a foundation shrub for a building, and a Norfolk Island pine can become a centuries-old specimen tree. But, Busse notes, bonsai, rock garden species, and other small plants are also suitable.

The same principle applies to Busse's signature handcrafted buildings featured in his public displays. In most garden railroads built by hobbyists, buildings—usually made of plastic or wood—are merely intended to set the scene and achieve a sense of realism. Busse's buildings, on the other hand, are constructed of natural materials such as dried leaves, pine cones, and seed pods. Like his

### The 20th National Garden Railway



Convention will be held August 12 to 15, 2004, at the Holiday Inn at I-70 and Chambers Road in Denver, Colorado.

The event, hosted by the Denver Garden Railway Society, will include 35,000 square feet of displays, demonstrations and clinics, and tours of over 40 garden railroads. Mail registration deadline is June 30, 2004. For more information, contact Kelvin Harr at (303) 431-6793 or visit [www.denvergrs.org](http://www.denvergrs.org).



Byron Garner's New Mexico garden railroad is inspired by the geologic features and native plant life of the region's natural landscape. This section of track curves past a colorful stand of pineleaf penstemon (*Penstemon pinifolius*), which grows eight to 10 inches tall.

eral dozen tons of rocks and boulders, he created a garden railway of incredible size, beauty, and detail. The multi-tiered water feature utilizes an on-site natural stream as a water source and requires a swimming pool pump to run.

As Larry completed each section of the railroad, Alice searched for small-scale plants at local nurseries and landscaped right behind him. While Larry had operated trains just about every day, they are now run only for special occasions by members of the Sacramento Valley Garden Railway Society. This has enabled Alice to give the garden aspect of the railway a higher priority. She began filling it with larger plants, selecting shrubs, trees, and perennials for textures, colors, and year-round seasonal interest, making the garden railway an integral part of three landscaped acres.

## NATIVE LANDSCAPING

Of all the garden railways I've visited, one in particular embodies the spirit and beauty of garden railroading at its very best. Named the Toltec Southern by its owner and creator, Byron Garner, it sits in the sloping backyard of a suburban home on the West Mesa outside Albuquerque, New Mexico. My husband Joel

and I visited Garner soon after I'd started with *Garden Railways*, when his railway was about four years old.

Garner was an indoor model railroader for almost 30 years before he discovered outdoor railways in 1988. He had just moved to New Mexico from Tennessee and was inspired by the scenery of northern New Mexico and southwestern Colorado. As he traveled the area, he took careful note of the environment's topogra-

phy and vegetation. His goal was to capture the image of a western mountain railroad following a route through inhospitable terrain, ranging from the upper Sonoran Desert to the Transitional Zone (5,000 to 8,000 feet in elevation). He describes his garden as representing a railroad "somewhere between point A and point B," rather than an actual place.

Every detail of this railway has been carefully considered. The few structures

## Resources

Garden railway societies exist throughout North America. Contact a local hobby shop or model train store for one near you, or visit the Web site of World's Greatest Hobby ([www.greatesthobby.com](http://www.greatesthobby.com)).

**Garden Railways**, P.O. Box 1612, Waukesha WI 53187-1612. (800) 533-6644. [www.gardenrailways.com](http://www.gardenrailways.com).

■ Bimonthly magazine covering all aspects of garden railroading around the world.

**Kalmbach Publishing Co.**, 21027 Crossroads Circle, P.O. Box 1612, Waukesha, WI 53187-1612. (800) 533-6644. [www.kalmbach.com](http://www.kalmbach.com).

■ Offers a free 24-page booklet titled "Beginning Garden Railroading." Products available for sale include "Building a Basic Garden Railroad," a VHS videotape; and two books, "Beginner's Guide to Large-scale Model Railroading" and "Garden Railroading: Getting Started in the Hobby."

## CHOOSING PLANTS FOR GARDEN RAILROADS

In landscaped areas close to the tracks and near buildings, most garden railroaders strive for a sense of realism and choose slow-growing plants with small leaves and flowers. Rock garden and bonsai plants are naturally good choices, but, if realism is important to you, there are many suitable smaller plants. The list below describes a few of them. —P.H.

### Small Deciduous Shrubs and Trees

Dwarf shrubs and miniature trees can be pruned to look like small-scale shade or ornamental trees.

■ Laceleaf Japanese maples (*Acer palmatum* cultivars) and Trost's dwarf birch (*Betula pendula* 'Trost's Dwarf'). Ferny, cut-leaved varieties have a softer appearance and provide substance without bulk.

■ Dwarf Japanese maples, such as *A. palmatum* 'Beni hime' and 'Sharp's Pygmy', look just like full-scale Japanese maples in miniature.

■ Dwarf yaupon holly (*Ilex vomitoria* cultivars) and dwarf myrtle (*Myrtus communis* 'Compacta') are denser, shrubbier plants frequently used for screening and hedging.

■ Miniature roses and snowroses (*Serissa foetida* cultivars) have wonderfully small-scale leaves, buds and flowers. These are used to represent full-scale shrub roses, flowering cherries, and other larger flowering shrubs and trees.

■ Dwarf Chinese elms (*Ulmus parvifolia* cultivars, especially 'Hokkaido' and 'Seiju'). Their tiny elm leaves and beautiful bark are exquisite in garden railway settings.



'Hokkaido' Chinese elm

### Dwarf Conifers

Since many garden railways are modeled after real mountain railroads, these "forest trees" are used in abundance.

■ Dwarf Lawson (*Chamaecyparis lawsoniana*) and Hinoki cypress (*C. obtusa*) cultivars

■ Boulevard cypress (*Chamaecyparis pisifera* 'Boulevard') for its feathery, silver-blue needles and attractive bark.

■ Dwarf white cedars (*Chamaecyparis thyoides* cultivars), especially 'Andelyensis Nana', 'Ericoides', and 'Red Star'.

■ Dwarf garden juniper (*Juniperus procumbens* 'Nana') is used extensively as a ground cover, but when properly supported, it grows into a beautiful "living tunnel" for trains to run through.

■ Alberta and Jean's Dilly spruce (*Picea glauca* 'Conica' and 'Jean's Dilly'). These are probably the most commonly used dwarf conifers

for garden railroads. 'Jean's Dilly' is narrower and grows more tightly than 'Conica'.

■ Hedgehog spruce (*Picea glauca* 'Echiniformis'), dwarf bird-snest spruce (*Picea abies* 'Little Gem'), and miniature hemlocks (*Tsuga canadensis* cultivars).



Dwarf hemlock

### Perennials and Ground Covers

■ Mat globularia (*Globularia cordifolia*)

■ Dwarf daylilies, especially 'Lemon Lollipop', 'Bitsy', 'Eenie Weenie', and 'Penny's Worth'

■ Dwarf mondo grass (*Ophiopogon japonicus* cultivars)

■ Woolly thyme (*Thymus pseudolanuginosus*) and others.

### Herbs

Most of the smaller herbs offer color, texture, and fragrance to garden railroad landscapes.

subtly tucked into the railway are all hand-crafted, and every tie on the track itself has been cut and laid by hand. After studying the region's geology, Garner handpicked each rock and boulder, ranging in size from five pounds to 500 pounds, with rounded edges so that they would look like stratified outcroppings or undercuts. For pinnacles, he set columnar rocks with distinct edges upright in the landscape.

When it came time to plant the landscape, Garner realized he would need some help. Knowing very little about gardening, he attended a seminar on native plants by noted regional plantswoman and landscape designer, Judith Phillips.

He approached her with the possibility of helping him design his railway, and she accepted, never having seen nor even heard of such a concept.

They worked together on the track plan, grade challenges, and landscaping. Garner knew he wanted to incorporate certain native plants, including chamisa (*Chrysothamnus nauseosus*), bush penstemon (*Penstemon ambiguus*), threadleaf sage (*Artemisia filifolia*), and others adapted to his sandy soil, harsh winds, and blazing heat. Phillips immediately recognized the issue of scale, and together they came up with a uniquely regional and appropriate plant list for the railway.

Over the years, Garner has learned to manage his landscape and locate new plants as needed. He's gained great satisfaction from building, running, and working the railway and shares his deep appreciation of the region's natural beauty and resources with local model railroaders and gardeners equally.

Given the fanciful nature of railway landscapes, their rising popularity is not surprising. A garden railway challenges the imagination, inspires creative design, and brings out the inner child in all of us 🌿

Pat Hayward is horticultural editor of *Garden Railways* magazine.

# What is a Garden?

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

**I**N THE LAST ISSUE, I explored in depth the idea of “garden design.” Now, I’d like to take a similarly philosophical look at what constitutes a garden. At first glance, this may appear to be a question with a rather obvious answer. After all, my *Webster’s Unabridged Dictionary* defines a garden as “a plot of ground, usually near a house, where flowers, shrubs, vegetables, fruits, or herbs are cultivated.”

But where is the glamor in that? Why would we suffer, struggle, and fret for a piece of dirt supporting some generic herbage? The passive-voice definition does not even include the most important component—the gardener! To me, a *true* garden is so much

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## Gardens are more akin to cinema or theater than...paintings.

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more than that. I think of gardens as *intentionally choreographed sensual spatial experiences resulting from relationships between plants, people, and materials over a specific time*. That is a mouthful, I know, but bear with me as I elaborate on each element.

### INTENTIONALLY

Garden design involves conscious decisions and intent. You *must* have a strong vision of what you are going to design in order to make the garden a success. Developing one or a few compelling ideas to their full creative potential will yield a better garden than cramming every half-interesting thought into a space.

The design process involves prioritization, selection, and editing. A strong intent or vision allows one to discriminate and still achieve a holistic result.

Take the typical suburban back yard. Instead of filling every inch of space with containers, a gazebo, a birdbath, a deck, a white garden, a vegetable garden, and a pool for water lilies, focus on what will fit comfortably into the space, excite you, and satisfy your functional needs. I envision a well-placed antique urn, a rectangular reflecting pool, and simple

shrub plantings being all one would need for a garden designed for peaceful reflection.

### CHOREOGRAPHED

Gardens involve living entities (plants, people, animals, etc.) and ephemeral elements (light, shadow, fragrance, etc.) in motion through spaces over a specific time period. Gardens are more akin to cinema or theater than to static pictures or paintings. As soon as I hear that a garden is “painterly,” I fear I will be bored. Landscape architect

Lawrence Halprin advocated planning the theatrical sequencing of gardens as an essential part of the design process.

Think about how you move through your garden’s spaces and what you do or want to do in the spaces. What do you want to see, smell, and feel in the entry area? What sort of drama should the sitting area support?

### SENSUAL

Gardens should engage and stimulate the body, mind, imagination, and spirit. Vital gardens satisfy more than just sight. They arouse all the bodily senses and invoke moods and passions of all sorts. Light caresses the skin with warmth, fragrances

tickle the nose, and enclosure instills the feeling of safety. For me, the supreme example of this came at the French garden Vaux-le-Vicomte, where I experienced a thrill and excitement that seemed to permeate my entire body.

The relentless and unexpected unfolding of enormous-yet-hidden garden areas and features stimulated a delicious sense of confusion. This controlled disorientation made me giddy with excitement as my mind and body attempted to come to terms with the scale and complexity of the garden and its surprises.

### SPATIAL EXPERIENCES

The heart of all magical gardens is the sequencing of various spaces they offer. Plants are but one means of creating spaces. Without compelling choreography from one area to the next,





Examples of garden design at its finest: a view of Vaux-le-Vicomte in France, above, and the Court of the Lions in Alhambra in Spain, left. Plants are only part of the total design.

a garden becomes a mere collection of plants and accessories. The rightly famous Court of the Lions garden at the Alhambra in Spain contains exactly four plants. The rest is enticing, mind-blowing, sense-stirring space.

On my visit there, I moved from a series of twisting, shaded, interior passages into a luminous, symmetrical courtyard centered on an ornate fountain. The gravel-covered ground added to the luminosity and highlighted the clipped globes of lush, dark citrus foliage. Intricately ornamented pavilions soared on impossibly slender columns and evoked trunks and leafy canopies in stone. The minimal use of foliage, water, and color intensified these very elements into a rapturous lucidity.

## RELATIONSHIPS BETWEEN PLANTS, PEOPLE, AND MATERIALS OVER A SPECIFIC TIME

Gardens require and are unable to escape time. They take years to mature and evolve into something worthwhile. Experiencing them fully also requires time and attention like any re-

warding relationship. Indeed, to truly begin to know a garden—your own or someone else’s—requires repeated visits throughout the day, the seasons, and the years.

## GARDENS, THE ETERNAL QUESTIONS

In the end, there is no more answering the question “What is a garden?” than there is defining life itself. Strictly defining the garden limits how we perceive the garden and thus destroys creative possibilities. Even someone as focused and purist about the use of color in perennial border design as Gertrude Jekyll realized how a foolishly structured approach could destroy a color-themed border. She warned, and I paraphrase, how the lack of yellow might destroy a blue border.

Vital design thrives on the unexpected elements, active conflicts, and eccentric juxtapositions we (or chance) inject into the garden. A garden is never finished and thus is never truly “answered.” Climate changes, weather damage, insect infestations, changing needs, and other cosmic caprices constantly require the gardener or garden designer to redefine what the garden is at any given moment.

The seemingly endless possibilities resulting from a garden’s incompleteness stimulate us to become an active part of it. Perfection, on the other hand, invites relationships built on tedious predictability. Remember those quintessentially suburban horrors, the *Stepford Wives*? Clearly, the *Stepford* husbands were not looking for stimulating conversation or innovative housekeeping. The *Stepford Gardener* seeks predictability and control in a terrifyingly similar manner. The results are comparably numbing.

A finished garden is a dead garden; fortunately, it is also an impossibility. The perfect garden, like Eden, is not for us. One of the most effective ways to answer what a garden is, is actually to design it. In the next issue, I’ll begin to discuss how.

## DESIGN HOMEWORK: ASK YOURSELF...

- In what ways do I want my garden to stimulate me? Will fragrance seductively envelop me in all seasons? Will witty sculptures make me laugh and spark my imagination?
- What is the strongest dream the garden should realize for me? Do I want a series of spaces to spark moody reverie—or an exuberant sensual celebration of bliss?
- What do I want to do in my garden—realistically? Do I only have time for a quick evening stroll after work, or do I want to eat, write, or maybe even bathe in the garden?
- What will each part of the garden contribute to the whole experience? Will anyone actually sit in the gazebo, or is it a useless and expensive trophy?

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

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## The Cicadas Are Coming

by Jessie Keith

**Y**ESTERDAY my mother called to say, “You *do* realize that your wedding is scheduled during the 17-year cicada outbreak.” Lucky me. Thankfully, we didn’t decide to have our *whole* wedding outdoors. But—invited or not—the cicadas are coming *en masse*, and in full chorus, so I plan to sit back, smile, offer them cake, and let nature do its thing; I mean, it only happens once every 17 years.

The largest 17-year cicada brood, ominously named Brood X, actually comprises three species: *Magicicada septendecim*, the most common species; *M. cassini*, found in lowlands; and *M. sepentecula*, found in highlands. These herbivorous insects, which only occur east of the Rockies, will emerge for four to five weeks from mid-May to early June this year—the final trigger to their emergence is when the soil reaches an optimal temperature of 64 degrees Fahrenheit.

Because this brood emerges in synchrony, the *Magicicadas* reach enormous densities—the most sensational figures being up to 1 million cicadas per acre.

### GARDENERS, RELAX

So, what does all this mean for gardeners? Despite the hysterical coverage you may see in newspapers and on television, the answer is: very little. Gardeners eager to protect their woody plants should stop, breathe deeply, and consider this: Established trees and shrubs really don’t need protection from cicada damage, and, besides, there’s little that can be done anyway.

“When you’re dealing with millions of insects at once, what are a few chemicals going to do other than pollute the envi-



*Magicicada sepentecula*, one of three species in Brood X to hatch this summer.

ronment?” says John Cooley, entomologist and research associate at the University of Connecticut. “I don’t advise people to do anything other than protect their most tender and desired woody plants with fine netting,” says Casey Sclar, IPM coordinator at Longwood Gardens. “These cicadas just don’t last for long.”

### IT’S A WONDROUS LIFE

In fact, cicadas spend only about 35 out of 6,200 days aboveground, and we can expect to see them only five or six times in our lifetimes, if we’re lucky. “Their emergence should not be taken lightly,” says Richard Karban, a research ento-

**For more information** about cicadas, visit the University of Connecticut’s Cicada Central Web site: <http://collections2.eeb.uconn.edu/collections/cicadacentral/NA/Magicicada/index.html>.

mologist at the University of California at Davis. “This fantastic phenomenon is part of our natural heritage.”

Cooley concurs. “Seeing these insects should be an amazing spectacle,” he says. “In late spring, a massive synchronized pulse of cicada nymphs will emerge from the ground at night. After five days, most will have matured, and the males will begin singing. Their songs will reach a crescendo after a week and in the second week will subside exponentially. In the final stages, the females will lay their eggs in small tree branches, and, after four to five weeks, nothing will be left but holes in the ground and on flagging twigs.”

Newly hatched cicada nymphs will later drop to the ground and dig below, where they will feed—quite harmlessly—on tree roots for another 17 years, making them the longest-lived insects known in North America.

Cicadas disappear as quickly as they arrive because they are defenseless and readily devoured by other animals, from birds to house pets and even other insects. “Unlike other cicadas, periodic *Magicicada* are ‘predator foolhardy’—meaning they avoid predators inefficiently,” Karban explains. “This may account for why most of their time is spent 18 to 24 inches underground and they mate in synchrony. Smaller 17-year broods emerge in off years, but they don’t get a real chance to reproduce, which suggests there is strong selection for them to emerge *en masse*.”

The emergence of these intriguing creatures is not a problem to dread, but a natural wonder to anticipate. So, whether you are a diligent gardener or a bride-to-be, celebrate the ephemeral cycle of Brood X this summer.

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

Horticultural News and Research Important to American Gardeners

*Franklinia Cross Yields Remarkable New Hybrid*

Mountain schimlinia (×*Schimlinia floribunda*) is not a household word just yet, but it may well become one, at least among gardening folks. It is an intergeneric hybrid, the result of a cross between *Franklinia alatamaha* and *Schima argentea*, two members of the tea family.

Rare and less than robust, franklinia survived total extinction only through the efforts of the celebrated botanist John Bartram. Bartram discovered it in 1770 along the banks of the Altamaha River in Georgia; specimens were collected and propagated in the Bartram's Philadelphia garden. After 1803, franklinia was never again found in the wild.

In contrast, *Schima argentea* is a sturdy evergreen tree common in its native terrain of western China and Taiwan, where its adaptability and tolerance of varied site conditions have made it useful for reforestation.

Previous efforts to cross franklinia with members of related genera failed to produce robust offspring. Elwin Orton, professor of ornamental horticulture at Rutgers University, crossed

franklinia with *Gordonia lasianthus*, and William Ackerman, a retired research geneticist with the US National Arboretum in Washington, D.C., experimented with camellia crosses.

Recent phylogenetic studies revealed that *Schima* and

*Franklinia* are more closely related than the previously tested genera. This discovery inspired Thomas G. Ranney, a professor of horticultural science at North Carolina State University, to initiate controlled crosses between these plants. Using *S. argentea* collected in China by Clifford Parks, a retired professor of botany at the University of North Carolina, Ranney and colleague Paul R. Fantz were able to produce more than 80 hybrid seedlings. "Amazingly," says Ranney, "it worked!"



According to Ranney, the resulting seedlings are "floriferous, vigorous, and share characteristics of both parents." Don't expect to see the new hybrid available for a while; it will take a few years to propagate enough plants for the retail trade.

For more detailed information on Ranney's work, see *Hortscience*, Volume 38(6), October 2003.

**THE BEAUTY OF PREPLANNED GARDENS**

Preplanned gardens are "one of the biggest trends that we're seeing right now in gardening," says David Salman, president and chief horticulturist for High Country Gardens, a mail-order nursery in Santa Fe, New Mexico [(800)925-9387, [www.highcountrygardens.com](http://www.highcountrygardens.com)].

Professional designers assemble these collections of complimentary plants that thrive in the same growing conditions. For example, Lauren Springer's "Inferno Strip Garden," sold by High Country Gardens, includes tough beauties selected to survive in baking hot places.



"Preplanned gardens take all the stress out of creating a new ornamental garden," says Salman.

Several other mail-order firms offer preplanned gardens. Bluestone Perennials in Madison, Ohio [(800) 852-5243, [www.bluestoneperennials.com](http://www.bluestoneperennials.com)], has assembled a "Butterfly Garden." White Flower Farm in Litchfield, Connecticut [(800) 503-9624, [www.whiteflowerfarm.com](http://www.whiteflowerfarm.com)], sells both annual and perennial preplanned gardens.

**High Country Gardens offers this preplanned "Cold Hardy Mediterranean Garden."**



## TAKING THE HEAT IN SOUTHERN CALIFORNIA

In Southern California, where the summer is bone dry for months, plants that are



*Salvia leucantha*

attractive and drought resistant receive high marks from homeowners and water agencies. Now fire departments are lauding some ornamental plants that are both drought and fire resistant, like the genus *Salvia*, endorsed in its entirety by the Los Angeles Fire Department.

Other good choices include shrub toyon (*Heteromeles arbutifolia*), the western redbud (*Cercis occidentalis*), and wild strawberry (*Fragaria chiloensis*).

Log on to [www.bewaterwise.com](http://www.bewaterwise.com) to learn more about California-friendly ornamentals as well as planting and maintenance procedures that protect homes against fire.

## SAVING THE BOX HUCKLEBERRY

Considered one of the oldest living plants, box huckleberry (*Gaylussacia brachycera*, USDA Zone 3–7, AHS Zone 7–1), a native of seven Mid-Atlantic states, has been listed as “critically imperiled.” Now, ARS (the Agricultural Research Service) and the United States National Arboretum are combining forces to both reintroduce this dwarf evergreen into the wild and encourage its use in gardens.

The common name refers to its small, leathery, boxwoodlike leaves, which are red when emerging in the spring and turn reddish bronze in autumn. Its pale pink, bell-shaped flowers are followed by edible dark blue berries. Box huckleberry grows between three and 12 feet tall and requires moist, well-drained, richly organic acid soil. One source is Roslyn Nursery, Dix Hills, New York ([www.roslynnursery.com](http://www.roslynnursery.com)).

## RUST-RESISTANT DAYLILIES SHINE

First observed in Georgia in 2000, daylily rust, caused by the fungus *Puccinia heme-rocallis*, has spread throughout the country. The disease produces raised orange or rusty-brown pustules on foliage, most prominent on the undersides. Infected

## In Memorium: Dirck Brown

Children’s gardening and education advocate Dirck Brown passed away on December 30, 2003, at the age of 75 in Lexington, Virginia. Brown, who was raised in Ohio, earned a doctorate in education from Columbia University Teacher’s College and was a regular contributor to AHS’s Children and Youth Garden symposia. He and his wife, Molly, received the 2001 AHS Jane L. Taylor Award for excellence in children’s gardening for their development of a school curriculum, the Roots and Shoots Intergenerational School Garden Program, that involves young students with older community volunteers.

The Browns co-founded the Roots and Shoots program at Waddell Elementary School in Lexington, Virginia, in 1995. In the last 10 years, nearly every Waddell student has spent time in the classroom and garden with Dirck and Molly. Their school garden program has been nationally recognized as a model, and their curriculum has been distributed to other schools across the country.

leaves may die, and plants may become more susceptible to other pathogens or pests. Susceptibility varies widely among daylily cultivars.

After inoculating numerous daylily cultivars with the pathogen’s spores, plant pathologists at the University of Georgia evaluated the overall health and resistance of each. In two trials, using plants from Michigan, South Carolina, and Georgia nurseries, the plants’ resistance to rust was measured and rated numerically. Cultivars that showed no symptoms included: ‘Prairie Blue Eyes’, ‘Carolyn Criswell’, ‘Mardi Gras Parade’, and ‘Green Flutter’. Cultivars that displayed a high level of resistance were: ‘Woodside Ruby’, ‘Hush Little Baby’, and ‘Plum Perfect’.

## PETER RAVEN TO RECEIVE RHS VEITCH MEDAL

Each year a select few are honored by the Royal Horticultural Society (RHS) for their “outstanding contribution to the advancement and improvement of the sci-



ence and practice of horticulture.” This year, Peter Raven, director of the Missouri Botanical Garden, is the only American among six recipients of the RHS’s silver Veitch Medal. Raven was described by *Time*

magazine as a “hero for the planet” because he champions research to preserve endangered plants and is an advocate for conservation, biodiversity, and a sustainable

environment. The Engelmann Professor of Botany at Washington University in St. Louis, Raven holds numerous offices, including president and chairman of the board of the American Association for the Advancement of Science. In 1996, he was recipient of the American Horticultural Society’s Liberty Hyde Bailey Award.

## EAT CHOCOLATE, RESCUE A RAINFOREST

Go ahead! Have another piece of chocolate. It could help save the Brazilian Atlantic Forest, an endangered rainforest that contains the greatest number of tree species diversity recorded on Earth.

“Cocoa, the main ingredient in chocolate, is a high-value crop that can be grown under the rainforest canopy,” says Chris Bright, lead author of *Venture Capitalism for a Tropical Forest* and a researcher with the Worldwatch Institute, a Washington, D.C.-based non-profit.

Because cocoa is shade-tolerant, farmers don’t have to cut down the forest to grow it. Instead, in Brazil, cocoa can be grown in what is known as a cabruca system. The forest overstory is thinned, after which an understory of small cocoa trees are planted.

When a devastating cocoa fungus epidemic, combined with a drop in cocoa prices, occurred in the 1990s, many farmers abandoned cocoa production, transforming the cabruca for other uses. In addition to the reduction of forest habitat, this resulted in the loss of jobs for some 90,000 laborers.

The Worldwatch study suggests that with the availability of new, fungus-resis-

tant varieties, the cabruca system should be revived, with improvements—a strategy they call “forest cocoa,” which has both ecological and social goals. “The big opportunities here,” explains Bright, “are in the development of new cocoa products—new ways of connecting consumers to the forest and to the people who live there.” Not only will cocoa be produced under environmentally friendly conditions, the Atlantic Forest will be sustained, and more jobs will be available in rural areas.

### MILK VERSUS MILDEW

When some of his begonias and gesnariads suffered from the fungal disease *Botrytis*, Keith Rogers of Mannum, South Australia, tried expensive fungicides to no avail. Then he concocted a milk-based spray similar to the kind used in the Australian grape industry. The results have been good.

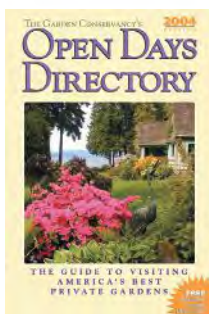
“In the end, I settled for simple 10 percent whole milk (from powder is better) and 90 percent water,” says Rogers. “It works safely on my begonias, sinningias—all gesnariads.” It even worked

on some very delicate maidenhair ferns, says Rogers, but he cautions, “Some tropical *Adiantum* species do not like it.”

Unlike normal fungicides, which coat the plant to stop the spore from growing, “this stuff kills the fungal spore in its tracks,” says Rogers. He cautions using the milk-based spray around mycorrhizal-reliant plants because it may kill desirable fungi in the soil.

### CONSERVANCY OPEN DAYS DIRECTORIES

The Garden Conservancy’s Open Days program enables gardeners a chance to do one of the things they enjoy most—snoop in other people’s gardens.



This year, in addition to a national edition of the *Open Days Directory*, the Conservancy has published four regional directories listing open days for some of the country’s best private gardens in the

Northeast, South, Midwest, and West.

The softcover books include detailed driving directions and vivid descriptions of each garden. The national edition costs \$15.95 (\$10.95 for Garden Conservancy members, plus \$4.50 for shipping) and \$5, plus \$1.95 for shipping, for each regional guide. Call the Garden Conservancy at (888) 842-2442 to order, or send a check to: the Garden Conservancy, P.O. Box 219, Cold Spring, NY 10516. The nominal fee for Open Days entrance is \$5 per garden.

### PLANT LOCATOR FOR THE WEST

Live in the West? Need to find a source for a specific plant? *The Plant Locator® Western Region* by Susan Hill and Susan Narizny (Timber Press, 2004, \$19.95) lists 336 retail nurseries in Alaska, Arizona, California, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and British Columbia, and more than 50,000 of the plants they carry. The book’s extensive index includes over 9,000 entries listing both common and botanical names.

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## Unlocking the Secrets of Plant Dormancy

by Dr. H. Marc Cathey

FOR TEMPERATE-REGION gardeners, the miracle of spring never gets old, no matter how many times we experience it. There's something truly amazing in the way plants lie dormant through winter and then, on cue, begin popping out of the ground and setting flowers.

Our understanding of the successful blooming and fruiting requirements of many plants we grow—both edible and ornamental—is based largely on observations by naturalists and horticulturists. Over time these researchers painstakingly unraveled the physiological processes that control seed germination, flower production, and fruit set.

A major discovery was that many plants require vernalization—or exposure to a period of low temperatures—in order to break dormancy or to flower. For instance, plants classified as biennials require vernalization as part of their two-year life cycle. Following seed germination, biennials typically develop a rosette of leaves at ground level the first season. Then, after vernalization over winter, they develop elongated stems that bear flowers and fruit. After fruiting, the plant dies. Examples of biennials include foxgloves (*Digitalis purpurea*), honesty or money plant (*Lunaria annua*), and herbs such as parsley (*Petroselinum crispum*).

In the cut-flower industry, artificial vernalization is used to stimulate flowering in biennial plants such as stock (*Matthiola incana*), which requires a minimum of three weeks at between 40 and 50 degrees Fahrenheit to flower.

### JUST CHILLIN'

Most spring-flowering bulbs require a period of exposure to low temperatures in

order to flower properly, even though the flower buds were already formed in the dormant bulbs the previous year. The low temperatures are necessary to overcome dormancy and initiate the lengthening of the flower stem. That's why bulbs to be grown indoors in containers or for growth in warm regions such as Florida and southern California must be "pre-chilled" in refrigerators in order to bloom.

Most fruit trees also require a period of vernalization to set fruit successfully, but researchers have developed "low-chill" varieties that will produce fruit for gardeners who live in warmer climates.



**Like many spring bulbs, daffodils require an extended cold period to flower.**

Over the years, scientists have discovered that vernalization is a much more complex procedure than it first appeared, involving not only cooling temperatures, but varying sequences and durations of daylength (photoperiodism). So no single vernalization procedure works for all plants; in fact, each species and variety seems to have its own requirements, which can only be confirmed through careful study.

### LEADING THE WAY

Many noted plant physiologists have helped unravel the vernalization requirements of specific plants, but one of the pioneers was T.D. Lysenko, a Russian

scientist who is credited with preventing mass starvation in Russia in the 1920s by subjecting winter wheat seeds to low temperatures so that they could be sown as a spring crop rather than a winter crop. This reduced the amount of wheat seeds lost to hungry birds in winter, and thus increased the amount of wheat that could be harvested. Lysenko is also credited with coining the term "vernalization," which is derived from the Russian word *yarovizatsiya*, which means "to make or become spring."

Then, in the 1930s and '40s, F. G. Gregory and O. N. Purvis of the Chelsea Physic Garden in London, England, advanced the understanding of vernalization through studies of a particular strain of rye cereal. These researchers discovered that vernalization affected the plant's sensitivity to daylength and could be used to speed up the initiation of flowering in winter rye.

In seeking ways around vernalization requirements, plant physiologists discovered that certain plant growth regulating chemicals, including auxins and gibberellins, could be used as substitutes for chilling requirements in some plants. They also began using high-pressure sodium lamps to reduce or change photoperiod requirements. The search for shortcuts to vernalization has been aided by plant explorers and breeders, who are actively seeking out and developing new forms of plants that have low-chilling requirements or are not as sensitive to daylength changes.

So as you enjoy the spring flowers in your garden this year, say a quiet thank you to the unsung researchers who unraveled the secrets of vernalization and increased the bounty of plants we can grow for food and ornament.

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

# The Prodigal Gardener

by Patti Cassidy

**T**HERE IS such a thing as gardening too much. I know, because I've done it.

For 10 years I lived on a tiny ranch in southern Arizona and grew as many vegetables as I could. Gardening in that region was tough, what with watering all the time, checking for insects and their damage, nurturing small plants and trying constantly to save them from the drying winds and hot sun. I burned out acres of shade cloth in the process and dove into horticulture in a big way.

I tried every gardening technique as I discovered them: planting in raised beds, sunken beds, and no beds at all. Planting in rows and broadcast sowing; planting early, planting late; planting by moon charts and by zones. I delved into compost building, calculated the nitrogen-phosphorus-potassium makeup of every type of compostable material, experimented with turning the compost in a drum versus using a pitchfork. I researched all the available seeds and plants, from new introductions to heirlooms. I sought to extend my garden's productivity by staggered plantings and choosing varieties based on estimated days to maturity.

I visited the university library in the winter to keep up with planting theory and practice in horticultural journals. I knew all the intricacies of soil chemistry, the pros and cons of different irrigation methods, and the influence of weather patterns and microclimates.

Educating myself in the world of horticulture was a challenge and took every bit of my attention. At first, it was exhilarating, even more than my Tudor studies had been in college. But this was a course of study that would have no end.

Gradually, gardening grew more tedious than exciting. I started my seedlings later and later, and I grew increasingly intrigued with the idea of rais-

ing volunteers exclusively. I stopped harvesting my own seeds and began buying all of them from catalogs. Then I bypassed seeds altogether and started buying plants from a nursery. The final descent came the year I bought my veggies raised, picked, and packaged from a nearby gardener. In short, I burned out.

It wasn't long afterward that I moved to a highrise in a city in the Northeast, leaving the Arizona ranch to my now ex-husband—and leaving behind that way of life. When I cruised the produce aisle of



the supermarket, I smiled as I eyed the fruits of someone else's labor. Having grown so many vegetables, I admit it was a shock to realize how few varieties there were to choose from here. To most shoppers, a strawberry was a strawberry, and onions came only in red, white, and yellow.

But the pallid produce didn't bother me, for just as I had given up gardening, I had also stopped cooking for the most part. I lived on bags of ready-to-eat salad, canned soup, and bread from bakeries. I justified all of this by telling myself I was supporting farmers who really deserved my hard-earned cash.

For years after leaving the ranch, my fingers didn't twitch when I saw freshly turned soil or rows of seed packets. I didn't hesitate in the gardening tools section of the hardware store. I blanked out the memory of the delight I had felt when I received a bigger shovel for my birthday one year. The gardener in me was gone.

Until one fine March day. A well-meaning friend, knowing I had lived in the country and raised my own vegetables, gave me a shoebox-size plastic greenhouse with six packets of seeds and thimble-sized peat pots to plant them in.

I really wished she had not done this. Without gardening, my life had become less complicated. Exchanging money for food was free of heartaches and anxiety.

With misgivings, I planted those seeds in the little greenhouse and cleared a spot for it on a windowsill. Whereas too much light had been a problem on the ranch, here there was too little. So I bought full-spectrum light bulbs and began observing the clouds and shadows from a practical as well as an aesthetic point of view.

I grew impatient for my seeds to sprout, and when they did, I sang to the cat. Later, I transplanted the seedlings to larger pots. Soon, I tasted the first basil leaves—which led me to take up cooking again—and added fresh cilantro to my morning eggs.

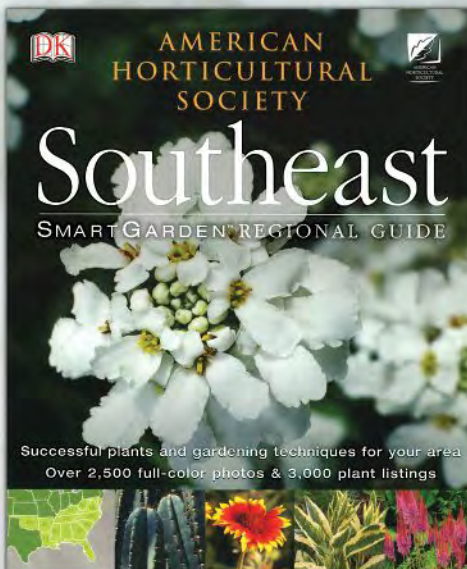
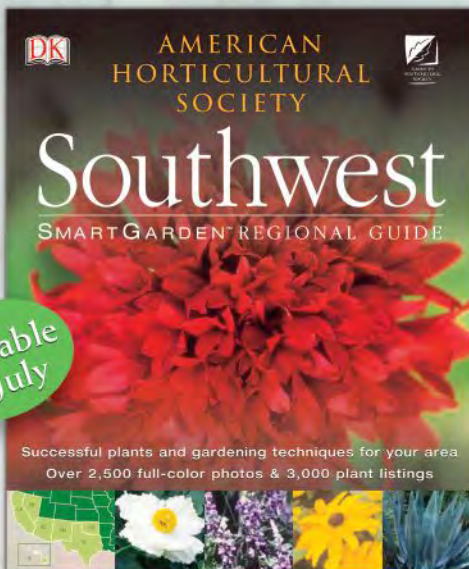
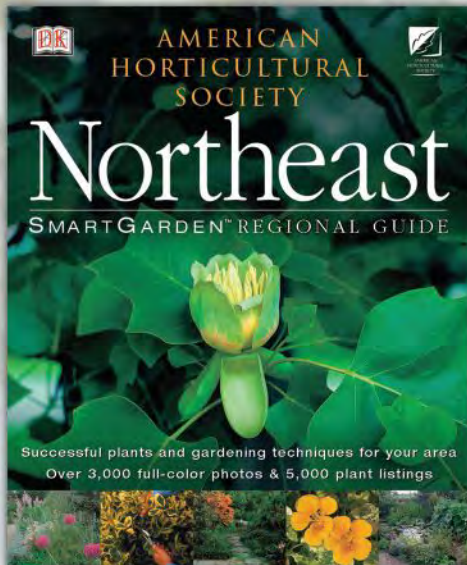
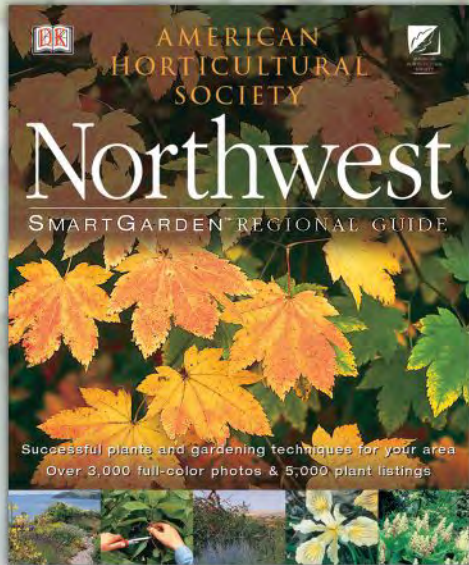
Within a year after starting that windowsill garden, my ambitions and enthusiasm grew, and I began to feel a disturbing longing for the earth and the countryside that I could not ignore. I finally moved from the city to a house with a deck on an island, where I could expand operations.

Now as I stroll among the tomatoes, basil, cilantro, mint, and thyme growing in pots on my deck, I know there is something about a gardener once seeded that never dies.

*Patti Cassidy is a free-lance writer living in Jamestown, Rhode Island.*



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## Recommendations for Your Gardening Library

### Restoring American Gardens: An Encyclopedia of Heirloom Ornamental Plants 1640–1940.

Denise Wiles Adams. Timber Press, Portland, Oregon, 2004. 419 pages. Publisher's price, hardcover: \$39.95.

I'VE ALWAYS BEEN amazed at how much time and money people spend on meticulous restoration of historic homes and gardens, only to go out and buy their plants and landscaping materials at the local home improvement store. In effect, this results in a loss of the historic character they sought to preserve. Fortunately, with the publication of *Restoring American Gardens*, the task of finding appropriate plants for period homes has been simplified.

Through a systematic analysis of more than 300 garden catalogs drawn from all regions of the United States, Denise Adams has created an encyclopedia of the 1,000 most common heirloom trees, shrubs, annuals, perennials, and bulbs available to gardeners from the mid-17th to early 20th century. Each plant is described with historically pertinent details, such as horticultural introduction dates, as well as notes from many significant historic figures in American horticulture.

Adams has supplemented the text with useful appendices, including cross-indexed listings of plants defined by region and period of use, current source information for their purchase, and a record of less tame historically popular garden ornamentals, like *Lonicera japonica* and *Paulownia tomentosa*, that have escaped into the wild. Ample use of period illustrations and early photographs adds to the book's richness.

One limitation of the book, as the author fully acknowledges, is that the 300 catalogs she referenced represent only a small fraction of the thousands published during the period covered and draws most heavily on early 20th century catalogs. This restricts the book's usefulness for restoration of a Colonial-period landscape, but it is certainly a good resource for post-Civil War period gardens.

Gardeners with an interest in heirloom plants or American garden history will find much to like in this book. It will occupy a central place on my landscape preservation bookshelf.

—Charles Hulse

*Charles Hulse is a professor of anthropology and directs the Historic Preservation Program at Shepherd College in Shepherdstown, West Virginia.*

### The Earth Moved: On the Remarkable Achievements of Earthworms.

Amy Stewart. Algonquin Books. Chapel Hill, North Carolina, 2004. 223 pages. Publisher's price, hardcover: \$23.95.

AMY STEWART shares my fascination with the little things in life—such as fungi, nematodes, bacteria, and...earthworms. In *The Earth Moved: On the Remarkable Achievement of Earthworms*, Stewart lets us in on the mysteries of earthworms and their subterranean world. The details are not always for the faint-of-stomach. Bacteria thrive and reproduce inside the body of a nightcrawler, relates Stewart, "until far more bacteria emerge from the end of a worm than entered in the first place." And, during mating, earthworms "excrete a great deal of sticky fluid that keeps them anchored together." By skillfully weaving together interesting earthworm factoids with personal



anecdotes, Stewart has created a delightfully entertaining book.

No book about earthworms is complete without a discussion of their vital contribution to soil health. The owner of a worm compost bin, Stewart is able to relate first-hand knowledge on the subject of their nutrient-rich waste, or "castings," which increase soil fertility. In addition, worm burrows aerate soil and increase its water-holding capacity.

But all is not rosy in earthworm world. Stewart points out that most of the worms in North America are non-native, introduced years ago by immigrants and in imported goods, and that the threat of new introductions is ever present. In Minnesota, research by forest ecologists indicates that bait worms inadvertently dumped by fishermen can contribute to an alteration of understory plants in hardwood forests.

If, after reading this book, you discover a new-found respect for these remarkable critters, you're in good company. Stewart relates that Charles Darwin, who performed intricate experiments with earthworms and devoted his last book to them, became convinced that they had the ability to make decisions.

*The Earth Moved* is part humorous, part serious, and 100 percent informative. It is a must-read for gardeners who want to learn to appreciate earthworms and their contribution to soil ecology.

—Kathryn Lund Johnson

*A frequent contributor to The American Gardener, Kathryn Lund Johnson is a freelance writer based near Middleville, Michigan.*

## Annuals and Tender Plants for North American Gardens.

Wayne Winterrowd. Random House Publishing. New York, New York, 2004. 498 pages. Publisher's price, hardcover: \$60.

OVER THE PAST 10 years, I have grown many unusual annuals and tender perennials at my small greenhouse in southern Vermont. Each year, in search of new and exciting plants for my customers, I scour specialty seed and plant catalogs, aided by notoriously inaccurate catalog descriptions and a stack of well-shuffled books. If only Wayne Winterrowd's *Annuals and Tender Plants for North American Gardens* had been available earlier! This wonderful, comprehensive reference would have made my research so much easier. It smartly combines, under one cover, information on more than 600 species and 250 genera of "true" annuals as well



as the tender perennials, biennials, and shrubs that many of us now grow as annuals.

More than 250 color photographs highlight the plant descriptions, which are organized alphabetically by genus. Each genus entry gives a short profile of the plant's overall features and requirements, followed by detailed information about species and cultivars, including habit, propagation, culture, uses, native habitat, folklore, and ease of cultivation.

In sharing his experience—gleaned over the years at North Hill, the spectacular garden Winterrowd and his partner Joe Eck created in Readsboro, Vermont—Winterrowd manages to convey practical advice and personal observations in equally eloquent terms. "California poppies," he says, "seem to have some sort of internal wisdom that tells them when to pack up and be off, whatever intentions the gardener may have for them." In discussing *Salpiglossis*, he notes that it has "a tendency to be a dragged mess in wet weather."

The only shortcoming of this book is that it contains images of just over half of the species covered in the text. By adding a few more plant photographs, the publishers would have provided a fitting complement to Winterrowd's lyrical prose and further enhanced what is already an excellent garden reference.

—Carrie Chalmers

*Carrie Chalmers owns Quoyburray Farm, a small greenhouse and market garden business located in southern Vermont. She also works with her brother, Cameron Chalmers, designing and planting gardens.*

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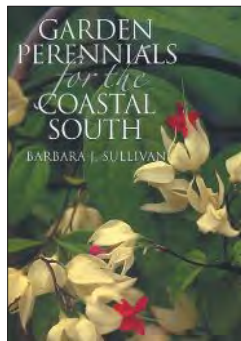
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## Books of Regional Interest

THE AMERICAN gardening experience is borne from vastly diverse growing environments and climates, so it is no wonder that our shelf of new garden books is overflowing with those of regional interest. These regional garden how-to and plant guides offer custom information on everything from organic gardening practices to regional native plants.

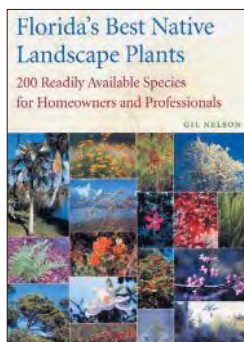
### THE SOUTH AND SOUTHEAST

In *Garden Perennials for the Coastal South*, Barbara J. Sullivan (University of North Carolina Press, 2003, Hardcover \$35.00, soft-cover \$19.95) has assembled a fundamental volume for gardeners in that hot and humid stretch from the Gulf Coast of Texas to Tidewater Virginia. This attractive and authoritative guide covers everything from companion plantings to “fail-safe” perennials. This beautiful book has over 200 color photos and provides brief descriptions of more than 1,000 plants for the coastal south. Its only weakness is an often un-systematic text organization—a glitch that is smoothed by a well-organized index.



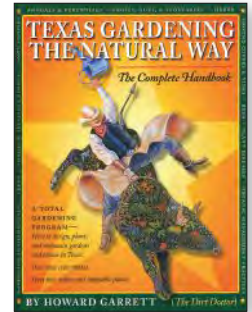
Felder Rushing takes a low-care, no-care approach to gardening in *Tough Plants for Southern Gardens* (Cool Springs Press, 2003, \$24.99). Each chapter, from “Annuals that Endure” to “Vines with Vigor,” covers the garden basics leavened with bits of garden wisdom that exemplify Rushing’s campy, down-to-earth style. The book covers more than 120 annuals, perennials, trees and shrubs suited to southern climates; each plant listing includes cultural information and personal anecdotes designed to help gardeners create a lovely garden—and have enough spare time to sip mint juleps on the porch swing.

Overwhelmed by all the native ornamentals now available? Now at least Floridians have some help. Gil Nelson’s *Florida’s Best Native Landscape Plants* (University of Florida Press, 2003, \$34.95) covers 200 readily available native species and presents enough solid information to help the reader choose the best plants for their needs. Each plant is detailed by a full-page color illustration and photos depicting



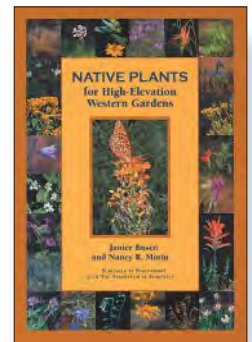
flower form, plant habit and landscape use along with tabular data on both growing conditions and landscape uses.

Howard Garrett, the Dirt Doctor of Dallas, Texas, shows that good-ole-boy spirit in his new book, *Texas Gardening the Natural Way* (University of Texas Press, 2004 \$34.95). Whimsical cowboy cover aside, this is a seriously informative book that not only makes a great case for organic methods, but puts them together with first-rate, how-to graphics and an encyclopedic plant catalog that covers the full gamut from trees to tomatoes, plus all the basics on fertility management, pest control, lawns—you name it.



### THE WEST

Concise, straight-forward, and thorough were all words that came to mind when I first opened *Native Plants for High Elevation Western Gardens* by Janice Busco and Nancy R. Morin (Fulcrum Publishing, 2003, \$29.95). Descriptions and cultural information are given for 150 attractive, low-maintenance native plant species, each illustrated with a color photograph. The book’s perfect balance of horticultural and botanical information make it a must-have volume for any native plant enthusiast who lives in the high-altitude regions of the American West.



### THE NORTHWEST

Ann Lovejoy’s *Handbook of Northwest Gardening* (Sasquatch Books, 2004, 27.95) is the perfect primer for Pacific Northwest gardeners who desire beautiful, natural, and self-sustaining garden landscapes. Well organized and easy to follow, the book focuses on the rudiments of a good sustainable garden. Chapter headings such as “Sustainable Garden Design,” “Delicious Dirt,” “The Role of Editing,” and “Garden Bones” affirm that good planning and preparation are key to achieving sustainable success. In fact, it is not until chapter nine that Lovejoy begins six chapters dedicated to plant selection. This is a useful resource for gardeners of all levels of experience. ☪



—Jessie Keith, Editorial Intern



## REGIONAL HAPPENINGS

### Horticultural Events from Around the Country

#### NORTHEAST

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

MAY 25. **Annual Spring Gala.** Wave Hill. Bronx, New York. (718) 549-3200. [www.wavehill.org](http://www.wavehill.org).

JUNE 4-6. **4th Annual Native Plant Sale.** Massachusetts Audubon Society. Pleasant Valley Sanctuary. Lenox, Massachusetts. (413) 637-0320.

JUNE 5. **Herbfest 2004.** Connecticut Herb Association. Topmost Herb Farm. Coventry, Connecticut. (860) 742-8239.

JUNE 8. **Through Back Bay Gates & Doors.** Walking tour. The Garden Club of the Back Bay. Boston, Massachusetts. (617) 292-4504.

JUNE 11 & 12. **Rare Plant Sale & Silent Auction.** Society for the Preservation of New England Antiquities. Waltham, Massachusetts. (781) 891-1985. [www.SPNEA.org](http://www.SPNEA.org).

JUNE 11 & 12. **Voyage of the Clipper Ship Red Blossom.** Flower show. Edgewood Garden Club. Cranston, Rhode Island. (401) 461-4920.

JUNE 12. **Lady's Slipper Celebration.** The Coastal Maine Botanical Gardens at Pineland Farms. New Gloucester, Maine. (207) 633-4333. [www.mainegardens.org](http://www.mainegardens.org).

JUNE 12. **Native Plant Sale.** New England Wildflower Society. Garden in the Woods. Framingham, Massachusetts. (508) 877-7630. [www.newfs.org](http://www.newfs.org).

JUNE 12-16. **The Retail Roadshow.** The American Nursery & Landscape Association. Holiday Inn Martinique. New York, New York. (202) 789-2900. [www.anla.org](http://www.anla.org).

JUNE 17-21 & 24-28. **Gateway to Secret Gardens.** Garden tour. Garden Club Federation of Massachusetts, Inc. (866) 500-3781. [www.magardensontour2004.org](http://www.magardensontour2004.org).

JUNE 18. **Rose Weekend.** Elizabeth Park. West Hartford, Connecticut. (860) 243-1586. [www.elizabethpark.com](http://www.elizabethpark.com).

JUNE 20-26. **Field Botany and Floristics Seminar.** Humbolt Field Research Institute. Steuben, Maine. (207) 546-2821. [www.eaglehill.us](http://www.eaglehill.us).

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

JUNE 25-27. **The Newport Flower Show.** The Preservation Society of Newport County and Bartlett Tree Experts. Newport, Rhode Island. (401) 847-1000. [www.newportflowershow.org](http://www.newportflowershow.org).

#### MID-ATLANTIC

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

MAY 8-OCTOBER. **The Opening of Bee-mazed Children's Garden.** Longwood Gardens. Kennett Square, Pennsylvania. (610) 388-1000. [www.longwoodgardens.org](http://www.longwoodgardens.org).

MAY 15-23. **Satsuki Azalea Bonsai Exhibit.** The U.S. National Arboretum. Washington, DC. (202) 245-5898. [www.usna.usda.gov](http://www.usna.usda.gov).

MAY 22. **Georgetown Garden Treasures Tour.** Dumbarton Oaks and Tudor Place. Washington, D.C. (202) 965-0400 ext. 100.

MAY 24. **Annual Open House.** Thomas Jefferson Center for Historic Plants. Charlottesville, Virginia. (800) 777-7931. [www.twinleaf.org](http://www.twinleaf.org).

MAY 30-JUNE 1. **Blue Ridge Garden Festival Plant Sale.** Elmwood Park. Roanoke, Virginia. (540) 798-3614.

JUNE 3-5. **Native Plants in the Landscape Conference & Sale.** Millersville University. Millersville, Pennsylvania. (717) 872-3030. [www.millersvillenaiveplants.org](http://www.millersvillenaiveplants.org).

#### SOUTHEAST

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

MAY 1-OCT. 31. **Chihuly in the Garden: A Whole New Species of Art.** Atlanta Botanical Garden. Atlanta, Georgia. (404) 876-5859. [www.atlantabotanicalgarden.org](http://www.atlantabotanicalgarden.org).

JUNE 5 & 6. **Tropical Fern & Exotic Plant Show and Sale.** Tropical Fern & Exotic Plant Society. Fairchild Tropical Garden. Coral Gables, Florida. (305) 667-1651. [www.tfeps.org](http://www.tfeps.org).

JUNE 5-7. **12th Annual Symposium on Botanical Medicine: Medicines from the Earth.** Blue Ridge Assembly. Black Mountain, North Carolina. (800) 252-0688. [www.botanicalmedicine.org](http://www.botanicalmedicine.org).

JUNE 12. **2004 Moody Garden Tour.** The Garden Club of Moody. Moody, Alabama. (205) 640-7445.

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JUNE 18 & 19. **A Celebration of Ashland's Gardens and Grounds.** Ashland: The Henry Clay Estate. Lexington, Kentucky. (859) 266-8581. [www.henryclay.org](http://www.henryclay.org).

JUNE 19. **Hibiscus Show & Sale.** The Central Florida Hibiscus Society. Harry P. Leu Gardens. Orlando, Florida. (407) 246-2620. [www.leugardens.org](http://www.leugardens.org).

JUNE 20. **Daylily Festival.** Huntsville-Madison County Botanical Garden. Huntsville, Alabama. (256) 830-4447. [www.hsvbg.org](http://www.hsvbg.org).

#### NORTH CENTRAL

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

MAY 26. **Bi-Annual Spring Garden Tour: Beyond the Fences of Zoar.** Zoar Community Association. Zoar, Ohio. (303) 874-2432.

JUNE 4-6. **Plant Sale in the Garden.** Fernwood Botanical Garden & Nature Preserve. Niles, Michigan. (269) 695-6491. [www.fernwoodbotanical.org](http://www.fernwoodbotanical.org).

JUNE 5 & 6. **Iris Show and Sale.** North Shore Iris and Daylily Society. Chicago Botanic Garden. Chicago, Illinois. (847) 835-8326. [www.chicagobotanic.org](http://www.chicagobotanic.org).

JUNE 6. **Celebration of Roses.** Martin School Rose Garden and Native Orchid Sanctuary. Toledo, Ohio. (419) 878-8699.

JUNE 18-20. **Show of Summer.** Garden Club of America. The Chicago Botanic Garden. Chicago, Illinois. (849) 835-5440. [www.chicagobotanic.org](http://www.chicagobotanic.org).

JUNE 20. **Grand Opening of Lena Meijer Children's Garden.** Frederick Meijer Gardens and Sculpture Park. (616) 957-1580. [www.meijergardens.org](http://www.meijergardens.org).

JUNE 20. **Father's Day Rose Show.** Olbrich Botanical Gardens. Madison, Wisconsin. (608) 271-1300. [www.olbrich.org](http://www.olbrich.org).

JUNE 22. **Rose Festival.** Millcreek Metroparks Fellows Riverside Gardens. Canfield, Ohio. (330) 702-3000.

JUNE 25 & 26. **3rd Annual Bloomin' Event Garden Tour.** Milwaukee Chapter, Christ Child Society, Inc. Milwaukee, Wisconsin. (262) 784-7087.

#### SOUTH CENTRAL

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

MAY 1-22. **Garden Tour: In the Garden with Extension Master Gardeners.** Kansas State University Cooperative Extension. Olathe, Kansas. (913) 764-6300. [www.oznet.ksu.edu/Johnson](http://www.oznet.ksu.edu/Johnson).

MAY 22-23. **Oleander Festival 2004.** The Inter-

## Green Rooftops and Roses in Portland

URBAN GREENING EDUCATION and floral inspiration will share top billing in Portland, Oregon, when this progressive city hosts the Second Annual International Green Roof Infrastructure Conference, Awards and Trade Show, held from June 2nd to the 4th, and the annual Portland Rose Festival, held from June 3rd to the 13th.

The Green Roof conference—which debuted last year in Chicago, Illinois—offers gardeners, horticulturists, and architects a chance to learn about the latest advances in green rooftop technology and the many benefits these living rooftop environments have to offer. Green roofs—rooftop environments fitted with growing medium, drainage systems and self-sustaining plants, such as succulents—aid in storm water management,



The Multnomah County Green Roof public plaza in Portland.

provide wildlife habitat, and are energy efficient because they insulate well. They also last longer than conventional roofs because their planted surfaces protect the roof base from damaging winds, ultraviolet rays, and temperature extremes.

Training and certification courses in green roof design, implementation, and maintenance will be offered during the conference. “Both the certification program and design course will aid the success of green roofs in urban areas,” says Steven Peck, President of Green Roofs for Healthy Cities, “Green roof design and implementation is a new skill for most architects. It is key that these roofs are well designed, properly installed and clients are not overcharged—all problems in the industry.”

The certification course will offer architects and landscape professionals the right tools for green roof implementation, and Green Roof Design 101 will introduce basic green roof design principles to those new to the field; both programs require pre-registration. Conference tours will showcase Portland's newest and most innovative green roof projects. A diverse array of vendors from around the world will showcase the latest green roof products and technology.

During that week visitors to Portland will also enjoy activities associated with the Portland Rose Festival, which will feature the Grand Floral Parade, billed as the second largest all-floral parade in North America, and many other events from fireworks displays to boat races and live music.

To learn more about the green roof conference, contact Jennifer Sprout at (416) 686-5887 or visit [www.greenroofs.ca](http://www.greenroofs.ca). For more on the Portland Rose Festival, call (503) 227-2681 or visit [www.rosefestival.org](http://www.rosefestival.org).

—Jessie Keith, Editorial Intern

national Oleander Society. Galveston, Texas. (866) 220-1691. [www.oleander.org](http://www.oleander.org).

MAY 23. **Iris & Rose Show.** Botanica, The Wichita Gardens. Wichita, Kansas. (316) 264-0448. [www.botanica.org](http://www.botanica.org).

MAY 29-SEPT. 26. **In TREEging Treehouses.** The Morton Arboretum. Lisle, Illinois. (630) 719-2468. [www.mortonarb.org](http://www.mortonarb.org).

JUNE 4-6. **The Illinois Native Plant Society Annual Meeting.** Camp Wokanda. Mossville, Illinois. (309) 995-3356.

JUNE 5. **Garden Tour for Connoisseurs.** The Oklahoma Horticultural Society. For more information, visit [www.occf.org](http://www.occf.org).

JUNE 5 & 6. **Hermann Garden Tours & Perennial Plant Sale.** Hermann Garden Club. Hermann, Missouri. (800) 932-8687.

## Weird Plants Invade Tucson

PLANTS, LIKE PEOPLE, can either be delicate, fragrant and spectacularly beautiful, or bizarre, stinky and acutely grotesque—kind of like the difference between *Laeliocattleya xelegans* and *Amorphophallus paeonifolius*, or Charlize Theron and Quasimoto. But, even Quasimoto found friendship and acceptance in the end—at least in the Disney version of the story—and at the Tucson Botanical Garden's Weird Plant Film Experience and Plant Sale, slated for June 6 and June 12, the *Amorphophallus* might draw a few flies and find a happy home too.

Last year, more than 2,000 people attended this weird and wonderful event, and organizers are hoping that by expanding the program to two consecutive weekends this year, they can draw even more. On

***Fockea edulis*, an odd-looking relative of butterfly weed.**



June 6 the experience will start with a Weird Plant Costume Contest, followed by a showing of the film *Little Shop of Horrors*. The night will end with a catered buffet of crazy culinary concoctions coined as “Weird Plant People Food.”

On June 12 the Weird Plant Sale will highlight the oddest species of living stones (*Lithops* spp.), strapeloids, cacti, caudiciforms, and curcubits, among others. “This unique event has become very popular and is sure to please,” says Michelle Conklin, TBG’s Director of Development and Community Relations. “After seeing these plants, you will get hooked on their strange, often hidden, beauty.”

For more information, call (520) 326-9686 ext. 15, or visit the Tucson Botanical Garden’s Web site at [www.tucsonbotanical.org](http://www.tucsonbotanical.org).

—Jessie Keith, Editorial Intern

JUNE 12. **14th Annual Texas Blueberry Festival.** Music, car show, children’s activities, food, and tours of blueberry farms. Nacogdoches Chamber of Commerce. Nacogdoches, Texas. [www.texasblueberryfestival.com](http://www.texasblueberryfestival.com).

JUNE 22–25. **Wilderness Experience Kid’s Camp.** The Corpus Christi Botanical Gardens & Nature Center. Corpus Christi, Texas. (361) 852-2100.

### SOUTHWEST

AZ, NM, CO, UT

MAY 16. **Opening of the PNM Butterfly Pavilion.** Rio Grande Botanic Garden. Albuquerque, New Mexico. (505) 764-6200. [www.cabq.gov/biopark/garden/index.html](http://www.cabq.gov/biopark/garden/index.html).

MAY 22. **Red Butte Garden Native Plant Sale.** Red Butte Garden. Salt Lake City, Utah. (801) 581-4747. [www.redbuttegarden.org](http://www.redbuttegarden.org).

MAY 31–OCT. 31. **Chapungu Sculpture Exhibit.** The Denver Botanic Garden. Denver, Colorado. (720) 865-3500. [www.botanicgardens.org](http://www.botanicgardens.org).

JUNE 19. **Summer Plant Sale & Garden Fair.** The Arboretum at Flagstaff. Flagstaff, Arizona. (928) 774-1442 ext. 110. [www.thearb.org](http://www.thearb.org).

### WEST COAST

CA, NV, HI

MAY 29. **Erosion Control & Water Management.** The Occidental Arts and Ecology Center. Occidental, California. (707) 874-1557. [www.oaec.org](http://www.oaec.org).

MID-MAY. **Opening of the Sonoma Valley’s Cornerstone Festival of Gardens.** Sonoma Valley, California. (707) 933-3010.

JUNE 5. **Annual Plant Sale.** Wilbur D. May Arboretum & Botanical Garden. Reno, Nevada. (775) 785-4153. [www.maycenter.com](http://www.maycenter.com).

JUNE 19. **California Rare Fruit Grower’s Festival of Fruit.** Cal Poly Pomona. Los Angeles, California. (805) 584-6244. [www.crfg.org/festival](http://www.crfg.org/festival).

JUNE 19. **The Opening of the Helen and Peter Bing Children’s Garden.** The Huntington Library, Art Collections, and Botanical Garden. San Marino, California. (626) 405-2100. [www.huntington.org](http://www.huntington.org).

JUNE 23–27. **International Celebrations: 52nd Lompoc Valley Flower Festival.** Food, parade, carnival, arts and crafts, and 82nd annual Flower Show. Lompoc, California. (805) 735-8511. [www.flowerfestival.org](http://www.flowerfestival.org).

JULY 2. **Opening of the 18th Dynasty Egyptian Peace Garden.** Rosicrucian Egyptian Museum. San Jose, California. (408) 947-3636. [www.egyptianmuseum.org](http://www.egyptianmuseum.org).

### NORTHWEST

AK, ID, MT, OR, WA, WY

MAY 21–23. **The Great Divide Orchid Society Show & Sale.** Capital Mall in Helena. Clancy, Montana. (406) 443-2069.

JUNE 2–4. **International Greening Rooftops for Sustainable Communities Conference.** Green Roofs for Healthy Cities. Portland, Oregon. (416) 686-5887. [www.greenroofs.ca](http://www.greenroofs.ca).

JUNE 19. **Grand Opening for Wise Acres Herb Garden.** Pleasant Hill, Oregon. (541) 736-0164. [www.herbaltransitions.com](http://www.herbaltransitions.com).

JUNE 26. **4th Annual Gardens of Merit Tour.** Evergreen Arboretum & Gardens. Everett, Washington. (425) 355-2607. [www.evergreenarboretum.com](http://www.evergreenarboretum.com).

JUNE 26. **9th Annual Whidbey Island Garden Tour.** Whidbey Island Garden Tour, Inc. Freeland, Washington. (360) 321-4191. [www.wigt.org](http://www.wigt.org).

JUNE 27. **2004 Garden Tour.** Idaho Botanical Garden. Boise, Idaho. (208) 343-8649. [www.idahobotanicalgarden.org](http://www.idahobotanicalgarden.org).

JUNE 28 & 29. **6th Annual Garden Fair and Garden Art Show.** Alaska Botanical Garden. Anchorage, Alaska. (907) 770-3692. [www.alaskabg.org](http://www.alaskabg.org).

### INTERNATIONAL

MAY 28–30. **Great Gardening Weekend 2004.** The Montreal Botanical Garden. Montreal, Quebec. (514) 872-1400. [www2.ville.montreal.qc.ca/jardin/jardin.htm](http://www2.ville.montreal.qc.ca/jardin/jardin.htm).

**AHS** JUNE 4–6. **Exploring the Therapeutic Power of Flower, Greenery and Nature.** 8th International People-Plant Symposium (IPPS). AWAJI YUMEBUTAI International Conference Center, Awaji Island, Japan. [www.awaji2004.com](http://www.awaji2004.com). Co-sponsored by the U.S.-based People-Plant Council, the Japanese Society of People-Plant Relationships, Hyogo Prefecture, and the American Horticultural Society.

JUNE 6. **Canadian Peony Society Show.** Royal Botanical Gardens. Hamilton/Burlington, Ontario. (905) 527-1158. [www.rbg.ca](http://www.rbg.ca).

JUNE 19 & 20. **22nd Annual Garden Tour for the Victoria Conservatory of Music.** Victoria, British Columbia. (250) 386-5311. [www.vcm.bc.ca](http://www.vcm.bc.ca).

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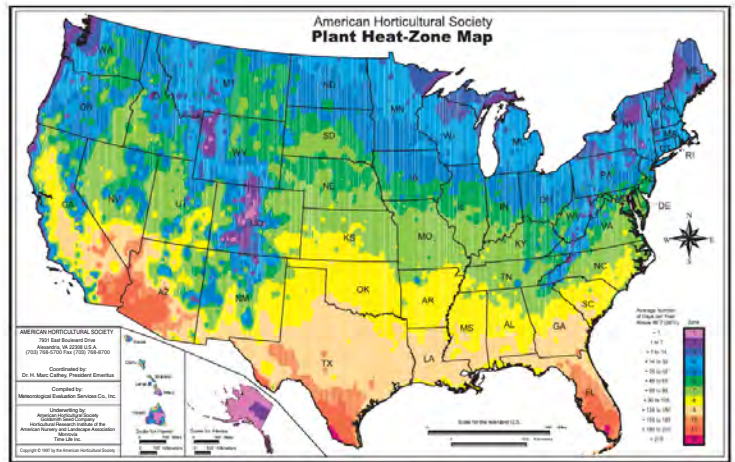


The National Arbor Day Foundation

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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-C

- Acacia baileyana** uh-KAY-shuh bay-lee-AN-uh (USDA 10–11, AHS 12–10)  
**Acacia greggii** A. GREG-ee-eye (10–11, 12–10)  
**Achillea millefolium** ah-kih-LEE-uh mih-lih-FO-lee-um (3–9, 9–1)  
**Albizia julibrissin** al-BEEZ-yuh jew-lih-BRIS-en (6–9, 9–6)  
**Amorpha canescens** uh-MOR-fuh kuh-NES-senz (2–8, 8–1)  
**Artemisia filifolia** ar-teh-MEEZ-yuh fih-lih-FO-lee-uh (4–8, 8–1)  
**Arundo donax** ah-RUN-doh DOH-naks (6–11, 12–1)  
**Asclepias tuberosa** as-KLEE-pee-us too-bur-O-sah (4–9, 9–2)  
**Baptisia alba** bap-TEEZ-ee-yuh AL-buh (4–8, 8–1)  
**B. alba var. macrophylla** B. AL-buh var. mak-ro-FIL-uh (4–8, 8–1)  
**B. australis** B. aw-STRAY-liiss (3–9, 9–1)  
**B. australis var. minor** B. aw-STRAY-liiss var. MY-nor (3–9, 9–1)  
**B. bracteata** B. brak-TEE-eh-tah (6–9, 9–7)  
**B. sphaerocarpa** B. sfeer-o-KAR-puh (5–9, 9–5)  
**Caesalpinia mexicana** sess-al-pih-NEE-uh mex-ih-KAN-uh (0–0, 0–0)  
**C. pulcherrima** C. puh-ker-EYE-muh (9–11, 0–0)  
**Calliandra californica** kal-ee-AN-druh kal-ih-FORN-ih-kuh (0–0, 0–0)  
**C. tweedii** C. TWEED-ee-eye (0–0, 0–0)  
**Caragana arborescens** kair-uh-GAN-uh ar-bor-ESS-enz (2–8, 8–1)  
**Campylotropis macrocarpa** kam-pee-lo-TRO-pis mak-ro-KAR-puh (7–9, 9–7)  
**Cercis canadensis** SUR-siss kan-uh-DEN-siss (4–9, 9–2)  
**C. canadensis var. texensis** C. kan-uh-DEN-siss var. teks-EN-siss (6–9, 9–6)

- Chrysothamnus nauseosus** kry-so-THAM-nus naw-zee-O-suss (3–11, 12–3)  
**Cladrastis kentukea** kla-DRAS-tis ken-TUK-ee-uh (4–9, 9–1)  
**Clianthus puniceus** KLEE-an-thus pew-NIH-see-us (9–11, 12–1)

## D-G

- Dalea capitata** DAY-lee-uh kap-ih-TAY-tuh (8–10, 11–8)  
**D. frutescens** D. froo-TES-enz (8–10, 11–8)  
**Delonix regia** DEL-on-ix REE-jee-uh (11–15, 10–8)  
**Echinacea angustifolia** ek-ih-NAY-see-uh ang-gust-ih-FOE-lee-ah (4–9, 8–5)  
**E. laevigata** E. lee-vih-GAY-tuh (6–9, 9–2)  
**E. pallida** E. PAL-ih-dah (4–8, 8–1)  
**E. paradoxa** E. pair-uh-DOK-sah (6–9, 9–2)  
**E. purpurea** E. per-PER-ee-uh (3–9, 12–1)  
**E. tennesseensis** E. ten-uh-see-EN-sis (3–9, 9–1)  
**Echinops sphaerocephalus** EK-in-ops sfeer-o-SEF-uh-lus (3–9, 9–1)  
**Erythrina x bidwillii** air-ih-THRY-nuh bid-WIL-ee-eye (7–12, 12–8)  
**E. herbacea** E. urb-AY-see-uh (7–10, 10–8)  
**Fragaria vesca** frah-GAY-ree-uh VES-kuh (4–11, 12–1)  
**Franklinia alatamaha** frank-LIN-ee-uh uh-lah-tuh-MAH-hah (6–9, 9–6)  
**Gaylussacia brachycera** gay-loo-SAK-ee-uh brak-ee-SAIR-uh (3–7, 7–1)  
**Genista pilosa** jeh-NIS-tuh pih-LOW-suh (9–11, 12–9)  
**Geranium himalayense** juh-RAY-nee-um him-uh-lay-EN-see (4–7, 7–1)  
**Gleditsia triacanthos** gleh-DIT-see-uh try-uh-KAN-thos (3–7, 7–1)  
**Globularia cordifolia** glob-yew-LAIR-ee-uh kor-dih-FO-lee-uh (5–7, 7–5)

- Gordonia lasianthus** gor-DOH-nee-uh lah-see-AN-thus (8–10, 10–8)

## H-L

- Helioopsis helianthoides** hee-lee-OP-siss hee-lee-an-THOY-deez (4–9, 9–1)  
**Heteromeles arbutifolia** het-ur-o-ME-leez ar-byew-tih-FO-lee-uh (8–11, 12–8)  
**Ilex vomitoria** EYE-leks vom-ih-TOR-ee-uh (7–11, 12–7)  
**Indigofera amblyantha** in-dih-GO-fur-uh am-blee-AN-thuh (7–9, 9–7)  
**I. gerardiana** I. jair-ARD-ee-ay-nuh (6–9, 9–6)  
**I. kirilowii** I. KEER-ih-low-ee-eye (6–8, 9–5)  
**Juniperus procumbens** joo-NIP-er-iss pro-KUM-benz (4–9, 9–5)  
**Lespedeza thunbergii** les-peh-DEE-zuh thun-BERG-ee-eye (6–8, 8–6)  
**Leymus arenarius** LAY-mus ar-uh-NAIR-ee-us (4–10, 10–1)  
**Liatris microcephala** ly-AY-triss my-kro-SEF-uh-luh (6–8, 8–5)  
**L. spicata** L. spy-KAY-tuh (3–11, 11–1)  
**Lupinus arboreus** loo-PYE-nus ar-BOR-ee-us (8–9, 9–8)  
**L. polyphyllus** L. pah-lee-FIL-lus (5–8, 8–5)  
**L. texensis** L. teks-EN-sis (0–0, 9–5)

## M-R

- Miscanthus sinensis** miz-KAN-thus sy-NEN-siss (4–9, 9–1)  
**Myriophyllum aquaticum** meer-ee-o-FIL-lum uh-KWAT-ih-kum (6–11, 12–6)  
**Myrtus communis** MUR-tus com-YOON-iss (9–11, 12–1)  
**Nelumbo lutea** neh-LUM-bo LOO-tee-ah (4–11, 12–3)  
**N. nucifera** N. new-SIH-fer-uh (4–11, 12–3)  
**Nymphaea caerulea** nim-FEE-uh see-ROO-lee-uh (10–13, 12–7)

- Olneya tesota** ol-NAY-uh teh-SO-tuh (9–10, 10–9)  
**Parkinsonia florida** park-in-SO-nee-uh FLOR-ih-duh (9–11, 12–10)  
**Pennisetum alopecuroides** pen-ih-SEE-tum al-o-pek-yew-ROY-deez (6–9, 9–6)  
**P. orientale** P. or-ee-en-TAH-lee (4–9, 9–1)  
**Penstemon ambiguus** PEN-steh-mon am-BIG-yew-us (4–9, 9–1)  
**P. pinifolius** P. pin-ih-FO-lee-us (4–10, 10–1)  
**Petalostemon purpureus** peh-tal-O-steh-mon per-PER-ee-us (6–11, 12–9)  
**Picea glauca 'Conica'** PY-see-uh GLAW-kuh (2–7, 7–2)  
**Prosopis glandulosa** pro-SO-piss gland-yew-LO-suh (8–11, 12–7)  
**Robinia x ambigua** row-BIN-ee-uh am-BIG-yoo-uh (6–10, 10–7)  
**R. neomexicana** R. nee-o-mex-ih-KAN-uh (9–11, 12–9)  
**R. pseudoacacia** R. soo-doh-uh-KAY-shuh (4–9, 9–3)

## S-Z

- Schima argentea** SKEE-muh ar-JEN-tee-uh (6–10, 10–6)  
**Senna alata** SEH-nuh ah-lah-tuh (11–12, 12–10)  
**S. didymobotrya** S. did-ee-moh-BOT-ree-uh (14–15, 12–10)  
**S. hebecarpa** S. hee-bee-KAR-puh (3–9, 10–4)  
**S. marilandica** S. mair-ih-LAN-dih-kuh (4–9, 9–1)  
**Serissa foetida** SAIR-iss-uh FEE-tih-duh (11–15, 12–10)  
**Sophora secundiflora** so-FOR-uh seh-kun-dih-FLOR-uh (7–11, 12–7)  
**Thymus pseudo-lanuginosus** TY-mus soo-doh-lah-noo-jih-NO-sus (7–11, 10–7)  
**Ulmus parvifolia** UL-mus par-vih-FO-lee-uh (5–9, 9–5)

## A Ground Cover Tapestry

by Carole Ottesen

A GROUND COVER composed of plants with mounded habits and varying leaf forms creates a rich textural effect in this sun-and-shade garden. The dark green leaf trios of woodland strawberry (*Fragaria vesca*), broad, smooth-edged leaves of variegated hosta (*Hosta* 'Fortunei Albomarginata'), and the finely-cut foliage of cranesbill (*Geranium himalayense*) are different enough in shape and habit to create controlled chaos, but are similarly low-growing. Common foxglove (*Digitalis purpurea*) adds its own low-growing rosette of quilted foliage, but its tall spike of pink flowers lifts this combination up and into the third dimension. 🌿

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

**Foxglove** (*Digitalis purpurea*), a biennial, grows to five feet tall and bears pink flowers in May and June. Grow in full sun to part shade in moist, well-drained soil. (USDA Zones 4–8, AHS Zones 9–1)

**Woodland strawberry** (*Fragaria vesca*), a perennial, grows to a foot tall. White spring flowers are followed by red fruits. Grow in part shade. (Zones 5–9, 10–9)

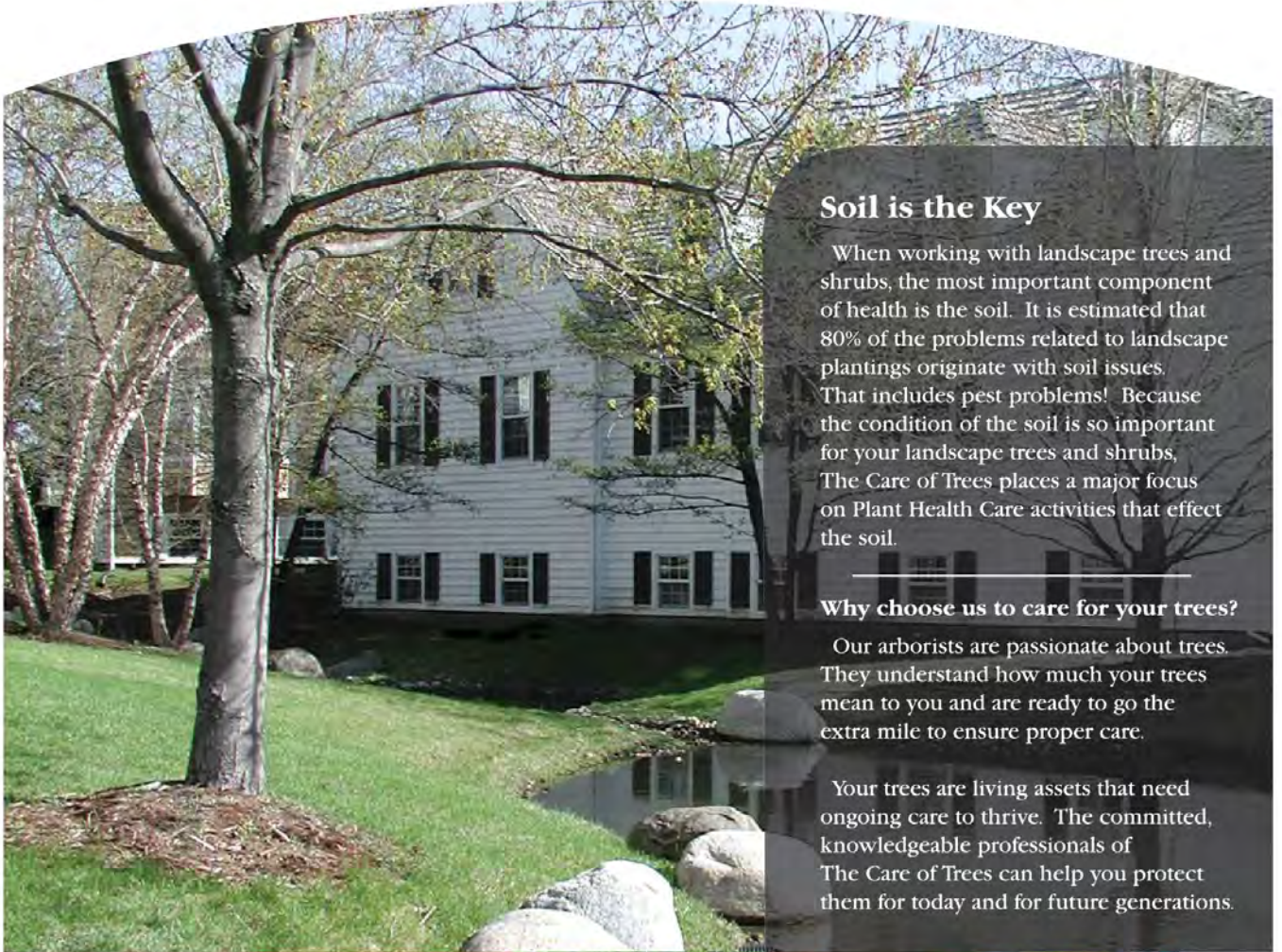
**Cranesbill** (*Geranium himalayense*), a shade- and drought-tolerant perennial, grows to 15 inches tall and wide. Blue flowers appear from May to September. (Zones 3–8, 7–1)

**Hosta 'Fortunei Albomarginata'**, a perennial, has lavender blooms in July and August. Grows to 18 inches tall. Tolerates drought and grows well in part shade. (Zones 3–9, 8–1)



KEN MEYER

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