

The American GARDENER®

The Magazine of the American Horticultural Society

July / August 2017



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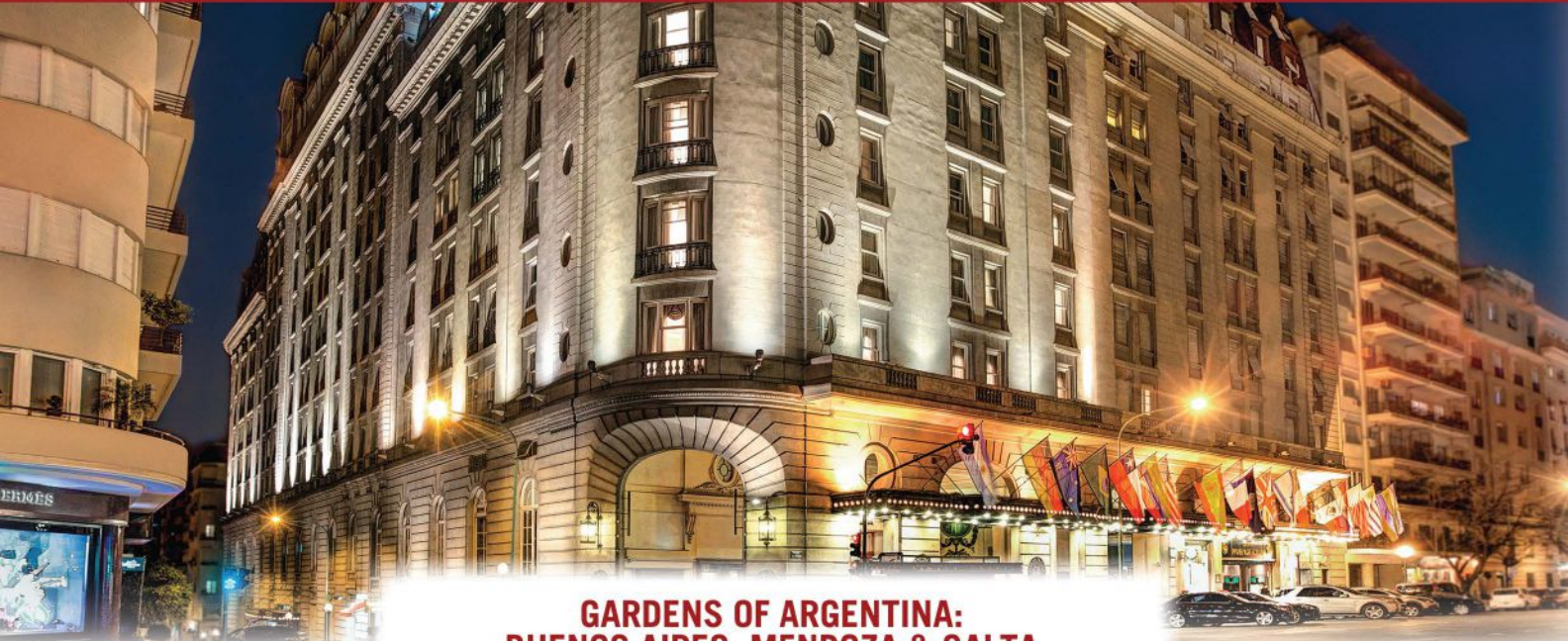
All-American Poppies

Bold-Leaved Perennials

Native Plants with Herbal Pastes



AMERICAN HORTICULTURAL SOCIETY TRAVEL STUDY PROGRAM UPCOMING TOUR SPOTLIGHT



GARDENS OF ARGENTINA: BUENOS AIRES, MENDOZA & SALTA October 30–November 8, 2017

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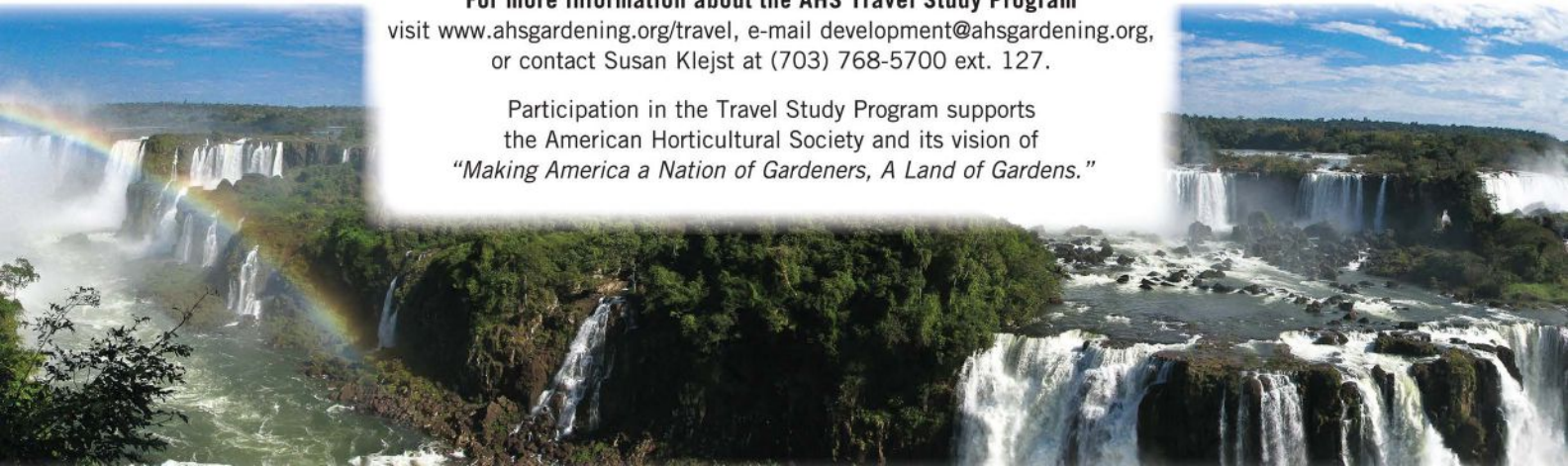
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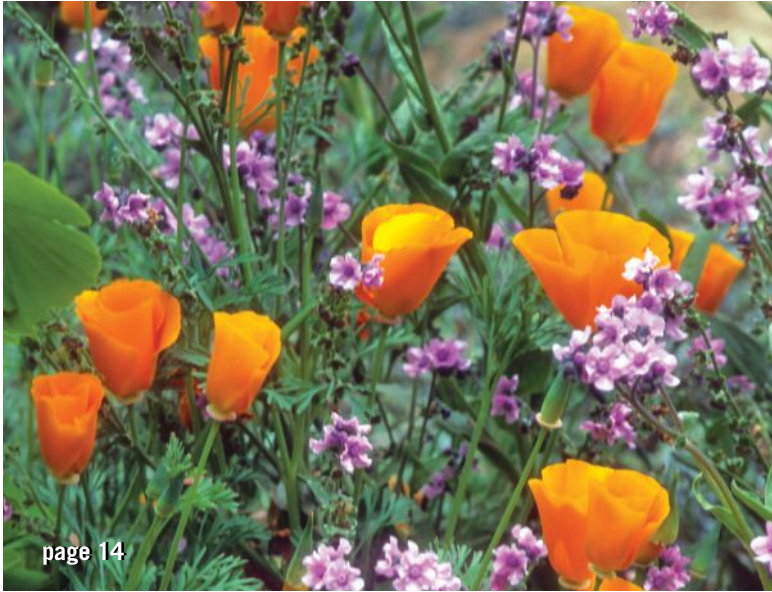
Participation in the Travel Study Program supports the American Horticultural Society and its vision of *“Making America a Nation of Gardeners, A Land of Gardens.”*



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Photograph courtesy of Tobias von Trapp

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NOTES FROM RIVER FARM

OVER THE last few months, a committee headed by our Board of Directors Chair, Amy Bolton, has conducted an exhaustive national search for the American Horticultural Society's next leader. I'm so pleased to share the news that in October, Beth Tuttle will become the 33rd president in the AHS's 95-year history! She has an outstanding professional background that includes more than 25 years of experience as a nonprofit leader, organizational consultant, and brand strategist. She is also a Master Gardener with a lifelong passion for plants and nature. You can read more about Beth's background on page 8. Until she officially joins us at River Farm this fall, I will stay on as Interim Executive Director.

Another role I play for the Society is chair of the awards committee, which presides over the AHS's national awards program. In this capacity, one of my favorite events is our annual Great American Gardeners and Book Awards Ceremony, held at our beautiful national headquarters at River Farm in June. It's always an inspiring and emotional evening, during which we honor the year's recipients of our awards. For me, meeting these people and celebrating all the phenomenal work they are doing with plants reaffirms how vital horticulture is to our world.

I felt this particularly strongly when hearing from William A. McNamara of Quarryhill Botanical Garden in California. He is the 2017 recipient of the Liberty Hyde Bailey Award, the AHS's highest honor, which is given in recognition of lifelong contributions to horticulture. William has spent decades painstakingly researching temperate Asian flora. In the process, he has been instrumental in finding, documenting, and conserving countless species before they are lost to climate change and habitat destruction. Now we are seeking nominations for our 2018 awards, so please turn to page 11 or visit www.ahsgardening.org/awards to find out how to nominate your horticultural heroes.

The end of June saw me in Connecticut for this year's AHS President's Council trip. Each garden and nursery we visited was breathtaking in its own way, especially Hollister House Garden, which is incredibly well designed. If you're looking for ideas for travel destinations, I highly recommend this horticulturally rich area of the country.

Or you might consider an excursion to Vermont after reading our article in this issue about the von Trapp Greenhouse and its spectacular garden on page 20. You'll also find plenty of inspiration for your own garden with articles on big-leaved plants, American natives in the poppy family, and herbal perennials with American roots. And if you're feeling the heat and looking for a cooling summer project, consider the article on how to create a water garden in a stock tank.

Happy gardening,

Holly H. Shimizu
Interim Executive Director



Holly Shimizu with William A. McNamara at the June awards ceremony at River Farm.

The American GARDENER

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INSTAGRAM:

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■ Enjoy photos from our travels around the U.S., along with year-round views of the gardens at River Farm, our headquarters in Virginia.



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■ View images from our national events and get a look at River Farm's grounds through the seasons.



Join the Conversation!

MEMBERS' FORUM

YELLOWWOOD VS. WOODPECKER

I enjoyed the article about yellowwood in the May/June issue. I had a beautiful yellowwood, but after it had bloomed one glorious year, it was killed by the repeated visits of a yellow-bellied sapsucker. How do I humanely protect my trees from this woodpecker?

*Eva Pratt
Inman, SC*

Editor's note: As soon as you notice holes created by this migratory bird, wrap the affected part of the tree in hardware cloth or burlap to discourage further damage. You can also hang aluminum pie pans or commercially available bird deterrents on the tree to scare the bird away.

ROSE RAMBLINGS

In "Beguiling Climbing Roses" (May/June 2017), the discussion of ramblers and climbers could use revision and expansion. Ramblers are derived from many species, not just *Rosa multiflora*. The major historical cultivars were bred from *R. luciae*, *R. sempervirens*, *R. setigera*, *R. multiflora*, and the musk roses. And many *R. multiflora* hybrids are not ramblers. " Rambler" indicates a growth habit rather than a lineage.

It would be better to think of ramblers this way: They are part of the wide spectrum of climbing roses. They have thinner, more flexible canes and tend to grow taller than other climbers. And the distinction between climbers and ramblers belies the fact that many climbing roses fall in the middle of the pack when it comes to cane characteristics. All ramblers are climbers then, but not all climbers are ramblers. Any definition not based on growth habit and context runs the risk of becoming arbitrary and not helpful as a descriptive label.

Some clarification on the role of rose prickles (usually referred to as thorns) is also due. They offer no meaningful support to a rose growing into a tree or shrub. Other factors, such as flexible canes that tangle into branches, play a far larger role. Hence many nearly thornless species and varieties climb into trees without human intervention.

Also, the photo labeled as 'Aloha' rose on page 36 is incorrect. The 'Aloha' described in the article, the one used by David Austin to create the Leander Hy-



The rose incorrectly labeled as 'Aloha' on page 36 in the May/June issue, top, is 'Aloha Hawaii'. The real 'Aloha' is shown above.

brids, is entirely pink. There is no yellow or apricot. The rose pictured appears to be a variety bred in Germany by Kordes called 'Aloha Hawaii'.

*Ben Whitacre
Lynchburg, VA*

CORRECTION

In the article about Brie Arthur in the May/June 2017 issue, the caption on page 21 for a group photo from the 2015 Monticello Heritage Harvest Festival misspells Peggy Cornett's name.

WRITE US! Address letters to Editor, *The American Gardener*, 7931 East Boulevard Drive, Alexandria, VA 22308. Send e-mails to editor@ahsgardening.org (note Letter to Editor in subject line). Letters we print may be edited for length and clarity.



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RIVER FARM The AHS headquarters at River Farm is open 9 a.m. to 5 p.m. weekdays year-round (except Federal holidays), and 9 a.m. to 1 p.m. Saturdays from April through September. For information about events, rentals, and directions, visit the About River Farm section of www.ahsgardening.org.

TRAVEL STUDY PROGRAM Visit spectacular private and public gardens around the world through the Society's acclaimed Travel Study Program. For information about upcoming trips, call (703) 768-5700 ext. 127, e-mail development@ahsgardening.org, or visit the Gardening Programs section of www.ahsgardening.org.

WEBSITE: www.ahsgardening.org The AHS website is a valuable source of information about the Society's programs and activities. Users must set up a username and password to access the member's-only sections.

News from the AHS

July / August 2017

PROGRAMS • EVENTS • ANNOUNCEMENTS

NEW AHS PRESIDENT AND CEO NAMED

FOLLOWING A national search, **Beth Tuttle** has been named the next President and CEO of the American Horticultural Society (AHS). Tuttle will officially join the AHS on October 30 after wrapping up her commitments as President and CEO of DataArts, a Philadelphia-based national resource for in-depth data on cultural nonprofit organizations.



Beth Tuttle will join the AHS in October.

“Beth has exceptional leadership experience from her work in cultural, educational, and advocacy organizations, as well as a personal passion for gardening and the natural world, so we are thrilled to have her join us,” says **Amy Bolton**, Chair of the AHS Board of Directors. “She arrives at a pivotal time for this organization, when our mission of getting more Americans to actively embrace their connection with plants and the environment is increasingly important for human and planetary health.”

Prior to DataArts, Tuttle was managing director of METStrategies, LLC in Alexandria, Virginia, which provides strategic counsel, planning, and branding services to cultural, philanthropic, and social benefit organizations. She also has served as deputy director and chief of external relations and planning for the Smithsonian's Hirshhorn Museum and Sculpture Garden in Washington, D.C., and as senior vice president for communications for The Freedom Forum and Newseum, also in Washington, D.C. Tuttle is a certified Master Gardener volunteer who helped establish a garden at a middle school in Alexandria, Virginia.

“I believe in the essential role that gardeners of all ages and walks of life play in creating healthy, livable communities,” says Tuttle, “and I am excited to have this opportunity to advance their efforts with the rich horticultural resources and sound scientific information that have been the AHS's hallmark.”

Holly H. Shimizu, who has been serving as Interim Executive Director during the national search process for the AHS's new leader, will continue in that role through the end of October.

Seed-Saving Time



When the garden starts going to seed, that's a good thing, especially for AHS members. It means it's time to collect some to send in to the AHS Members-Only Seed Exchange. Those who donate seeds to the program get first pick of the entire catalog of seeds on offer next January. The deadline to send in seeds is November 1. Look for more details and a submission form in the September/October issue of this magazine.

HONORING GREAT AMERICAN GARDENERS AWARD WINNERS AND SEEKING NOMINATIONS FOR 2018

ON JUNE 8, the AHS presented the 2017 Great American Gardeners Awards at its River Farm headquarters in Alexandria, Virginia. These awards, which the Society has presented since the 1950s, recognize outstanding achievements in various horticultural fields such as landscape design, plant breeding, and teaching.



Allen Bush, 2017 recipient of the Paul Ecke Jr. Commercial Award, with AHS Interim Executive Director Holly H. Shimizu, left, and AHS Board Chair Amy Bolton, right, at River Farm in June.

“These individuals, businesses, and organizations represent American gardening at its best,” says **Holly H. Shimizu**, chair of the AHS awards committee and Interim Executive Director, “and each has helped the Society fulfill its vision of ‘Making America a Nation of Gardeners, a Land of Gardens.’”

The Society also honored five recipients of the AHS Book Award. This award has been presented since 1997 to exceptional books that are relevant to American gardeners.

Nominations are now being accepted for the 2018 Great American Gardeners Awards. For more details about the award categories and how to submit nominations, please see page 11.

GARDEN GALA IN SEPTEMBER

THE AHS’s annual Gala will take place on September 23 at its River Farm headquarters in Alexandria, Virginia. The **Honorable Donald S. Beyer, Jr.** and his wife, **Megan Beyer**, will be the honored guests at this black-tie-optional event, which this year is themed, “America’s Garden Legacy: From Sea to Shining Sea.”



Donald S. Beyer, U.S. Representative for Virginia’s 8th District, with his wife, Megan Beyer

The evening will feature an elegant dinner in the gardens and a silent auction. Proceeds from the gala support the stewardship of River Farm and the Society’s outreach programs. For more information about the gala, including advertising and sponsorship opportunities, call (703) 768-5700 ext. 127 or visit www.ahsgardening.org/gala.

Gifts of Note

In addition to vital support through membership dues, the American Horticultural Society relies on grants, bequests, and other gifts to support its programs. We would like to thank the following donors for gifts received between May 1 and June 30, 2017.

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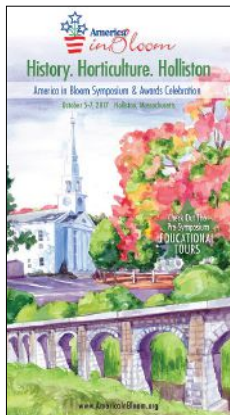
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AMERICA IN BLOOM SYMPOSIUM COMING TO MASSACHUSETTS

AMERICA IN BLOOM (AIB) holds a friendly annual competition for communities across the country, designed to encourage beautification through plants and gardens. Winning towns and cities are announced at the AIB Symposium and Awards Celebration, for which the AHS has been a sponsoring organization for several years. This year's event will take place October 5 to 7 in Holliston, Massachusetts, where participants will enjoy presentations and tours pertinent to beautification efforts. Excursions include a walking tour of historic Holliston and a visit to the iconic Mount Auburn Cemetery in Cambridge. For more information or to register, visit www.americainbloom.org. Early registration ends September 8.



AHS NATIONAL EVENTS CALENDAR

Mark your calendar for these upcoming events that are sponsored or co-sponsored by the AHS. Visit www.ahsgardening.org or call (703) 768-5700 for more information.

- AUG. 5. **Tree Fest.** River Farm, Alexandria, VA. (AHS partner event.)
- SEPT. 5–15. **Gardens of Genoa, the Italian Riviera & Florence.** AHS Travel Study Program.
- SEPT. 23. **AHS Annual Gala.** River Farm, Alexandria, VA.
- OCT. 5–7. **America in Bloom Symposium and Awards Program.** Holliston, MA. (AHS partner event.)



- OCT. 12–26. **9th Annual AHS Online Auction.** National.
- OCT. 30–NOV. 8. **Gardens of Argentina: Buenos Aires, Mendoza & Salta** (with optional post-tour to Iguaza Falls, Nov. 8–10). AHS Travel Study Program.
- DEC. 1–22. **Indoor Holiday Display.** River Farm, Alexandria, VA.
- DEC. 9. **Holiday Open House.** River Farm, Alexandria, VA.

2018

- JAN. 6–28. **Gardens, Wine & Wilderness: A Tour of New Zealand.** AHS Travel Study Program.

COALITION OF AMERICAN PLANT SOCIETIES ANNUAL MEETING

THE COALITION of American Plant Societies (CAPS) meets annually to share ideas about increasing public awareness of plant societies. This year's meeting, jointly coordinated by the American Dahlia Society and the American Horticultural Society, took place on May 17 and 18 at the headquarters of Ball Horticultural Company in West Chicago, Illinois. **Anna Ball**, president & CEO of Ball Horticultural, welcomed the group, which also received a tour of the company's seed processing facilities. Authors **Shawna Coronado** and **Maria Zampini** gave presentations, as did **Tom Underwood**, executive director of the Friends of Birmingham Botanical Gardens in Alabama. This garden in Birmingham will host the 2018 CAPS meeting.

TREE CELEBRATION EVENT AT RIVER FARM

ON AUGUST 5 at River Farm, the AHS will host Tree Fest, the final event for the TREE Fund's 2017 Stihl Tour des Trees bicycle race. From 9 a.m. to 12:30 p.m., the community is invited to cheer on the Tour riders and celebrate all things trees. In addition to family-friendly crafts and demonstrations, Toronto arborist and veteran Tour cyclist **Warren Hoselton**, aka **Professor Elwood Pricklethorn**, will give an interactive presentation for kids. He



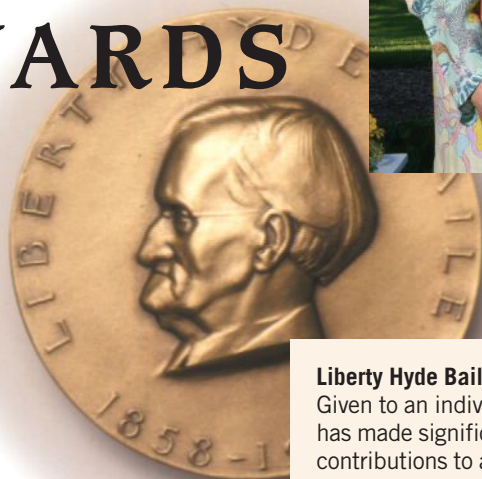
Toronto-based arborist Warren Hoselton, in his persona as Professor Elwood Pricklethorn, shows a group of kids how to plant a tree.

will explain how trees grow, where and how to plant a tree, and how to care for trees in the world. There also will be a ceremonial planting of a Liberty Tree, a tulip poplar propagated from the last surviving Liberty Tree of the Revolutionary War that was felled in 1999 in Annapolis, Maryland. For further details, visit www.ahsgardening.org/treefest. To find information about all Tour des Trees events, go to www.stihltourdestrees.org.

News written by AHS staff.

Call for Nominations

AMERICAN HORTICULTURAL SOCIETY 2018 GREAT AMERICAN GARDENERS AWARDS



2017 Emerging Horticultural Professional Award recipient Brienne Arthur, center, with Interim AHS Executive Director Holly H. Shimizu, left, and AHS Board Chair Amy Bolton, right

It's an Honor...

Since 1953, the American Horticultural Society's Great American Gardeners Awards Program has recognized individuals and institutions that have made significant contributions to American horticulture. Nominations are now being accepted for 2018.

Nominate your "horticultural hero"—a memorable professor, a favorite garden book author, or the driving force behind an incredible community project.

For a nomination form and additional information, visit www.ahsgardening.org or call (703) 768-5700 ext. 121.

Nominations must be submitted by September 30, 2017.



Liberty Hyde Bailey Award

Given to an individual who has made significant lifetime contributions to at least three of the following horticultural fields: teaching, research, communications, plant exploration, administration, art, business, and leadership.

H. Marc Cathey Award

Recognizes outstanding scientific research that has enriched the field of horticulture.

Paul Ecke Jr. Commercial Award

Given to an individual or company whose commitment to the highest standards of excellence in the field of commercial horticulture contributes to the betterment of gardening practices everywhere.

Emerging Horticultural Professional Award

Given in the early stages of an individual's career in recognition of significant achievements and/or lead-

2018 AWARDS

ership that have advanced the field of horticulture in America.

Landscape Design Award

Given to an individual whose work has demonstrated and promoted the value of sound horticultural practices in the field of landscape architecture.

Meritorious Service Award

Recognizes a past Board member or friend of the American Horticultural Society for outstanding service in support of the Society's goals, mission, and activities.

B. Y. Morrison

Communication Award
Recognizes effective and inspirational communication—through print, radio, television, and/or online media—that advances public interest and participation in horticulture.

Professional Award

Given to a public garden administrator whose achievements during the course of his or her career have cultivated widespread interest in horticulture.

Jane L. Taylor Award

Given to an individual, organization, or program that has inspired and nurtured future horticulturists through efforts in children's and youth gardening.

Teaching Award

Given to an individual whose ability to share his or her horticultural knowledge with others has contributed to a better public understanding of the plant world and its important influence on society.

Urban Beautification Award

Given to an individual, institution, or company for significant contributions to urban horticulture and the beautification of American cities.

AHS MEMBERS MAKING A DIFFERENCE: Lolly Tai

by Stephanie George

ROUGHLY HALF the world's population lives in urban areas that are devoid of nature, according to the United Nations. By 2050, the number is estimated to be near 70 percent. Numerous studies show that nature deprivation can have all sorts of negative impacts on human well-being, particularly for children growing up without access to green spaces. Increases in violence, depression, and physical health problems are among such impacts.

For landscape architect Lolly Tai, there's no doubt that "connecting to nature is important to every facet of our health." She believes that sustainably designed gardens offer an effective solution to the increasing lack of nature in urban areas. She champions this message through her design work, her books, and in her role as a professor of landscape architecture at Temple University in Philadelphia, Pennsylvania.

MAGICAL PLACES FOR EDUCATION AND EXPLORATION

Both before and after emigrating to Queens, New York, from Taiwan at the age of nine, Tai spent many hours exploring her family's backyard. This sparked her life-long passion for plants and nature and played a large role in her path to landscape architecture. "I have always had an appreciation for the natural world," she says. "So for me, it's never like work."

Children's relationships with gardens became a greater focus of her work when she got involved with a schoolyard design for Clemson Elementary in South Carolina several years ago. During the research phase of the project, she discovered "there was really nothing out there" about designing children's gardens and natural play areas.

This realization resulted in the idea for her first book, *Designing Outdoor Spaces for Children: Landscaping School-*



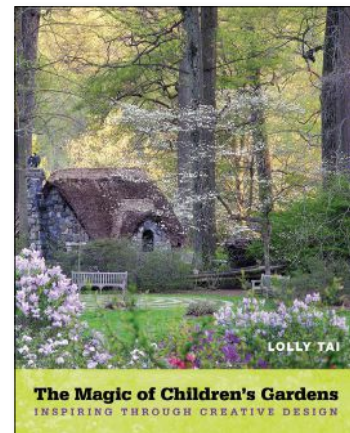
yards, Gardens, and Playgrounds, which she coauthored with three other landscape architects. Published in 2006, it has become a seminal handbook for landscape designers and educators.

Tai's recently published second book, *The Magic of Children's Gardens: Inspiring through Creative Design*, explores the relationships between design, children's development, and environmental stewardship. Each of the 19 innovative children's gardens profiled—including the one at the headquarters of the American Horticultural Society (AHS) in Alexandria, Virginia—"has something special about it," she says. She hopes the book will "inspire people to build their own rewarding relationships with nature."

VALUING NATURE

While gardens can be magical places for

young people to "get healthy and engaged with nature," Tai thinks they can serve a broader purpose of encouraging kids to value and protect the environment. Whether she's teaching others or creating her own designs, she emphasizes using natural elements such as water and structures made

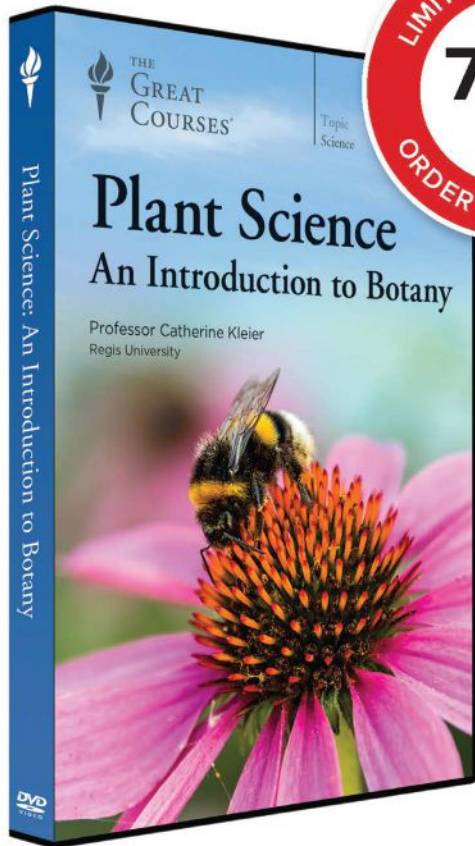


Landscape architect Lolly Tai is the author of *The Magic of Children's Gardens*, published this year.

of wood and stone to prompt teachable moments about environmental issues such as resource conservation. Tai believes that momentum for creating these kinds of inspiring green spaces is growing in part because "the AHS and many other organizations are focusing on children and environmental issues," she says.

She especially enjoys attending the AHS's annual National Children & Youth Garden Symposium, which she feels is "an invaluable resource for learning and sharing ideas with others." In fact, at this year's symposium in the Pacific Northwest, she will be giving a talk on designing children's gardens using concepts discussed in her new book. When she returns home, she's looking forward to seeing where her love of nature will take her next.

Stephanie George is an editorial intern for The American Gardener.



Explore the Ever-Surprising World of Plants

Science tells us that proximity to plants tends to make us happy, even if we don't notice. And of course, without plants, we wouldn't even be here. Not only do plants produce oxygen, they also produce their own food—the food that directly or indirectly supports us and all animal life on the planet.

In *Plant Science: An Introduction to Botany*, Dr. Catherine Kleier invites us to open our eyes to the phenomenal world of plant life and to the process she calls “Natura Revelata”: the joy of celebrating and learning from the secrets of nature. As Dr. Kleier shares her knowledge with contagious excitement for her subject, she stresses the basic biology, function, and the amazing adaptations of the plants we see all around us. With almost 400,000 known species and thousands more identified every year, the variety of plant life is almost overwhelming. In this course, you will learn about the latest discoveries regarding plant communication, the myriad ways they manage and shape their own environments, and why botanists are still debating what it really means to be a unique species.

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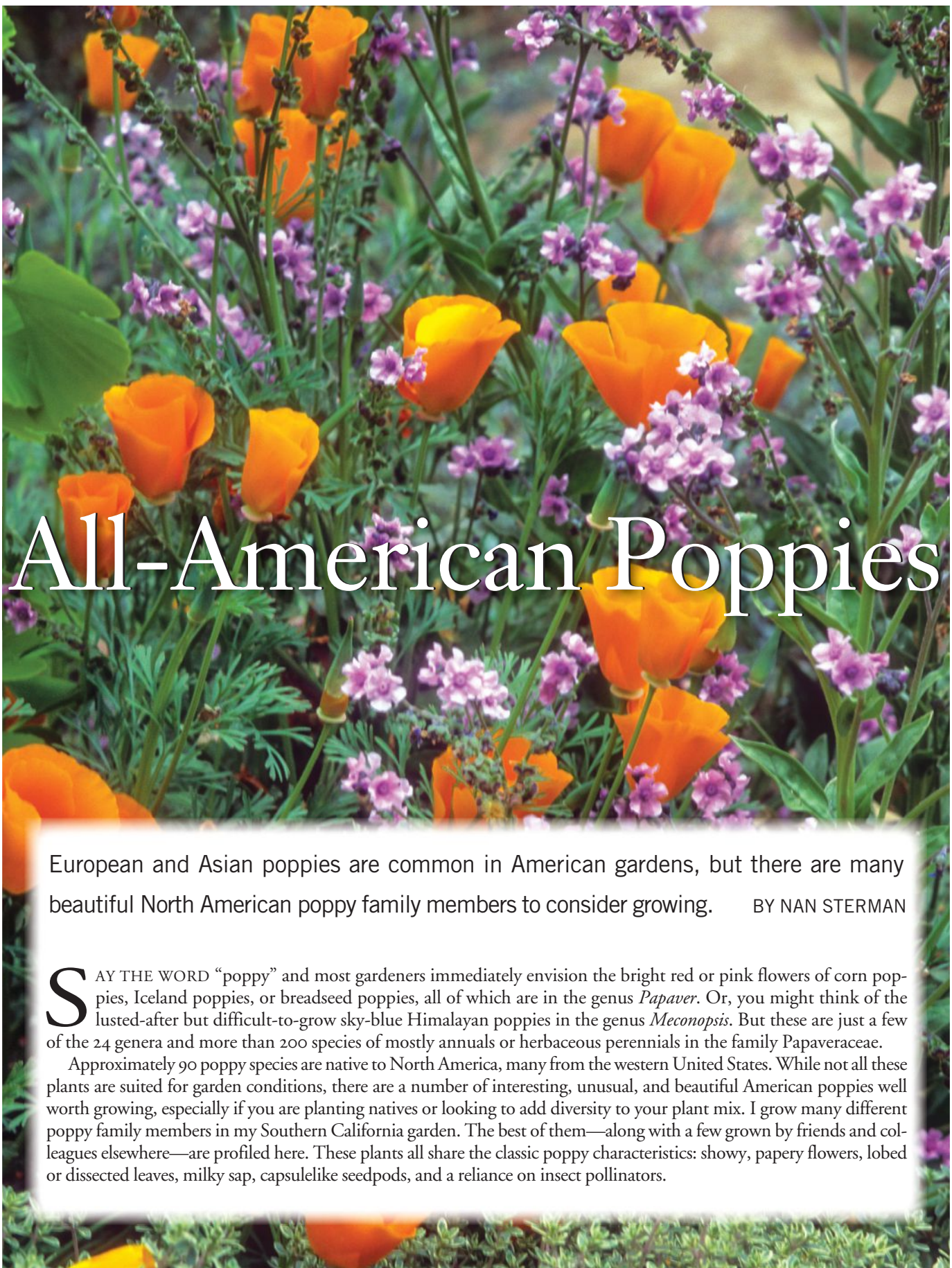
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All-American Poppies

European and Asian poppies are common in American gardens, but there are many beautiful North American poppy family members to consider growing. BY NAN STERMAN

SAY THE WORD “poppy” and most gardeners immediately envision the bright red or pink flowers of corn poppies, Iceland poppies, or breadseed poppies, all of which are in the genus *Papaver*. Or, you might think of the lusted-after but difficult-to-grow sky-blue Himalayan poppies in the genus *Meconopsis*. But these are just a few of the 24 genera and more than 200 species of mostly annuals or herbaceous perennials in the family Papaveraceae.

Approximately 90 poppy species are native to North America, many from the western United States. While not all these plants are suited for garden conditions, there are a number of interesting, unusual, and beautiful American poppies well worth growing, especially if you are planting natives or looking to add diversity to your plant mix. I grow many different poppy family members in my Southern California garden. The best of them—along with a few grown by friends and colleagues elsewhere—are profiled here. These plants all share the classic poppy characteristics: showy, papery flowers, lobed or dissected leaves, milky sap, capsulelike seedpods, and a reliance on insect pollinators.

CALIFORNIA POPPY

The best-known American poppy is undoubtedly California poppy (*Eschscholzia californica*, USDA Hardiness Zones 8–10, AHS Heat Zones 10–1), which is California’s official state flower. The poppies’ ferny, gray-green leaves form a basal rosette six to 24 inches across. Flower stalks rise from the center of the rosette, each stalk topped by a single, pointed green bud that opens to reveal four, furred, golden-orange

annuals. Everywhere, they reseed enthusiastically. California poppy seeds can stay dormant in the soil for many years, then burst into massive blooms, sometimes in unexpected places. (Read about one impressive example in a web special linked to this article at www.absgardening.org.)

In gardens, California poppies thrive in open, sunny areas with lean soils that drain well. Without periodic irrigation, poppies bloom, then fade into dormancy



Easy to identify by its distinctive “fried egg” flowers, Matilija poppy thrives in this mixed border, above. Opposite: The bright orange petals of California poppies are just beginning to unfurl in this planting with the forget-me-not selection ‘Rosea’.

petals. While the classic bright orange of the straight species is stunning, selections ranging from white to pink to purple are readily available.

California poppy’s common name understates its wider native range—from southern Washington to southern Baja, Mexico; and from California’s Channel Islands west of the mainland, east to Nevada, Arizona’s Sonoran desert, and New Mexico. Where there’s enough moisture, these poppies grow as short-lived, summer-dormant perennials. In drier areas—and in temperate regions like the Northeast—they grow as

before summer’s heat. In regions with summer precipitation like at the Denver Botanic Garden in Colorado, Senior Curator Panayoti Kelaidis reports they “are extraordinarily xeric. We get just enough

USDA Hardiness and AHS Heat Zones are included with the plants listed in this article, but these are very rough guidelines at best. For western species, Sunset Climate Zones at www.sunset.com may provide more specific guidelines.

rain that the plants don’t dry out for a long time,” he says.

Overseed California poppies into a grassy meadow or sparsely planted garden bed. In a new garden, fill bare soil with California poppies while larger plants grow in. In mild winter regions, seed poppies in fall and early winter for spring blooms. In temperate regions, sow seeds in early spring, just before the last frost date for midsummer blooms.

If you live near a natural poppy population, plant either locally collected seeds or don’t plant these poppies at all, advises poppy expert Curtis Clark, professor emeritus of California Polytechnic University in Pomona. Seeds from elsewhere, he says, have a different genetic makeup. When they cross-pollinate with native poppies, they weaken the native population. That, says Clark, “can result in the entire (native) population at that site being lost.”

California poppies are considered weedy in some areas outside their native range; check with your local Cooperative Extension service or National Resource Conservation Service field office before planting.

MATILIJ POPPY

Without a doubt, the biggest and showiest native poppy is Matilija poppy (*Romneya coulteri*, Zones 6–10, 10–6), aka fried egg plant. Its stout stems emerge in late winter and grow quickly to seven or eight feet tall, lined with lobed, blue-green leaves. In early spring, stem tips develop five or six marble-sized buds that begin opening in April. Each bud reveals stark white, papery petals that expand to six or eight inches across with a bright yellow center. Carol Bornstein, director of the Nature Gardens at the Natural History Museum of Los Angeles County, likens their fragrance to that of fresh apricots.

These poppies are native to lean, porous soils in Southern California’s gravelly washes, canyons, chaparral, and coastal sage scrub habitats. Under the harsh conditions of the wild, the spread of the plants via their rhizomes—underground stems—is likely limited by the lack of moisture. In irrigated gardens, however, shoots often emerge many feet away from the mother plant, especially in lawns and irrigated beds. One plant can eventually form a thicket eight to 10 feet in diameter.

Attentive gardeners can simply pull out the happy wanderers, but it’s less work to

Resources

California Native Plant Society, www.cnps.org.

California Native Plants for the Garden by Carol Bornstein, David Fross, and Bart O'Brien. Cachuma Press, Los Olivos, CA, 2005.

Native Treasures: Gardening with the Plants of California by M. Nevin Smith. University of California Press, Berkeley, CA, 2006.

Sunset Western Garden Book, Kathleen Norris Brenzel, editor. Sunset Publishing, New York, NY, 2012.

Sources

Annie's Annuals & Perennials, Richmond, CA. www.anniesannuals.com.

Digging Dog Nursery, Albion, CA. www.diggingdog.com.

Forestfarm at Pacifica, Williams, OR. www.forestfarm.com.

High Country Gardens, Santa Fe, NM. www.highcountrygardens.com.

Las Pilitas Nursery, Santa Margarita, CA. www.laspilitas.com.

Seedhunt, Freedom, CA. www.seedhunt.com.



The burnt-orange flowers of wind poppies bloom on wiry stalks above a basal rosette of foliage. These dainty poppies thrive in part shade, and in the wild are often found growing among native grasses in scrubby woodland settings.

relegate Matilija poppies to steep hillsides or the back forty. To control the plants' spread, encircle new plants with a 12 inch (or more) deep, six-foot-diameter root barrier and stop watering after plants are established, which takes about two years. After that, these xeric poppies require only rainfall. Because spent flower stalks can look ragged later in the year, I prune them down to about six inches in late summer or early winter. The best time to prune is after the seedpods brown but before spring growth begins.

In California, plant Matilija poppies from one-gallon containers in the cool months of fall and winter. In other regions, wait until the soil thaws in early spring. Choose a spot in full sun with free-draining soil. Water the plant in its pot and allow it to drain. Dig the planting hole as deep as the nursery container is tall and slightly wider. Matilija poppies have very fragile roots, so lay the container on its side and gently cut out the bottom with a razor knife or sharp pruning shears. Use your hand to support the bottom of the root ball as you carefully upright the plant and set it into the hole. Slit down the sides of the pot, then peel away the pieces; do not rough up the root ball. Refill the hole with soil and then water thoroughly before adding a layer of mulch.

In the Pacific Northwest, Matilija poppy grows readily in perennial gardens. Sean Hogan, owner of Cistus Nursery in Portland, Oregon, and a garden design consultant, told me that he has planted Matilijas as far north as Victoria, British Columbia. Given the successful cultivation of Matilija poppies in the United Kingdom and elsewhere in Europe, they should be candidates for gardens in temperate regions of the United States, too.

WIND POPPIES

Years ago, a friend brought me a gift of an unfamiliar poppy with two-inch, burnt orangy-red blooms atop tall, spindly stalks. We eventually identified the mystery poppy as a wind poppy (*Papaver heterophyllum*, syn. *Stylomecon heterophyllum*, Zones 8b–10b, 10–7). This species, which taxonomists recently reclassified to the genus *Papaver*, forms mounds of ferny green leaves that grow six to 18 inches tall. Wind poppies bloom in March and April, with a single row of stamens surrounding each flat flowers' white pistil.

Wind poppies are native to chaparral-covered slopes, grasslands, oak and foothill woodlands from California's Bay Area to Baja, Mexico, and thrive in sparsely vegetated areas in dappled sun or light shade with native grasses. Think oak understory.

Sadly, but not surprisingly, this poppy disappeared from my garden after a few years. Wind poppies are poor competitors, and my garden overflows with plants.

CREAMCUPS

The name alone makes you want to grow creamcups (*Platystemon californicus*, Zones 7–10, 10–7), which form tidy mounds less than a foot tall and half as wide. In early spring, each plant produces 25 to 50 flower stalks, each topped with a six-petaled, creamy white to pale yellow flower with matching colored brushy stamens in the center. "Its buds and furry leaves are just charming," says Bornstein, who considers it "one of the most beautiful annual wildflowers." Once summer's heat arrives, however, the plants go dormant.

Creamcups are native from Oregon to northern Baja, Arizona, Nevada, and Utah. They grow in open sunny spots with free-draining, sandy, rocky, or gravel-



Although short-lived, creamcups are worth growing for their ethereally beautiful flowers.

ly soils, typically in meadows and pinyon-juniper woodlands. To grow creamcups, you'll need to emulate those conditions—and live in a region where temperatures stay above 10 degrees Fahrenheit.

Hogan of Cistus Nursery says he has successfully seeded creamcups onto sunny, rocky scree sites as far north as Vancouver, British Columbia. In California, sow seeds

onto beds or in small pots in November or December. Seeds germinate and grow slowly, so transplant seedlings before winter rains end. Extend their bloom period with occasional deep watering.

BUSH POPPIES

Channel Island bush poppy (*Dendromecon harfordii*, Zones 7–10, 10–7) and mainland bush poppy (*D. rigida*, Zones 6–10, 10–6) are shrubby evergreens. These kindred species both have four lemon-yellow petals centered by a circular fringe of orange stamens enclosing a yellow pistil. Glaucous, blue-green leaves set off the bright flowers. The leaves line upright stems of surprisingly soft wood. Both species are fast-growing and beautiful.

Channel Island bush poppy is endemic to islands west of Southern California that are carpeted in chaparral and coastal sage scrub. In the wild, this poppy can grow up to 20 feet tall by eight feet wide; it stays smaller in cultivation, topping out at about eight to 10 feet tall and six to eight feet wide. Leaves are four or five inches long and elliptical. Ping-pong-ball-sized flowers appear on and off throughout the year, peaking in April and May.



With bright yellow flowers set off against blue-green foliage, Channel Island bush poppy is a good option for screening or an informal hedge.

GROWING HERBACEOUS POPPIES FROM SEED

Western herbaceous poppies are “sow and grow” plants that require only enough light and water to germinate. Pests are few, they don’t need fertilizer and, once sprouted, they grow with little or no irrigation.

Choose a wide, open, sunny site in the garden. Rake the soil to smooth it. Irrigate deeply a day or two before planting. Sow in fall to take advantage of winter rains. In regions with colder winters, sow them in early spring.

Because poppy seeds are small, mix one-part seeds with four-parts construction sand. Broadcast the mixture over the seedbed, then rake gently. Such tiny seeds barely need cover. When watering, use the “mist” setting on your hose attachment to gently moisten the seeds without washing them away. Continue to water gently but thoroughly once a week until seeds sprout. After that, water only if there is no rain for extended periods.

After the plants bloom, allow seedpods to develop. These will disperse their own seeds for the following year’s crop. —N.S.

Plant this poppy on slopes and hillsides, or as background shrubs in unirrigated beds. They grow best in free-draining soils and full sun along the coast, but some afternoon shade or dappled light is best in hotter inland gardens. Along the coast, irrigate monthly for the first summer or two; you may need to continue monthly irrigation in inland gardens.

The mainland bush poppy grows only three to 10 feet tall by two to eight wide. Its habitat is dry slopes from Baja north almost to California’s Mount Shasta. Its leaves are the same glaucous blue-green as its larger cousin, but narrow, pointed, and slightly toothed. Bornstein says that during their late-winter to spring bloom period, this poppy is “drop dead gorgeous.” Out of bloom, they are easy to mistake for a shrubby willow.

In gardens, mainland bush poppy tends to be more heat and drought tolerant than its relative. In rocky, clay slopes with excellent drainage, established plants need no irrigation. In sandier soils, they will tolerate deep, monthly irrigation. Hogan finds mainland bush poppy the more reliable choice for coastal Pacific Northwest gardens, although they won’t survive 20-degree-Fahrenheit winters.

Both bush poppies attract bees and other beneficial insects. After several years, both types can look a little ragged, so cut the branches back to about six inches from the base. New growth emerges quickly and plants recover within a season or two.

PRICKLY POPPIES

Prickly poppies (*Argemone* spp.) resemble shortened, slender Matilija poppies, with slightly smaller fried-egg flowers, and stems and leaves (and sometimes even the seedpods) covered with spiny prickles. This genus includes 32 species of annual poppies with a collective range that encompasses nearly every U.S. state. Only a few are commonly cultivated.

According to Kelaidis at Denver Botanic Gardens, three closely related *Argemone* species native to Colorado grow in the foothills and plains, where they bloom all summer. For simplicity, Kelaidis lumps them all under the aegis of flatbud prickly poppy (*A. munita*, Zones, 5–10, 10–3).

When the botanic garden constructed its first rock garden in 1980, Kelaidis says



the fill sand they brought in was evidently filled with prickly poppy seeds, which soon germinated. “I kept most of them,” he says, “because they were showy plants and they were free.” In his own large, unwatered garden, Kelaidis lets prickly poppies sow themselves. Their blooms, he says, lasts for months and months.

In California, prickly poppies colonize disturbed sites, sprouting from seeds that may have been dormant for decades, according to Bart O’Brien, botanic garden manager for the East Bay Regional Park District. He, too, regards prickly poppies as spectacular plants, but cautions that “like all poppies they want to be where they want to be, not where you want them to grow.” The bottom line is that these are plants best reserved for more naturalistic gardens.

Prickly poppies bloom spring through summer, depending on the species and their location. Flowers have four or six papery petals in white, cream, yellow, and sometimes lavender or



Gorgeous, papery flowers compensate for the spiny foliage of flatbud prickly poppy.



To set off its bright yellow flowers, celandine poppy is often paired with blue-flowered companions like Virginia bluebells (*Mertensia virginica*), as seen here in this woodland garden, where it forms a colorful groundcover in the dappled shade of early spring.

purple. A Texas native, *A. sanguinea*, bears burgundy-red flowers.

While flatbud prickly poppy is the most commonly available species, seeds of other prickly poppies are sometimes offered by local sources. Years ago I bought seeds of a variety that has deep green or blue-green foliage with stark white veins at a botanical garden in the desert and sprinkled them onto my garden's sandy soil. They return on their own, spring after spring.

CELANDINE POPPY

Celandine poppy (*Stylophorum diphyllum*, Zones 5–8, 8–1.) is a spring ephemeral native to moist woodlands in the Midwest and the eastern Appalachians. Early in the year, plants develop 12- to 18-inch-tall mounds of lobed, toothed leaves that are green on top and hairy gray-green below. Leafy, fuzzy flower stalks arise from the foliage, bearing clusters of equally fuzzy flower buds. These open in spring to reveal yellow to golden orange, four-petaled

blooms with a ring of golden stamens and prominent pistil at the center. The beautiful flowers are only an inch or two across. Plants go dormant in summer.

According to William Cullina, executive director of the Coastal Maine Botanical Gardens in Boothbay and author of several books on native plants, the blooms fade to fuzzy, pendant seedpods that split and drop large seeds, each with a fleshy, protein-rich structure called an eliasome. Ants carry seeds back to their nests to feed the eliasome to their young, in the process dispersing the seeds.

In the wild, celandine poppies grow with wildflowers such as trilliums (*Trillium* spp.) and meadow rues (*Thalictrum* spp.). Cullina particularly likes the combination of sunny yellow celandine poppies with brilliant blue-flowered Virginia bluebells (*Mertensia virginica*). Plant celandine poppies with these and other natives in rich, moist, free-draining soil. They do best in a site that gets dappled shade.

Cullina cautions against confusing the native celandine poppy with *Chelidonium majus*, an invasive European poppy that has the same common name. The European celandine has smaller flowers and upright seedpods.

LOOKING FURTHER AFIELD

These poppies are a good place to start, but there are many more possibilities for any adventurous gardener including Arizona poppy (*Kallstroemia grandiflora*), Mexican tulip poppy (*Hunnemannia fumariifolia*) and bear poppies (*Arctomecon* spp.). These all have relatively small native ranges and may be challenging to grow. But to me, finding and experimenting with new plants is part of gardening's allure. I suspect I'm not the only gardener who thinks that way.

Nan Sterman is a garden writer, designer, and host of the award-winning PBS television show "A Growing Passion." She lives in Encinitas, California.

a Crescendo of



The von Trapp garden abounds with contrasts from layers of perennials, annuals, grasses, and shrubs. Here, *Amsonia hubrichtii*, *Filipendula rubra* 'Venusta', and *Miscanthus sinensis* 'Huron Sunrise' provide height and fine texture, while *Crocsmia* 'Lucifer', *Allium sphaerocephalon*, *Rudbeckia fulgida* var. *sullivantii* 'Goldsturm', *Phlox paniculata* 'Becky Towe', and yellow daylilies (*Hemerocallis* sp.) contribute vivid color.

Summer Color



Reaching peak brilliance in the dog days of summer, the dazzling ornamental beds at a family-owned Vermont nursery offer design inspiration for gardeners everywhere.

BY CHARLOTTE ALBERS

PHOTOGRAPHS BY DENCY KANE

WITH VIEWS to the Green Mountains in northern Vermont's Mad River Valley, the von Trapp Greenhouse is both an award-winning retail nursery and garden destination. The greenhouse is known for offering a wide selection of perennials, annuals, herbs, and vegetables—all grown onsite from seeds, cuttings, and divisions. The nursery, which was recognized as Retailer of the Year in 2013 by the Vermont Nursery and Landscape Association, includes a lush, half-acre display garden designed to showcase unusual plant combinations and celebrate the changing beauty of the landscape.

In summer, the expansive mixed borders explode with color and texture created by eclectic combinations such as feathery pink, white, and red astilbe (*Astilbe japonica*) and pink queen of the prairie (*Filipendula rubra* 'Venusta') in bloom, punctuated by the bright blue blossoms of agapanthus (*Agapanthus* sp.) and mixed contain-



The setting for the von Trapp gardens incorporates scenic views of the Green Mountains, top, and a neighbor's iconic red dairy barn, above.

TOP: COURTESY OF TOBIAS VON TRAPP

ers filled with blue pansies (*Viola* spp.) and autumn fern (*Dryopteris erythrosora*). In another bed, tall, dark-leaved *Cordyline australis* ‘Black Knight’ mixes it up with purple coneflowers (*Echinacea purpurea*), *Baptisia australis* ‘Purple Smoke’, yellow daylilies (*Hemerocallis* sp.), and black-eyed Susans (*Rudbeckia fulgida* var. *sullivantii* ‘Goldsturm’). Elsewhere, pineapple sage (*Salvia elegans*) and purple kale (*Brassica oleracea* ‘Redbor’) mingle with blue fescue grass (*Festuca glauca*).

The von Trapp display garden has become a must-see for many gardeners living in or traveling to the Northeast. “They’ve set the bar high for all of us in the nursery trade,” says Sarah Salatino, owner of Full Circle Gardens, a perennial nursery in Essex, Vermont. “It’s one of the best display gardens in the state. The design skillfully includes mountain views into a garden setting, and it’s a great example of an easy-care garden in its maturity.”

MODEST BEGINNINGS

Tobi and Sally von Trapp started growing vegetables in 1980 on their homestead located on a former cow pasture, part of the family dairy farm in Waitsfield, Vermont, where Tobi grew up. “It’s in my genes,” he



Tobi and Sally von Trapp with granddaughter Lily, who shares their love of plants.

says. “Both of my grandfathers were big gardeners.” One of those grandfathers was also Georg von Trapp, an Austrian naval officer whose escape from Nazi persecution in 1938 with his musically gifted family was dramatized in *The Sound of Music*.

The von Trapps’ interest in growing vegetables soon inspired other plans for

their property. The couple began adding greenhouses and cold frames, and eventually they started selling plants they and their staff propagated at the nursery.

Tobi began working on the display gardens in 1992. In preparation for planting, he fortified the soil in a pasture field for about four years, tilling and replanting green manure cover crops of buckwheat and winter rye. Now, 37 years after the first vegetable garden, he has created an exuberant landscape that dazzles anyone who experiences it during peak bloom in summer. His goal was “to show that this level of beauty is accessible and doable in any backyard. I started with a small collection of plants and kept dividing, and eventually had a big inventory to work with.”

A RELAXED APPROACH TO DESIGN

So how did Tobi go about designing this stunning garden? “There was no plan,” he admits, adding, “I just set out hoses on the ground.” In this case, instinct and serendipity proved to be good partners.

A loosely symmetrical arrangement of beds flanking a central gravel path leads to a circular fountain built from local stone at one end and a latticed pergola at the op-



Large mounds of Hubricht’s bluestar (*Amsonia hubrichtii*), foreground, planted decades ago, are still thriving in the von Trapp garden.

posite end. Secondary paths allow visitors to get closer views of the beds. The soil excavated for the paths was added to the beds, giving them a raised contour.

When it came time to bring herbaceous plants into the picture, Tobi eyeballed locations, and set the plants out in drifts. Plants are not labeled because, he explains, he wants to “impact people on an emotional and spiritual level.” In fact, he has an unusual technique for visualizing his plantings. “When setting things out, I squint to blur my vision. That way, I’m seeing loose shapes of color and form,” he says.

The anchor plants are Tobi’s favorites—all of them tough American native species adaptable to the garden’s USDA Hardiness Zone 4/AHS Heat Zone 3 location with its high elevation and exposure to wind and winter cold. Among them are blue false indigo (*Baptisia australis*), black cohosh or bugbane (*Actaea*

This mixed pot of pansies and autumn fern and the large pot of agapanthus behind it add splashes of blue by the garden’s pergola.

simplex ‘James Compton’), and eastern bluestar (*Amsonia tabernaemontana*). These are combined with woody shrubs such as lilacs (*Syringa* spp.), panicle hydrangea (*Hydrangea paniculata*), and the ninebark (*Physocarpus opulifolius*) cultivar ‘Seward’ (Summer Wine®).

All these plants have proven to be durable and stellar performers. Clumps of blue false indigo are still vigorous two decades after being planted, and Hubricht’s bluestar (*Amsonia hubrichtii*) forms large, airy mounds throughout the beds, turning from green to gold as days shorten. Black cohosh and astilbe have also thrived and filled in around other plants.

A CHANGING PALETTE

Since the beginning, the garden has been a work in progress and a testament to lessons learned from trial and error. “We’ve experimented with just about everything you can imagine,” says Tobi. “If you combine the right plants, you can have plants that emerge early and then fade away as a second group of plants starts to grow.”

Here in northern New England, snow can persist on the ground until early May,





Top: Grouped together, containers of ferns, begonias, coleus, purple shamrock (*Oxalis* sp.), and other tender plants create the look of a garden bed but can be brought into a greenhouse in winter. **Above:** Containers of yellow lantana, dahlias, hostas, daylilies, and lady's mantle (*Alchemilla mollis*) help brighten the beds around the garden's stone fountain.

and the growing season is short, so Tobi uses a wide variety of plants. The peonies, baptisias, and irises of spring give way to the peak blooms of summer plants, with annuals such as zinnias, cleomes, and salvias continuing to shine into early fall.

Hydrangeas help extend the garden's dramatic display with blossoms that change color as they mature over a period of six to eight weeks. Midsummer standouts include 'Limelight' panicle hydrangea and Invincibelle Spirit ('NCHAI'), a relatively new cultivar of smooth hydrangea (*H. arborescens*) favored for its rosy hues.

Visiting the Garden

The von Trapp Greenhouse is located at 208 Common Road in Waitsfield, Vermont. (802) 496-4385. www.vontrappgreenhouse.com.

■ The greenhouse is an onsite retail nursery. It and the display gardens are open to the public from spring to early fall. Check the website for current hours of operation.

Similarly, 'Huron Sunrise' maiden grass (*Miscanthus sinensis*), a cold-hardy selection that is not invasive in northern climates, contributes height and fine texture to the borders all season, then produces showy burgundy flower plumes in late summer. In fall, the green leaves turn an attractive tan.

Agapanthuses, dahlias, and other frost-sensitive plants grown in containers are moved around to add visual interest where needed as the display beds change with the seasons. "I'll take annuals and punch them into openings," says Tobi. "I want as much color as I can get out there with the least amount of effort."

With something always to see from spring to fall, the von Trapp Greenhouse offers plenty of ideas for getting the most out of your garden, as well as encouragement to experiment with abandon. "The world needs more beauty," says Tobi. "I want to show how we might impact the little spaces we have and inspire people to become stewards of the land." 🌿

Charlotte Albers is a garden designer living in Shelburne, Vermont.

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Native Perennials *with* Pharmaceutical Pasts

More than just pretty faces, many native herbaceous perennials grown in our gardens today have rich histories as important medicinal plants.

BY RITA PELCZAR

FOR CENTURIES, Native Americans used a wide variety of indigenous plants to treat whatever ailed them. Early European settlers followed suit, learning medicinal uses for the unfamiliar flora they encountered either by trial and error—a risky business—or from the locals. This herbal lore passed from generation to generation until the advent of modern medicine about a century ago.

Before then, many native plants were grown in home gardens more for their

medicinal usefulness than their ornamental qualities. Several of these species still grace gardens across the country today, though many people don't realize the significant role they played in health and healing before alternative pharmaceutical options existed.

Many common perennials grown today for their ornamental value, such as magenta-flowered beebalm and purple coneflower (foreground), have rich medicinal histories.

Certain ornamental North American trees and shrubs have medicinal uses, but this article will focus on herbaceous perennials. The following are some of the most garden-worthy, widely available, and historically interesting among them (see the chart on page 31 for additional selections). Please note that how to use them as herbal remedies and their medicinal efficacy are not the focus of this article; it is intended to be informational rather than instructional.

COMMERCIALLY MARKETED HERBAL NATIVES

Among the most well known and well researched medicinal native perennials are coneflowers (*Echinacea* spp.). Ethnobotanical studies have revealed that numerous Native American tribes used coneflowers in a variety of herbal remedies for hundreds of years. Today, millions of people around the world use echinacea-based products to bolster their immune system or to diminish the duration and severity of a cold.

The species most commonly used for these purposes are purple coneflower (*E. purpurea*, USDA Hardiness Zones 3–9, AHS Heat Zones 9–1), pale purple coneflower (*E. pallida*, Zones 3–10, 10–1), and

They reach between two and four feet tall, and bloom all summer long.

Goldenseal (*Hydrastis canadensis*, Zones 4–9, 8–4) is another widely used and well known medicinal native perennial. Historically it has been used for ailments involving mucus membranes. For example, Iroquois healers used a decoction of the root to treat whooping cough, diarrhea, stomach ailments, earache, and eye irritation. Its thick yellow rhizomes also have been used to make a dye. After early explorers exported the plant to Europe, it became popular there for medicinal purposes, too.

Because of overharvesting and habitat loss, the plant is now an endangered

MINT-FAMILY MEDICINALS

Many native plants with herbal properties belong to the mint family (Lamiaceae). They share traits such as square stems, opposite leaves that may be aromatic, and small two-lipped flowers arranged in whorls or clusters. Those that spread with rhizomes may need a firm hand to keep them within bounds.

The genus *Salvia* boasts quite a few North American species that are both medicinally significant and highly ornamental. From the West Coast, hummingbird or pitcher sage (*S. spathacea*, Zones 8–11, 10–7) inhabits the coastal hills of central and southern California.



Left to right: Purple coneflower, goldenseal, and hummingbird sage all produce intriguing flowers as well as compounds that combat diseases.

narrow-leaf coneflower (*E. angustifolia*, Zones 4–9, 9–1). Health products labeled with “echinacea” often contain extracts from at least two of these species. Studies have found that each of these plants produces various chemicals with antioxidant, antimicrobial, and immune-boosting properties.

Native across eastern and central North America, these coneflowers are easy to grow, drought-tolerant, and make lovely additions to sunny spaces. Their showy flower heads, composed of pink-purple rays surrounding distinctly raised cones, attract butterflies, bees, and seed-eating birds.

species across its native range from New Hampshire and Minnesota, south to Alabama and Georgia. Fortunately, many reputable nurseries now propagate and sell goldenseal for both home gardens and commercial production. It’s one of my favorite plants for a woodland garden, forming a groundcover of large, palmately lobed leaves on short stems that reach six to 12 inches tall. Small, white, tufted flowers appear in spring, followed by a showy raspberry-like fruit that appears to sit atop the leaf. Best growth occurs in a moist, moderately shady spot with slightly acidic soil.

Indigenous peoples in that region used it to treat colds and sore throats, and scientific analysis has revealed that it contains antimicrobial compounds.

This plant grows about two feet tall and spreads to about three feet across. Its spikes of fruity-scented, magenta blooms begin appearing in winter in warmer regions, and continue through summer. As the common name implies, they attract hummingbirds. It prefers dappled shade, but also will adapt to full sun. Though quite drought-tolerant, a bit of irrigation helps extend the flowering season and keep the plant evergreen where winters are mild.

Another showy mint-family member that has long been used medicinally is pink skullcap (*Scutellaria suffrutescens*, Zones 6–9, 9–6). Certain Native American tribes used it to treat female reproductive conditions, and early settlers used it against nervous system disorders and inflammation. Studies conducted over the last decade or so have identified it and several other skullcap species as a source of anti-tumor compounds.

Pink skullcap is native to northern Mexico and possibly into Texas. “It’s a great

On the other end of the moisture spectrum, scarlet beebalm (*Monarda didyma*, Zones 4–10, 10–1) thrives in damp meadows and woodland edges throughout North America. Several Native American tribes—including the Oswego—enjoyed it as a tea, and used it to treat a variety of ailments from colds to stomachaches and insomnia. This mint family member is also known as Oswego tea because it was used as a substitute for imported tea in colonial America.

Scarlet beebalm reaches two to three feet tall and spreads to about two feet wide. It adapts to sun or light shade and produces whorls of deep pink or red flowers from mid- to late summer that are favorites of bees and hummingbirds.

HEALING HERBS FOR SHADE

Most of the plants discussed so far prefer a sunny location, but a number of North American perennials with medicinal uses have a proclivity for shade.

Resources

American Household Botany: A History of Useful Plants

1620–1900 by Judith Sumner.
Timber Press, Portland, OR, 2004.

Growing and Marketing Ginseng, Goldenseal and Other Woodland

Medicinals by Jeanine Davis and
W. Scott Persons. New Society
Publishers, Gabriola Island, British
Columbia, Canada, 2014.

Growing and Propagating Wildflowers of the United States and Canada

by William Cullina. Houghton Mifflin,
Boston, MA, 2000.

Herb Society of America,
www.herbsociety.org.

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Crimson Sage Medicinal Plants Nursery,
Orleans, CA. www.crimson-sage.com.

Las Pilitas Nursery, Santa Margarita,
CA. www.laspilitas.com.

Mulberry Creek Herb Farm, Huron,
OH. www.mulberrycreek.com.

Prairie Moon Nursery, Winona, MN.
www.prairiemoon.com.

Sandy Mush Herb Nursery, Leicester,
NC. www.sandymushherbs.com.

low-growing perennial,” says Angie Hanna, whose website, highplainsgardening.com, focuses on gardening in the Texas High Plains region. Hanna grows pink skullcap in xeric gardens at her home in Amarillo, Texas, and at the Amarillo Botanical Gardens where she volunteers. “It blooms continually from May through frost in November,” she says. Both heat- and drought-tolerant, it bears a profusion of small, cherry-pink flowers on plants that grow eight inches tall with a slightly greater spread.



Each tiny flower of pink skullcap resembles a type of hat worn in Medieval times. Together, they make a showy display on drought-tolerant plants that contain cancer-fighting chemicals.



Bloodroot's white early-spring flowers light up woodlands from the East Coast to the Rockies. The plant's name refers to the red sap in its roots that was used as a dye by Native Americans and also has many medicinal properties—although it can be toxic in large doses.

In woodlands across eastern North America and west to the Rockies, one of the first signs of spring are the pure white flowers of bloodroot (*Sanguinaria canadensis*, Zones 3–9, 9–1). Each three-inch bloom, with its narrow petals surrounding yellow stamens, lasts only a few days, but the glossy, lobed leaves are attractive as well, and persist into fall.

Certain Native American tribes prized it for its red sap that could be used as a diuretic, emetic, and antiseptic. A relative of poppies (*Papaver* spp.), bloodroot contains opiumlike alkaloids that inhibit the growth of certain bacteria. It also can be toxic to humans when ingested in large doses and caution is advised when handling the roots because the sap causes rashes on some people.

Another caveat for gardeners: Bloodroot may “suddenly start thinning out and in a few years can disappear,” says Extension specialist Jeanine Davis, who coordinates research on several native medicinal herbs for the Mountain Horticultural Crops Research Center in Mills River, North Carolina. This seems to occur most often when it's grown in deep shade, so she advises planting it in

“moist but well-drained, slightly acidic soil in a partially shaded area.”

And while it can be grown west of the Rockies, “it is somewhat challenging,” says Tina Glaessner, owner of Crimson Sage Medicinal Plants Nursery in Orle-



Western wild ginger's distinctive flowers can be hard to spot because they appear beneath the heart-shaped foliage.

ans, California. “It does not do well under firs, redwoods, or pines, but can do beautifully under maples, fruit trees, oaks, and other hardwoods,” she adds. In ideal conditions, bloodroot will slowly spread by rhizomes to form a tidy groundcover about one foot tall and about as wide.

Western wild ginger (*Asarum caudatum*, Zones 5–8, 8–5) also makes an attractive groundcover for shady gardens, and historically it has been used to treat infections and clean wounds. During the Voyage of Discovery, Meriwether Lewis wrote that when one of the expedition members suffered a swollen and inflamed leg wound, “We applied the pounded root and leaves of wild ginger [*A. caudatum*] & from which he found great relief.”

This woodland wildflower is found in redwood and pine forests from British Columbia to California and western Montana. It is distinguished by shiny, evergreen, heart-shaped leaves and purple-brown flowers with distinctly long tails that appear in late winter or early spring. All parts of the plant have a distinct ginger fragrance.

Its slightly taller counterpart, Canadian wild ginger (*A. canadense*, Zones 3–8,



False Solomon's seal's frothy white blooms appear in spring and are followed by clusters of green berries that turn red when mature.

8–1), reaches six to eight inches in height and thrives in rich woodlands from New Brunswick and Alberta south to Georgia and Louisiana. It has been used to treat respiratory and digestive issues. The plant does contain a number of antimicrobial compounds, but also produces a potentially carcinogenic chemical, so ingesting any part of it is not recommended.

However, this deciduous spreader does make a carefree groundcover in woodland gardens. For Jim Long, owner of Long Creek Herbs in Blue Eye, Missouri, it does well with “mayapples, goldenseal, and native ferns. It likes fairly moist soil and shade, although mine grows in a partly-sunny location beneath garden phlox,” he adds.

False Solomon's seal (*Maianthemum racemosum* syn. *Smilacina racemosa*, Zones

4–9, 9–1) also inhabits woodlands across North America. And it is a veritable panacea, according to data gathered by the Native Medicinal Plant Research Program at the University of Kansas in Lawrence. Out of 922 species of plants in the program's Prairie Ethnobotany Database, false Solomon's seal is among the 10 species with the largest number of medicinal uses, based on accounts from more than 250 Native American tribes. The list of ailments runs the gamut from constipation and coughs to rheumatism, stomachaches, and headaches.

Growing one to three feet tall, false Solomon's seal spreads by rhizomes into a sizeable clump. Its arching, zigzag stems are cloaked in light green leaves that turn yellow in fall. Clusters of tiny, fragrant, creamy white flowers appear at the ends

of stems from mid to late spring, followed by green berries that mature to bright red.

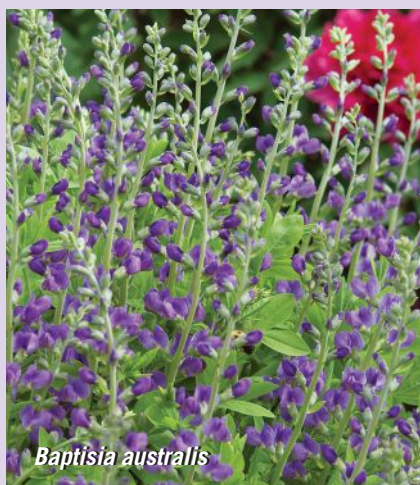
MORE THAN JUST PRETTY

This collection of plants illustrates that there's more to native perennials than meets the eye—even showy ones now popular in gardens around the world. Their long histories of medicinal uses by Native Americans and others add cultural seasoning to our gardens, along with their beauty. And while scientists may have barely scratched the surface of their pharmaceutical potential, for gardeners, these plants provide a sense of connection to all those who have nurtured the plants of this land.

Rita Pelczar is a contributing editor for The American Gardener.

MORE NATIVE PERENNIALS WITH MEDICINAL HISTORIES

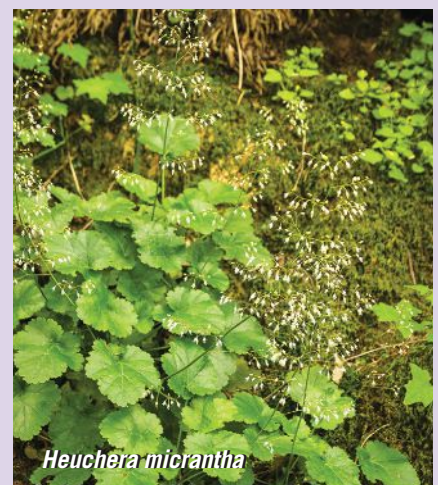
Name	Height/ Spread (ft.)	Ornamental Characteristics, Historical Medicinal Uses	Native Range	USDA Hardiness, AHS Heat Zones
<i>Actaea racemosa</i> , syn. <i>Cimicifuga racemosa</i> (black cohosh)	4–6/2–4	In shady, moist sites, it produces white flowers on terminal racemes above fernlike green foliage in late summer. Treatment for snakebites and lung inflammations.	Eastern North America	3–8, 12–1
<i>Agastache foeniculum</i> (anise hyssop)	3–4/2	Rosy-purple flowerheads attract pollinators from late summer through fall in sunny spots. Fragrant foliage makes pleasant tea. Used for colds, coughs, and fevers.	Most of North America	4–11, 12–5
<i>Baptisia australis</i> (false indigo)	3–4/3–4	In sun or part shade, spikes of blue pealike flowers appear in late spring above blue-green foliage. Anti-inflammatory.	East, central North America	3–9, 9–1
<i>Callirhoe involucrata</i> (wine cups, poppy mallow)	½/2–3	Sun-loving, drought-tolerant sprawler with cuplike, magenta blooms in summer. Pain-reliever.	Central, southern Great Plains	4–9, 9–4
<i>Eryngium yuccifolium</i> (rattlesnake master)	4–5/2–3	Basal rosette of sword-shaped leaves with bristly edges and one-inch, globular clusters of tiny, greenish-white flowers in summer. Treatment for snakebites.	Southeast, central U.S.	3–8, 8–1
<i>Eutrochium fistulosum</i> , syn. <i>Eupatorium fistulosum</i> (Joe-pye weed)	4–8/3–4	Sun-loving plant with upright stems topped in late summer with clusters of dusky-pink to red-purple flowers that attract pollinators. Treatment for typhoid fever.	Eastern North America	3–8, 8–2
<i>Heuchera micrantha</i> (alumroot)	1–3/1½	Shade-loving, mounding plant with early summer panicles of pink or white flowers on red stems. Used as astringent.	Western North America	3–8, 8–1
<i>Monardella villosa</i> (coyote mint)	2/2	A groundcover in sunny, dry sites with mint-scented leaves and lavender summer flowers that attract beneficial insects. Used for sore throats and stomachaches.	North, central California	8–10, 10–8
<i>Porteranthus stipulatus</i> (Indian physic)	2½–3/1½–2	Shade-loving plant with white, early-summer flowers on wiry stems, leaves turn bronze-red in fall. Emetic, expectorant, and laxative.	East, central North America	4–8, 8–1
<i>Satureja douglasii</i> (yerba buena)	1/1	Trailing, shade-loving, aromatic evergreen with tiny white flowers from spring until fall. Pain-reliever and treatment for colds, fevers, and indigestion.	Western North America	7–10, 10–7



Baptisia australis



Eutrochium fistulosum



Heuchera micrantha

BY C. COLSTON BURRELL

Go Big *with* Foliage

Add season-long drama and texture to the garden with big-leaved, hardy perennials.



SIZE MATTERS, at least when it comes to perennials. Those with big, bold leaves grab our attention. They evoke the exotic and appeal to our theatrical predilections with their gargantuan proportions. Their dramatic presence keeps a garden interesting even when nothing is in bloom. And while there are plenty of tropical options that can do all this, hardy perennials provide season-long impact without having to dig and store them at season's end.

Big-leaved perennials punch up any planting, but keeping a few design principles in mind will maximize their oomph. Artful compositions—whether on canvas or in chlorophyll—require a focal point. Without a resting spot, the eye wanders and can easily overlook the composition's details. When the eye rests on a specific point, however, it can effortlessly appreciate an arrangement's intricacy. Dramatic leaves help to do this in several ways.

For example, place big-leaved plants in the garden's foreground to frame a distant view, or use them at a vista's endpoint to draw the eye there. Set them amid other plants as you would a decorative container or a bench.

Contrast is also key to creating a satisfying picture, no matter what the medium. Light and dark, fine and coarse, big and small—contrast creates the tension that makes a composition interesting. Pair the dramatic form of a green goliath with the more finely cut or linear foliage of plants such as ferns, sedges, and irises to achieve pleasing contrast in a garden vignette.

For a truly outrageous display, try a battle of the bold—mix large-leaved hardy perennials and tender plants such as taro (*Colocasia* spp.), cannas, and bananas (*Musa* spp.).

Most gardeners are familiar with hostas, so here's a look at some other perennials with big, bold leaves that make exciting additions to temperate gardens. These drama queens also offer showy flowers to boot.

C. Colston Burrell is an award-winning author, photographer, and garden designer who lives in Free Union, Virginia. This article is a modified version of one that ran in the May/June 2006 issue of this magazine.

Opposite: *Darmera peltata* (USDA Hardiness Zones 5–8, AHS Heat Zones 8–5) is one of two unrelated American natives that share the common name of umbrella leaf or umbrella plant (the other one is *Diphyllia*). The fresh young foliage is reminiscent of an umbrella blown inside out in a gale. As the leaf expands, the blade bends downward at the edges. At maturity, the two-foot-wide leaves with their scalloped edges are somewhat bowl-shaped to nearly flat. Before the foliage expands, dense clusters of as many as 100 pale-pink flowers rise on stalks that may reach two feet in height.

Below: *Rodgersia podophylla* (Zones 5–8, 8–5) excels in foliage and flower. It forms clumps about three feet tall and wide, composed of one- to two-foot-long, palmately compound leaves. Each of the five to seven leaflets has ragged, toothed margins and a pleated appearance that give it eye-catching texture. Flowering stems are crowned by elongated clusters of cream-colored flowers in late spring and early summer. The cultivar 'Parasol', shown here, features pink flowers and bronze foliage.



OPPOSITE: DOREEN WYNJA, THIS PAGE: JOSH MCCULLOUGH



Hailing from China and Korea, dramatic *Astilboides tabularis* (Zones 5–7, 7–5) dominates any setting. This gigantic member of the saxifrage family (Saxifragaceae) has circular-saw leaf blades that vary in size from a modest two feet to a whopping four feet across. The leaves are supported by an infrastructure of impressive veins that radiate like spokes from stout petioles. In summer, huge trusses of creamy-white to pale-pink flowers nod above the foliage.



Bear's breeches (*Acanthus mollis*, Zones 7–9, 10–7) produces lustrous, dark green leaves with toothed edges that can reach about two feet in length. In summer, three- to five-foot-tall spiros of white flowers hooded with purple bracts appear above the foliage. Native to the Mediterranean region, this plant will tolerate some drought.

CULTIVATION CONSIDERATIONS

Big leaves are as functional as they are fanciful. They serve as solar collectors, spreading wide to absorb the most light from the sun's rays. Large leaves have a greater surface area for photosynthesis: the more photosynthesis, the more growth. Some trade-offs exist, however.

Big leaves require a lot of water to keep them turgid and in prime condition. For this reason, some plants with vast foliar real estate prefer to grow beside streams, with their feet in water. Most thrive in sites where a sheltering canopy of trees or shrubs protects them from the most intense rays of the sun and from strong winds.

Given sufficient moisture and a sheltered spot, big-leaved plants can reach enormous proportions. Always keep in mind their mature size when placing them in the garden so that they will have enough space to spread out without encroaching on neighboring plants. —C.C.B.



Left: Chinese mayapple (*Podophyllum peltatum*, Zones 6–8, 8–5) boasts deep green, glossy foliage with broad, blunt lobes that give the leaf a scalloped look. They form clumps about two feet tall and wide, with pendulous, maroon flowers in April and May. When paired with plants that have matte foliage, the shiny, foot-wide leaves always dominate the composition.

Below: Ornamental Chinese rhubarb (*Rheum palmatum*, Zones 5–9, 9–1) has one of the boldest textures available to temperate-zone gardeners. This giant member of the buckwheat family (Polygonaceae) has clawed leaves that can reach four feet across at maturity. Emerging leaves are deep purple, fading to deep green with a purple underside. Seven-foot-tall feathery spikes studded with small, pink flowers bloom above the foliage in summer.



MORE PLANTS WITH BIG LEAVES

Name	Height/ Width (ft.)	Notable Characteristics	Sun/Shade	Native Range	USDA Hardiness, AHS Heat Zones
<i>Aralia cachemirica</i> (Himalayan spikenard)	4–6/4–6	Intricately divided foliage up to six feet long boasting bold leaflets	Light to full shade	Northwest Himalayas	7–9, 9–7
<i>Filipendula camtschatica</i> (Kamchatka meadowsweet)	5–7/3–4	Huge, maplelike leaves over a foot across; fragrant, white, late-spring flowers	Sun to light shade	Far East, Japan	3–7, 8–1
<i>Lysichiton americanus</i> (American skunk cabbage)	3–5/3–5	Early yellow, malodorous flowers before the elongated, rubbery leaves expand up to two feet in length; dormant by late summer	Sun to full shade	Pacific Northwest	5–8, 8–1
<i>Napaea dioica</i> (glade mallow)	4–8/3–4	Dramatically dissected basal leaves about a foot wide; tall stalks bear wide clusters of small white chalice flowers in summer	Sun to part shade	Eastern and central North America	5–7, 8–3
<i>Syneilesis palmata</i> (palmate shredded umbrella plant)	2–4/2–4	Deeply cut gray-green foliage almost two feet across; spikes of fuzzy, composite flowers in summer	Light to full shade	Northeast Asia	4–8, 8–1
<i>Telekia speciosa</i> (heartleaf oxeye daisy)	3–5/3–4	Ragged daisies top leafy stems; toothed, triangular basal leaves up to a foot long	Light to part shade	Central and eastern Europe	4–8, 8–5
<i>Veratrum viride</i> (green false hellebore)	3–5/2–3	Lush, ribbed foliage can reach about a foot in length; drooping spikes of green flowers in early summer	Sun to part shade	Mountains of eastern North America	3–8, 8–1



An enormous green Elizabethan-style collar sets off the dainty but short-lived white flower clusters of *Diphylleia cymosa* (Zones 4–8, 7–3), also known as American umbrella leaf. The ephemeral flowers of this native of the southern Appalachian mountains open as its leaves unfurl in spring. Each basal leaf has deeply cut sinuses accented by sharp, attenuate lobes. Paired stem leaves, which are accented by the larger, basal foliage, quickly expand to two feet across. In August, the plant produces green berrylike fruits that darken to indigo coated with powder-blue, accented by bright cerise pedicels.



Above: A selection of bigleaf ligularia (*Ligularia dentata*, Zones 5–8, 8–1), ‘Britt-Marie Crawford’ features large purplish-black leaves that take on a bronze patina as they age. This selection raises the bar on other ligularias not only for the striking hue of its leaves, but for the bright orange-yellow, daisylike flowers that bloom on sturdy stems above the foliage in early summer. In concert, the foliage and flowers create a dramatic display that has few rivals.



Left: One of the more drought-tolerant species among big-leaved perennials is *Farfugium japonicum* (syn. *Ligularia tussilaginea*, Zones 7–10, 10–7). This Asian native tops out at about two feet tall, but each glossy, kidney-shaped leaf reaches a foot or more across. In fall, it sends up clear yellow daisies. Multiple ornate leaf forms and patterns have been selected, a few of which are widely available. The leaves of ‘Aureomaculatum’—shown here—are splashed with yellow blotches.




make your own Stock Tank Water Garden

No matter how big or small your outdoor space, you can add a unique accent with an easy-to-make water garden container filled with your favorite aquatic plants.

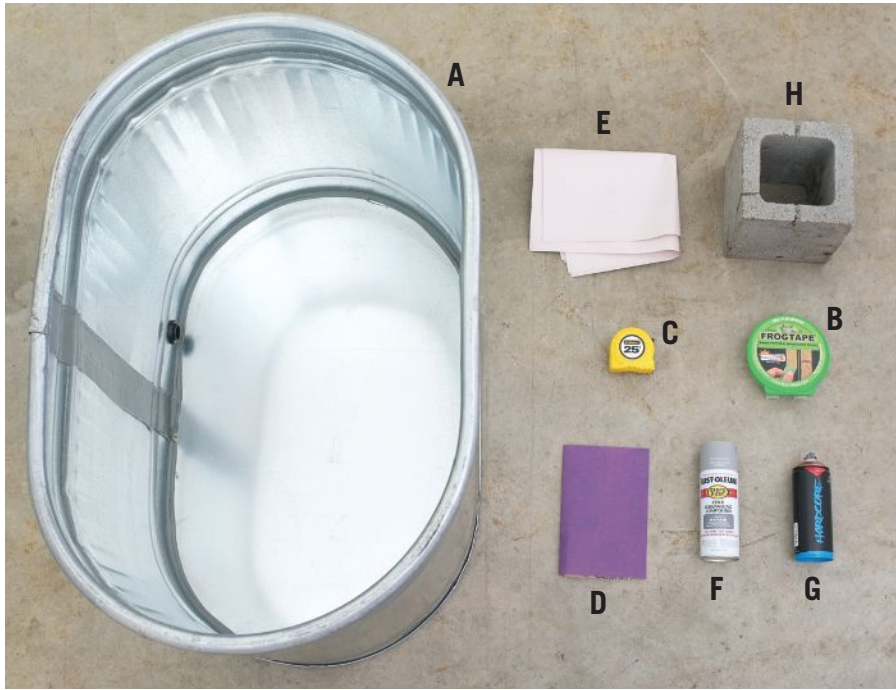
BY ANNETTE GOLITI GUTIERREZ
AND MARY GRAY

BE IT A birdbath, fountain, or a water garden, no outdoor sanctuary is complete without a water feature. Water attracts butterflies, birds, and dragonflies to the garden, and dappled sun on the water adds sparkle. A water feature of any size makes a big impact on the overall design of an outdoor living space.

Our friend Jules has a lovely bohemian cottage. Her house is petite, so she spends a lot of time in the garden. The secluded yard has an enchanting outdoor dining area nestled into garden beds with fruit trees, but we all agreed something was missing—a water feature. We thought a water garden in a container would be perfect. Instead of using a planter straight off a store shelf, we decided to personalize a container just for Jules by painting a metal stock tank to suit her garden. As we show on the following pages, this is a project that anyone can accomplish, and the end result is truly one-of-a-kind.

Before you begin the project, decide how best to customize your container for its garden. Consider playing colors off one another or bringing in pops of hue. Jules wanted something funky to reflect her eclectic style and highlight the Latin-inspired color palette of her garden, so we opted for a warm copper finish. 

Annette Goliti Gutierrez and Mary Gray are the owners of Potted, a garden lifestyle boutique in Los Angeles, California.



What You'll Need

- A** 4 × 2 × 2-ft. metal stock tank (purchase at feed stores or online)
- B** Painter's tape
- C** Measuring tape
- D** 120 to 180 fine grit sandpaper
- E** Plain newsprint
- F** Primer spray paint
- G** Copper spray paint
- H** Cinderblock



How to Make the Water Garden Container

1 Tape off paint lines. To create a two-tone paint job, mask off the areas of the tank you won't be painting. First, decide where you want to paint. We used the existing ridges on the tank as our guides. If your tank doesn't have ridges, simply measure from the top and mark every few inches to ensure a straight line. Then go around the tank slowly with painter's tape, pressing the tape down firmly as you work. Do the same for the bottom edge.



2 Sand the area being painted. Lightly sand the entire surface that will be painted so the paint will adhere to the metal.



3 Mask off the areas that won't be painted. Just below the first paint line, begin taping newsprint around the bottom and top areas that will not be painted. Be sure there are no gaps and that the seal is snug so there will be no overspray on the unpainted spaces.



4 Spray on primer. In a well-ventilated area, spray one light, even coat of primer. Stay far enough away from the tank that the paint doesn't go on thick and cause drip marks. Follow the primer manufacturer's instructions for dry time before proceeding.

TIP If drip marks do occur on the primer or finishing coat, wait until the surface is completely dry, then gently go over the drip with a fresh piece of fine grit sandpaper to remove it. Lightly respray the repaired area.



5 Spray paint the tank. In the same well-ventilated area, spray the paint onto the primed tank. As with the primer, spray lightly—it is better to underspray and repaint than to spray too thickly and have drip marks. Use two coats to get an even effect. Allow the first coat to dry to the touch before applying the second.

Remove the newsprint and the tape as soon as the paint is dry to the touch. If you wait too long, the tape may pull off the dried paint. Place the cinderblock in the trough as a stand for positioning the plants.



6 Allow the tank to dry completely before filling with plants and water. Now kick back and enjoy the tranquility your new water garden brings. It's magical!

POTTED
Make Your Own
Stylish Garden Containers
ANNETTE GOLITI GUTIERREZ & MARY GRAY
25 EASY, AFFORDABLE PROJECTS

This article is an adapted excerpt from *Potted: Make Your Own Stylish Garden Containers* by Annette Goliti Gutierrez and Mary Gray, published by Timber Press, Portland, Oregon. Used with permission of the publisher.

Colorful Carrots: A Deliciously Sweet Challenge

by Barbara Pleasant

ONE OF THE most versatile of root crops, carrots (*Daucus carota* ssp. *sativus*) are delicious raw or cooked and deliver an impressive list of nutrients, especially beta-carotene, in colorful packages—from the familiar orange to purple, crimson, pink, white, and yellow as well as two-tones such as purple with an orange core. Cultivated in the Middle East for more than 3,000 years, carrots were first grown for their greens and seeds, which resemble celery seeds in size and flavor. The popular orange vegetables we know today can be traced to 17th-century Dutch plant breeders, who focused on developing stout, sweet roots.

Now, gardeners can grow stalwart heirloom varieties alongside hybrids bred for disease resistance, enhanced nutrition, or color. Although successfully growing carrots can sometimes be challenging, the incomparable sweetness and flavor of a carrot freshly pulled from the ground is well worth the effort.

GROWING GUIDELINES

Carrots grow best in moderate weather, so sow seeds in spring after the soil has warmed to 60 degrees Fahrenheit, followed by a summer sowing for harvest in fall. Carrots that mature in cool fall soil develop more sweetness; in areas that don't experience extremely low temperatures, they can also be left in the ground throughout winter.

Although carrots can adapt to any reasonably fertile soil, for optimal growth, plant them in deep, sandy loam with a slightly acidic pH. The soil should be as free of rocks, clods, and other obstructions as possible to avoid misshapen roots. Raised beds are ideal because they increase the depth of available root space, but deeply dug in-ground beds also benefit carrots by providing cooler soil temperatures below the surface.

Before planting carrots, cultivate the soil in the bed at least 12 inches deep. Rake the



Top: In addition to iconic orange, carrots are available in a veritable rainbow of colors. **Above:** Seeds may take up to three weeks to sprout after sowing.

soil smooth, mark off rows, and incorporate some balanced organic fertilizer into the bottom of four-inch-deep furrows. Avoid high-nitrogen fertilizers, which can cause roots to fork. Refill the furrow with loose soil, and plant the seeds a quarter-inch deep. Be sure to use fresh seeds. Seed tapes or pelleted seeds make sowing carrots easier.

Maintaining moisture is crucial to germination and the formation of uniform roots. In summer, cover newly planted carrot beds with an old sheet, or a double thickness of row cover, weighted around the edges. Water daily, and remove the covers after the seeds germinate, which can take seven to 21 days.

Carrots require attentive weeding and need to be thinned to about three inches apart to develop straight roots of good size. Eventually the plants will grow large enough

PLANTING BASICS

Getting Started Choose a sunny, well-drained spot with easy access, because young carrots require frequent hand weeding.

Planting For best growth, direct-sow carrot seeds in spring after the soil has warmed to 60 degrees Fahrenheit. If you're impatient, you can begin sowing two to three weeks before your last-frost date in spring, but germination and growth will be slower. Successive sowing can be made at three-week intervals where summers are not too hot. Sow carrots again in mid- to late summer, starting about 10 weeks before your first fall frost is expected.

Spacing Plant seeds a quarter-inch deep and a half-inch apart, in rows spaced at least eight inches apart. When the seedlings are about two inches tall, thin them to three inches apart.

Days to Maturity 65 to 120 days, depending on variety and growing conditions.

to shade out weedy invaders. Fertilize carrots lightly with a balanced organic fertilizer when they are about eight inches tall.

PESTS AND DISEASES

Grooves or shallow tunnels in carrot roots may be caused by wireworms, which are the larvae of common click beetles. Thorough soil cultivation kills many wireworms. They also can be trapped by burying pieces of raw potato just below the soil's surface in your carrot bed. The worms will tunnel inside the potato to feed. Insert some type of skewer into the potato pieces before burying so they are easy to find and remove after a few days.

In cool climates, the larvae of carrot rust flies can devastate a carrot crop. The best defenses are crop rotation and keeping the plants securely covered with a lightweight row cover.

Black-yellow-and-green parsley "worms" are often seen munching carrot foliage. These are the larvae of eastern black swallowtail butterflies, which are valuable pollinators, so many gardeners tolerate light damage. You can also plant parsley nearby to lure the caterpillars away.

Fungi may cause leaves to develop dark spots or dry, curled edges in wet, humid weather. Minimize problems by growing disease-resistant varieties and keep plants properly spaced for good air circulation.

RECOMMENDED VARIETIES

'Flyaway' (75 days) and 'Resistafly' (68 days) are orange carrots that get high ratings in taste tests and provide some resistance to carrot rust flies.

'Kuroda' (82 days) is a productive Asian variety that tolerates heat spells and also makes a great fall storage carrot.

Sources

High Mowing Seeds, Wolcott, VT. www.highmowingseeds.com.

Johnny's Selected Seeds, Winslow, ME. www.johnnyseeds.com.

Nichols Garden Nursery, Albany, OR. www.nicholsgardennursery.com.

Renee's Garden, Felton, CA. www.reneesgarden.com.

Territorial Seed Company, Cottage Grove, OR. www.territorialseed.com.

W. Atlee Burpee & Co., Warminster, PA. www.burpee.com.

'Purple Haze' (73 days) is a 2006 All-America Selections winner. This hybrid develops seven- to eight-inch-long, purple roots with orange cores.

'Rainbow' (75 days) and other blends like 'Harlequin' (73 days) are mixes of named varieties with different colors, so you can grow several from a single seed packet.

'Red-Cored Chantenay' (70 days) has been around for over a century and is still a top choice for growing in the fall. The thick, flavorful roots often prosper when grown in improved clay soils.

ENJOYING THE HARVEST

Carrots can be harvested when young as "baby" carrots, but most varieties taste best at full maturity, evidenced by their root tops pushing up at the soil's surface. To harvest, carefully loosen the outside of the row with a digging fork and pull up the roots. Cut the foliage to a quarter inch and rinse the roots in water. Indoors, lay the washed carrots on a clean kitchen towel to dry before storing them in plastic bags in the refrigerator for up to three months. In cool climates, carrots can be packed in damp sand or sawdust and stored in a cold basement or root cellar.

Raw carrots make a healthy, sweet snack, add crunch to salads, or can be juiced to create nutritious drinks. Cooked, carrots are featured in many savory and sweet dishes. Bumper crops can be used in baked goods, stews, and soups. Carrots are also easy to blanch and freeze for longterm storage, and they make wonderful pickles.

Barbara Pleasant is a freelance writer living in Floyd, Virginia.



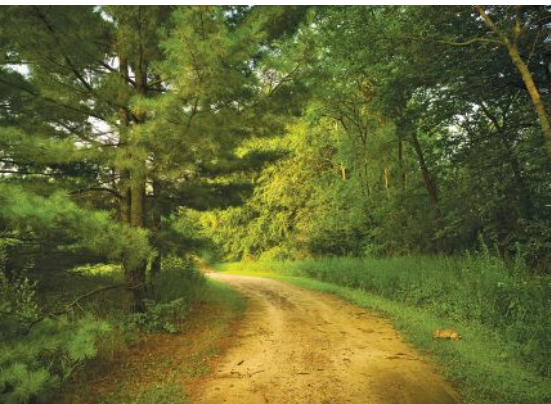
Above: The dark spots on this carrot foliage are caused by a fungal disease. Right: Most carrots are ready to be harvested when the top of their roots begin to lift out of the soil.



Minnesota's Linnaeus Arboretum at Gustavus Adolphus College

by Stephanie George

AN HOUR'S drive to the southwest of Minnesota's Twin Cities sits St. Peter, home to Linnaeus Arboretum at Gustavus Adolphus College. Since its founding in 1973, the arboretum has grown steadily and is now flourishing as both a horticultural haven and wildlife preserve. Its design mirrors the natural landscape of Minnesota, featuring the three major biomes of the state: conifer forest, deciduous forest, and prairie. It also includes several themed gardens and plant collections, giving visitors the chance to experience a harmonious blend of cultivated and wild



Right: Linnaeus Arboretum's director Scott Moeller leads a group of young visitors through Uhler Prairie. Above: A trail runs among native conifers typically found in northern Minnesota.

spaces. Over 100 different species of trees and shrubs from around the world thrive throughout the 130-acre property.

DIVERSE LANDSCAPES

Named after 18th-century Swedish botanist Carl Linnaeus—best known for formalizing the modern biological naming system known as binomial nomenclature—the arboretum honors the father of modern botany as well as the rich Swedish heritage at the college and



surrounding area. The arboretum's logo also features Linnaeus's favorite plant, twinflower (*Linnaea borealis*), native to both Sweden and Minnesota.

The **Melva Lind Interpretive Center** serves as a gateway between the arboretum and the rest of the college campus. Named for a former Gustavus dean and longtime professor, it houses the main

operations of the arboretum and is a popular setting for classes, educational displays, workshops, and other events.

From there, visitors can explore the various gardens, collections, and educational sites. These include the **Borgeson Family Cabin**, a mid-19th-century homestead built by Swedish immigrants, and the **Johnson Waterfall Garden**, a serene spot



Above: The Johnson Waterfall Garden features a reflecting pond. Top: The historic Borgeson Family Cabin was built by Swedish immigrants who settled in the area in the 19th century.

surrounded by shade trees. Those seeking further introspection will enjoy the **Natural Meditation Area**, inspired by Chinese design elements and *feng shui* concepts, or the **Meditation Gardens** with a Swedish stone labyrinth completed in 2013. The formal **Lind Rose Garden** displays cold hardy varieties, the **Thompson Herb Garden** contains plants with medicinal and culinary uses, and **Basset Orchard** showcases heritage fruit.

Several ponds and a wetland preserve provide wildlife habitat, as do two res-

toration prairies. The **Uhler Prairie**, started in 1988, is the smaller of the two at roughly five acres, and is mainly composed of native tallgrasses. The newer **Coneflower Prairie** is planted with more than 150 different species across 70 acres of former cropland.

“Visitors now have the opportunity to experience what the tallgrass prairie was like back in the days when herds of elk and bison roamed here,” says the arboretum’s director, Scott Moeller. “We don’t have elk or bison—yet—but we do have

badgers, foxes, coyotes, countless species of birds, insects, and other wildlife,” he adds.

CONNECTIONS TO THE COMMUNITY

A large part of the arboretum’s mission of education, environmental stewardship, reflection, and recreation “is simply to get people outside so they can engage with nature,” Moeller says. To facilitate this, the arboretum adheres to a policy of no gates, no fences, and no admission fees, keeping the space open and accessible year-round. The arboretum also hosts numerous events, such as bird walks, guided tours of the prairie areas, and lectures by members of the college faculty. Its annual spring egg hunt and Fall Festival—complete with hayrides, live animals, and crafts—always draw a crowd.

Linnaeus Arboretum provides a myriad of ways for visitors to develop and

Additional Information

Linnaeus Arboretum, 800 W. College Avenue, St. Peter, MN, 56082. (507) 933-6181. www.gustavus.edu/arboretum.


- Hours: Daylight hours, year-round. Interpretive Center open 8:30 a.m.–noon.
- Admission: Free and open to the public.
- Linnaeus Arboretum participates in the American Horticultural Society Reciprocal Admissions Program. AHS members showing a current AHS membership card receive discounts on educational programs and events.

Other nearby sites to explore:

Aspelund Peony Gardens, Kenyon, MN. www.aspelundpeonygardens.com.

Como Park Zoo & Conservatory, St. Paul, MN. www.comozooconservatory.org.

Minnesota Landscape Arboretum, Chaska, MN. www.arboretum.umn.edu.

sustain meaningful connections to the natural world. “If you ask 100 different people how they like to use the arboretum,” Moeller says, “you’ll get 101 different answers.” As the arboretum continues to grow over the years, so will the number of answers. 

Stephanie George is an editorial intern for The American Gardener.

Getting Best Results from Hedges

by Scott Aker



All types of plants can be used for hedging. In warm regions, colorful options include subtropical species such as these croton (*Codiaeum variegatum* 'Mrs. Kidd').

HEDGES ARE versatile landscape features that can be used to mark property lines or paths, define “rooms” in a large space, hide undesirable views, and act as a privacy screen. Sure, a fence could do all this, but hedges also can provide wildlife habitat, sequester carbon, and control soil erosion, all while looking more attractive than any fence could, particularly if you keep a few do’s and don’ts in mind.

STYLE AND SITING CONSIDERATIONS

Do consider which style of hedge would work best for you. Traditional, formal hedges are usually composed of a single

plant species and clipped frequently to keep them symmetrical and uniform. If you have the space, and don’t relish the chore of hours of trimming, plant a mix of trees and shrubs where a screen or visual barrier is desired. Aside from the reduced maintenance, you’ll also reap the benefit of being able to remove a dead or dying plant without compromising the whole planting as would be the case with a formal hedge. You can use single specimens of trees, but plant shrubs in groups of three or five. Avoid planting both trees and shrubs in a straight row to give the planting a more natural and flowing appearance.

Whether you opt for traditional or more informal hedging, the goal is to create dense, healthy foliage, which is largely dependent on light exposure. Hedges need at least a half day of sun, so if you try to establish a hedge in more shade than that, it will be nearly impossible to grow and maintain dense foliage. Some plants, such as American holly (*Ilex opaca*) and yews (*Taxus* spp.), tolerate some shade. Most hedge plants also won’t grow where drainage is poor. A couple of exceptions are Japanese plumyew (*Cephalotaxus harringtonia*) and inkberry (*Ilex glabra*).

MAKING INFORMED CHOICES

Although we generally think of hedges as being in the three- to 10-foot-high range, there really aren’t any height limits. If you need a shorter hedge or want to reduce the amount of pruning that might be needed to keep it at a desired height, start with plants that are short to begin with, such as dwarf English boxwood (*Buxus sempervirens* ‘Suffruticosa’) and dwarf Japanese holly (*Ilex crenata* ‘Compacta’).

Keep in mind that hedges don’t have to be evergreen and they don’t have to be composed of shrubs. In various parts of the country I’ve seen wonderful examples of hedges using deciduous dwarf purpleosier willow (*Salix purpurea* ‘Nana’), ornamental grasses such as feather reed grass (*Calamagrostis xacutiflora* ‘Karl Foerster’), and even subtropical plants such as clivia (*Clivia miniata*).

PLANTS TO AVOID

Plants that adapt to a wide variety of conditions have often been chosen for hedging and screens. The dark side of this adaptability is their tendency to invade woodlands and meadows. Old standbys such as privet (*Ligustrum ovalifolium*) and cultivars of barberry (*Berberis* spp.) have fallen from favor for this reason, but fortunately there are plenty of good alternatives available.

Gardening Q&A with Scott Aker

RETURN OF THE AMERICAN ELM?

Has Dutch elm disease been eradicated enough that nurseries are once again growing American elms (*Ulmus americana*)?

It is unlikely that Dutch elm disease can ever be eradicated, so planting straight American elm species is not recommended. A few disease-resistant American elm selections are available, with 'Valley Forge' considered the most resistant cultivar, closely followed by 'Jefferson' and 'New Harmony'. Another popular selection is 'Princeton', which has good resistance.

NON-BLOOMING BEGONIA

I bought some beautiful Rieger begonias in the spring. They bloomed for a long time on my shady deck, but have now begun to look tired and stopped blooming. How can I get them to bloom again?

Rieger begonias (*Begonia xhiemalis*) need short days and cool temperatures to make flower buds, but they never really go dormant like tuberous begonias. I've had good luck cutting them back in the fall, repotting them, and growing them under lights indoors over the winter. They will bloom indoors for several weeks after setting flower buds; they may even bloom a bit while outdoors for the summer, too, particularly if temperatures stay on the cool side. —S.A.

Send your gardening questions to Scott Aker at saker@ahsgardening.org (please include your city and state with submissions).

your local Extension service or botanic garden for their recommendations in your area.

PRUNING TIPS

Any pruning should be done strategically. Make sure your hedge ends up wider at the base than at the top to allow sunlight to reach the bottom branches. Otherwise, the bottom of the hedge will lose its density. If you have flowering shrubs in your hedge, such as forsythias or lilacs, prune them as soon as possible after flowering so you don't remove next year's flower buds.

It's best to prune individual branches rather than using hedge shears. Shearing stimulates the dense growth of branches on the outside of the hedge, which blocks sunlight and air circulation—and



As shown in this row of 'Needlepoint' hollies (*Ilex cornuta*), formal hedges should be pruned so the plants' bases are wider than their tops.

in turn encourages diseases and die-back. If your hedge becomes too densely branched at its extremities, remove some of the branches near the outside of the canopy until you can start to see some of the internal branch structure again.

Some overgrown hedges can be rejuvenated by cutting them back a few inches from the ground, usually in fall or early spring. It may take two or three years for them to reach the desired size again, but they will look much healthier.

However you choose to employ hedges in your garden, these tips will help you achieve best results. With proper plant selection and care, your hedge will prove far more rewarding and long-lasting than most fences.

Scott Aker is head of horticulture and education at the U.S. National Arboretum in Washington, D.C.



Informal hedges of mixed plants provide seasonal interest and valuable wildlife habitat.

Plants that grow rapidly—such as white pine (*Pinus strobus*) and Leyland cypress (*Hesperotropsis leylandii*)—are commonly chosen for hedges, but they can be poor performers in other respects. For example, as pines mature, they naturally lose their lower branches, gradually compromising their usefulness as a

screen. And Leyland cypress becomes a troublesome hedge plant as it matures into a 60-foot-tall tree with a spread of 20 feet. Canker disease also routinely kills Leyland cypresses that are planted close together.

So do some research on the plants you are considering for a hedge. Check with

Horticultural News and Research Important to American Gardeners



U.S. GROWERS RECALL GENETICALLY-MODIFIED PETUNIAS

Put down the trowel and back away from the petunias! Several cultivars such as 'African Sunset' and 'Trilogy Red' have been found to contain genes from a plant virus commonly used in genetic engineering (GE). The origins of these genes have been tracked back to GE experiments done in Germany 30 years ago. The resulting plants were never intended for commercial production, yet somehow found their way into breeding programs that produced cultivars with orange, red, or purple flowers that have been marketed in Europe and North America.

The U.S. Department of Agriculture (USDA) released a statement in May asserting that these petunias are "not considered to pose a risk to human health or the environment." However, the plants have not been registered with the agency in compliance with its strict regulations regarding GE organisms. Because of this, the USDA has asked distributors of petunia varieties that tested positive for the foreign genes to voluntarily destroy

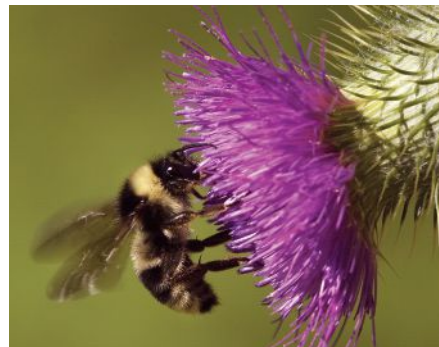
their entire stock of these plants and recall any they sold. Consumers who have purchased the petunias do not need to take any action because these plants don't have sexually compatible wild relatives in this country, nor are they considered pest plants or noxious weeds.

For further updates and a list of the recalled varieties, visit www.aphis.usda.gov.



EAVESDROPPING ON BEES COULD HELP SAVE DECLINING POPULATIONS

For more than a century, sonic vibrations have been used to efficiently monitor populations of flying animals such as birds and bats. Now, a team of researchers led by the University of Missouri in Columbia has developed a way to use the buzzing of bumblebees in flight to monitor the insects' population densities. In doing this, they discovered that this information can be correlated to how well plants are pollinated, based on the number of resulting seeds. Pollination efficiency has important agricultural and ecological impacts, especially in light of declining populations of both wild and managed bees in recent years.



Analyzing bumblebee buzzes facilitates population-monitoring efforts.

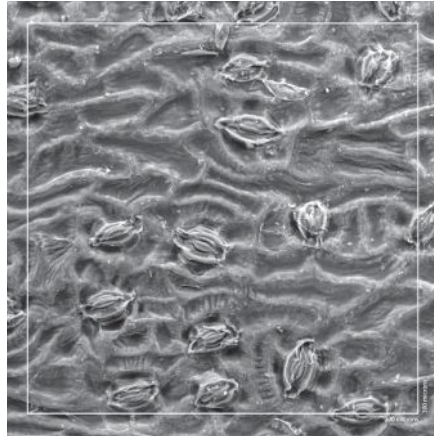
This new buzz-monitoring method provides a more accurate picture of bee populations in a given area over a longer duration and with less disturbance than visual observation alone. According to the study published in *PLOS ONE* in June, "Passive monitoring of the buzz soundscapes provides the opportunity to monitor bees in an efficient and cost-effective way, potentially improving our ability to understand the complex nature and global implications of bee declines." The researchers assert that this new technique could also help scientists and farmers respond more quickly to declines in localized pollinator populations.

The research team is currently working on developing a smartphone app that could record buzz activity as well as document bee populations photographically. Making this technology broadly accessible would be especially useful for farmers who rely on pollination to have successful harvests, or to anyone who wants to participate in citizen science projects to collect valuable pollinator data.

To view the study, “Flight of the Bumble Bee: buzzes predict pollination services,” visit www.doi.org/10.1371/journal.pone.0179273.

COUNTING ON GINKGOS FOR CLIMATE CHANGE INSIGHTS

Scientists with the Smithsonian’s National Museum of Natural History in Washington D.C., are using ginkgo trees (*Ginkgo biloba*) to investigate how climate change may affect plants. The research team chose ginkgos because the species that exists today can be traced back 300 million years through the fossil record. By comparing fossilized leaf specimens from various points along this timeline with leaves from plants growing today, the Smithsonian scientists hope to figure out how the climate changed through time and how ginkgo trees adapted. This information could then be extrapolated



to anticipate biological responses to future changes in Earth’s climate.

The project, known as “Fossil Atmospheres,” involves counting microscopic holes on leaf surfaces—called stomata—that plants use to take in carbon dioxide needed for photosynthesis. Previous research has revealed that atmospheric carbon dioxide levels influence the number of stomata present on leaves. Given that this greenhouse gas also has predictable effects on Earth’s climate, the leaves may provide valuable insights into prehistoric conditions.

Smithsonian researchers are seeking citizen scientists to count oval-shaped stomata, top left, in highly magnified images of both fossilized and living ginkgo leaves, bottom left.

Working out the precise relationship between carbon dioxide concentrations and the number of stomata on ginkgo leaves involves a whole lot of counting. To that end, the Smithsonian is seeking volunteers to help out with this massive undertaking by viewing highly magnified images of fossilized and modern ginkgo leaf online and counting cells in them. To learn more about the project or join the citizen science effort, visit www.zooniverse.org/projects/laurasoull/fossil-atmospheres.

Garden in Comfort and Style

PLANT ARCHITECTURE INSPIRES BETTER FLEXIBLE TECHNOLOGY

Water canna (*Thalia dealbata*), also known as powdery alligator-flag, is a popular perennial for aquatic gardens. The strong stems of this plant, native to the central and southern United States, recently attracted the attention of scientists at the Zhejiang University in China, who were trying to create resilient, durable materials for flexible electronics such as bendable tablets and wearable sensors.

“Many natural porous materials, such as plant stems, are slender but strong, which can be attributed to their structures [being] arranged in sophisticated hierarchical architectures,” the scientists explain in a study published in the journal *ACS Nano* by the American Chemical Society in June. This leads to “outstanding mechanical robustness despite being porous and made of weak constituents.”

By mimicking the architecture of the water canna stems, the researchers assembled a flexible, lightweight material that has proven to be exceptionally tough. During testing, it supported 6,000 times its own weight, maintained its strength after intense compression, and functioned



The wiry stems of water canna help the plant withstand strong winds.

well when included as part of an LED circuit. According to researchers, this material not only holds great promise for use in a number of engineering applications, but water canna’s stem architecture may yield even more strong yet flexible materials.

GARDEN CONSERVANCY SELECTS NEW LEADER

In June, James Brayton Hall was named president and chief executive officer of the Garden Conservancy, based in Cold Spring, New York. For the past four



James Brayton Hall

years, Hall was the deputy director of the Norton Museum of Art in West Palm Beach, Florida. Previously he served as executive director of the Providence Preservation Society in Rhode Island, and as the assistant director of the Museum of Art at the Rhode Island School of Design.

Founded in 1989 by plantsman Frank Cabot, the Garden Conservancy is a national non-profit organization dedicated to preserving outstanding and historically important American gardens and sharing them with the public. For more information, visit www.gardenconservancy.org.

News written by Editorial Intern Stephanie George with Associate Editor Viveka Neveln.

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LEFT: COURTESY OF WAVE HILL; RIGHT: BRIAN JONES, COURTESY OF THE GARDEN CONSERVANCY

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Quenching Your Garden's Thirst

by Rita Pelczar



RainSelect Wand with ColorStorm Premium Rubber Hose

SUMMER HEAT can dry out any garden. When there isn't enough rain to satisfy your plants' needs, you have to bring the water to them. As with any garden task, delivering water to parched plants is easier and more efficient when you have the right tools.

GARDEN HOSES AND ACCESSORIES

Garden hoses differ in length, width (diameter), and construction. Most garden hoses range from 25 to 100 feet in length. The longer the hose, the heavier it is, so select a length appropriate for your yard. Do this by measuring the distance from your spigot to the furthest point of your garden that typically needs watering. The diameter of the hose, typically $\frac{3}{4}$, $\frac{5}{8}$, or $\frac{1}{2}$ inch, determines water flow and pressure; a $\frac{5}{8}$ -inch-diameter hose meets most gardening needs.

The **ColorStorm Premium Rubber Hose** from Dramm (www.rainwand.com) has tight-sealing couplings constructed of crush-proof, nickel-plated brass and is available in several bright colors designed to be noticed. The hose itself is made of a flexible reinforced rubber that is designed in a hexagonal shape, which makes for an easy grip. It's a bit heavy, but very durable. Available in 25- and 50-foot lengths.

The **Flexogen® Super Duty Hose** from Gilmour (www.gilmour.com) comes with a lifetime warranty. Its eight-layer



Flexogen Super Duty Hose

construction maximizes both durability and kink resistance. I have found that its crush-resistant brass couplings and stainless steel spring “sleeve” at the spigot end—which prevents kinking at the spigot—provide a leak-free connection.

My thornless blackberries have appreciated the **Flat Soaker Hose**, also from

Gilmour. Made of recycled vinyl, it’s flexible and efficient, delivering water directly to the root zone. You can lay it out in a straight line or snake it through a bed. It can be used aboveground or buried and comes in lengths of 25, 50, or 75 feet.

So that I don’t forget to turn off the soaker hose, I use Gilmour’s **Mechanical Water Timer** to set the amount of time—between one and 120 minutes—that it runs. This simple device, which works



Mechanical Water Timer

for sprinklers and other irrigation tools, requires no batteries—it simply shuts the water off when the time you set is up.

The **Hose Bib Extender**, a nifty item available from Planet Natural (www.planetnatural.com), provides another spigot in my yard. This faucet extender is a hose connector featuring a brass spigot on a 31-inch steel stake. Use the step bar to push the stake into the ground. Then connect one end of a hose to a faucet and the other end to the spigot on the stake. Presto! Now you have a water source in another part of your yard without having to drag a hose that distance every time you water. Of course, you need to dedicate a hose to the setup, but I find it’s worth the convenience.



Hand watering is a great way to observe your plants up close. Attached to the business end of a hose, Dramm’s **Rain-Select Wands** offer a variety of

spray patterns and a flow control switch that makes it easy to turn the water on and off using just your thumb.

I usually use the “shower” or “flood” patterns for watering, but if I observe aphids on a plant, I can select “jet” for a hard spray that knocks them off. The wands are available in 16- and 30-inch lengths and come in fun, eye-catching colors.



Hose Bib Extender

WATERING CONTAINERS OUTDOORS AND IN

Arizona Pottery (www.arizonapottery.com) offers handmade unglazed terracotta clay reservoirs called **ollas** (pronounced “oy-yahs”) that provide subsurface irrigation to container-grown plants. Bury ollas in your container at planting time, leaving the top exposed just above the surface so it can be filled with water. As the soil dries, water seeps through the porous clay into the root zone where it’s



Ollas

needed. The ollas are available in various vaselike shapes that range from seven to 12 inches tall and hold $\frac{3}{4}$ quart to 1½ gallons of water.

For watering houseplants, or to fill the ollas, the **Copper Indoor Watering Can** from Gardener’s Supply Company (www.gardeners.com) holds a generous three quarts of water, has a well-balanced handle, and a slender curved spout that directs



Copper Indoor Watering Can

the flow exactly where you want it. Made of steel with a hammered copperplated finish, this can is attractive enough to leave on display when it’s not in use.

Just like you, your plants lose moisture when the sun shines and the temperatures rise. Keeping them hydrated is a cinch with these tools, giving you time to relax and enjoy a tall, cool drink yourself. ☺

Rita Pelczar is a contributing editor for The American Gardener.

Recommendations for Your Gardening Library

Essential Pruning Techniques

George Brown, revised by Tony Kirkham. Timber Press, Portland, OR, 2017. 404 pages. Publisher's price, hardcover: \$49.95.

THIS BOOK builds upon the classic *Pruning of Trees, Shrubs, and Conifers* (Faber and Faber Ltd, 1972) by the late woody plant guru George Brown at Royal Botanic Gardens, Kew. For this revised and expanded version, Tony Kirkham—also from Kew—has updated the text and new photography by Andrea Jones has been added.

To his credit, Kirkham has done a lot of research about our side of the Atlantic. For example, he covers concerns that are significantly American, such as sudden oak death. Conversely, it's enlightening to read about parallel subjects, such as acute oak decline, more relevant to Kirkham's side of the world. As you would expect, a majority of the plants covered are those common in British horticulture, but there's plenty of crossover for North American gardeners.

Of course I found a few things to quibble with, such as the description of native sweetbay magnolias as ungainly when, in fact, in the United States they often are spectacularly symmetrical and attractive. And Amur honeysuckle (*Lonicera maackii*), an invasive shrub across much of North America, is treated with dignity instead of as a thug in need of a single pruning cut at ground level. Vines such as porcelain berry (*Ampelopsis brevipedunculata*) and Japanese honeysuckle (*L. japonica*) are described without any caveat on their status as noxious weeds in some states.

Proper pruning techniques, as we define them in the Western Hemisphere, are described in clear detail. Somewhere, however, I would have liked to see a condemnation of the "hat-racking" or topping of trees that is so awfully prevalent in parts of North America. I did appreciate that Kirkham often promotes doing nothing at all.

The book is written exactly as it should be read. The opening chapters read like a condensed manual on growing woody plants. Digest the front 50 pages in their entirety before jumping back into the alphabetical entries dedicated to individual genera of trees and shrubs. I especially like the attention given to matters of cultivation that go beyond pruning. Overall, this book will be useful for anyone who wants to learn how to prune correctly.

—Guy Sternberg

Guy Sternberg, director of Starhill Forest Arboretum in Petersburg, Illinois, was the founding president of the International Oak Society. He has been pruning oaks and other trees since 1961.

Gardening With Foliage First

Karen Chapman and Christina Salwitz. Timber Press, Portland, OR, 2017. 340 pages. Publisher's price, softcover: \$24.95.

I'VE NOTICED and appreciated beautiful foliage before, but *Gardening With Foliage First* really brings this dynamic garden design element into focus. This book is a delightful guide to creating gardens that celebrate leaf and stem forms, colors, and textures rather than flowers alone. Carefully observing these details "will help you transform a group of plants on a cart into a memorable vignette," assert authors Karen Chapman and Christina Salwitz.

Most of the book is filled with full-color photographs of the authors' design creations, accompanied by descriptive and explanatory text drawn from their many years of design experience. These designs are organized into two main sections: one devoted to combinations at their showiest in spring and summer, and one focused on those that shine brightest in fall and winter. Together these sections yield combos for sun, shade, dry soil, and moist soil; there are frost-tender combos, frost-hardy combos; and combos that make use of unusual and lustworthy cultivars.

Some combinations are as simple as two plants, such as the pairing of 'Blue Angel' hosta's hefty, blue-green leaves with the pink to pale violet flower clusters of lacecap hydrangea. Others are more intricate, such as the design dubbed "Tropical Staycation" that features the huge bronzy-green leaves of 'Red Abyssinian' banana, two kinds of gold-and-green variegated croton, heart-shaped, lipstick red anthurium inflorescences, and the purple-and-white, triple-layer blossoms of 'Ballerina Purple' angel's trumpet.

Among the plants that really jumped out at me was 'Rainbow' leucothoe, a five-foot-tall evergreen shrub whose oval, waxy leaves are yellow and green in spring but take on additional spots and streaks of purple and red in winter. Another surprise was 'Kwanso Variegata', a vividly white-and-green striped daylily with August-blooming double orange blossoms. The book's index makes it easy to seek out specific plants like these to find combinations that include them.

Whether you have 20 acres or a modest patio arrayed with large containers, you're bound to find exciting new design possibilities in *Gardening With Foliage First*.

—Rand B. Lee

Rand B. Lee is a freelance writer and garden consultant residing in Santa Fe, New Mexico.

GARDENER'S BOOKS

Do-It-Yourself Garden Projects

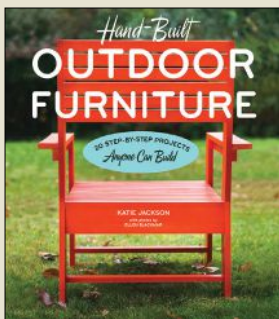
OPPORTUNITIES FOR getting creative abound in gardens. For example, how might you use every part of a freshly picked vegetable? Or perhaps you're looking for ways to repurpose the plethora of plastic pots left at the end of a planting season. The following books offer plenty of ideas and instructions for all sorts of DIY projects from constructing simple garden furniture to kid-friendly plant crafts.

Harvest: Unexpected Projects Using 47 Extraordinary Garden Plants (Ten Speed Press, 2017, \$22) by Stefani Bittner



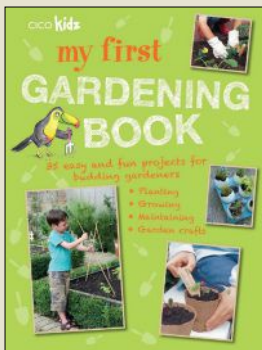
and Alethea Haramopolis provides innovative ways to make the most of an edible landscape. Organized by gardening season, the book includes detailed descriptions and histories of each plant featured, as well as helpful harvesting tips. Petals, leaves, roots, seeds, and fruit are all fair game for a multitude of creations. Full-page images artistically show the plant parts involved, and the final products.

Hand-Built Outdoor Furniture: 20 Step-by-Step Projects Anyone Can Build (Timber Press, 2016, \$19.95) by



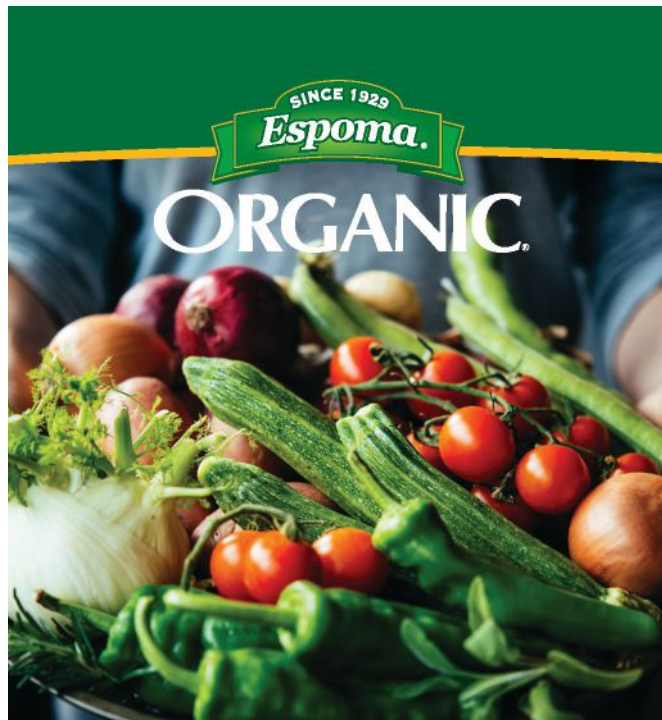
Katie Jackson contains plans for making your own stylish, sturdy furniture for outdoor spaces. These relatively simple projects range from tables and loungers, to garden swings and birdhouses. For each, the book gives illustrated steps to follow, along with a photograph of the completed piece and a list of required materials and tools.

My First Gardening Book: 35 Easy and Fun Projects for Budding Gardeners (CICO Kids, 2016, \$14.95) by Susan



Akass offers interactive projects ranging from quick, easy crafts to longer-term undertakings aimed at kids aged seven years and up. Some focus on teaching the basics of gardening like seed-sowing, while others are simply for fun like painted pots. Each project includes clear instructions, lists of items needed, colorful illustrations, and photographs of the end results.

—Stephanie George, Editorial Intern



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REGIONAL HAPPENINGS

Horticultural Events from Around the Country

NORTHEAST

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

AUG. 4–7. **Annual Conference and Expo.** The Association for Garden Communicators. Buffalo, NY. (212) 297-2198. www.gardenwriters.org.

RAP AUG. 8–10. **Introduction to the Native Flora of Maine.** Course. Coastal Maine Botanical Gardens. Boothbay, ME. (207) 633-4333. www.mainegardens.org.

RAP AUG. 9. **Pollinator Haven: Rethinking your Lawnscape.** Class. Hildene, The Lincoln Family Home. Manchester, VT. (802) 362-1788. www.hildene.org.

AUG. 12. **Pollinators and the Plants They Love.** Class. Bridge Gardens. Bridgehampton, NY. (631) 537-7440. www.peconiclandtrust.org/bridge_gardens.html.

RAP AUG. 19 & 20. **Glorious Gardens, Luscious Landscapes, & Fabulous Farms.** Tour. The Fells Historic Estate & Gardens. Newbury, NH. (603) 763-4789. www.thefells.org.

RAP AUG. 26. **Fall Veggies Container Garden Workshop.** Queens Botanical Garden. Flushing, NY. (718) 886-3800. www.queensbotanical.org.

RAP AUG. 26. **Saving Your Own Seeds.** Class. Tower Hill Botanic Garden. Boylston, MA. (508) 869-6111. www.towerhillbg.org.

Looking ahead

SEPT. 8 & 9. **American Horticultural Therapy Association Annual Conference.** American Horticultural Therapy Association. Burlington, VT. (888) 294-8527. www.ahta.org.

RAP SEPT. 9. **Garden Study Weekend Symposium: The Exuberant Garden.** Hollister House Garden and the Garden Conservancy. Southbury, CT. (203) 264-8200. www.hollisterhousegarden.org.

RAP SEPT. 9. **Sustainable Garden Design.** Class. New York Botanical Garden. Bronx, NY. (718) 817-8700. www.nybg.org.

RAP OCT. 7. **Fall Gardening Symposium.** Sonnenberg Gardens & Mansion State Historic Park. Canandaigua, NY. (585) 394-4922. www.sonnenberg.org.

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

MID-ATLANTIC

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

RAP JULY 28–30. **International Tree Climbing Championship with Arbor Fair & Expo.** U.S. National Arboretum & The International Society for Arboriculture. Washington, D.C. (217) 355-9411. www.usna.usda.gov.

RAP AUG. 3. **Birds in your Backyard.** Class. Pittsburgh Botanic Garden. Oakdale, PA. (412) 444-4464. www.pittsburghbotanicgarden.org.

RAP AUG. 8. **English Garden Design.** Class. Green Springs Garden. Alexandria, VA. (703) 642-5173. www.greenspring.org.

AUG. 15. **Invasive Plants and Meadow Management.** Demonstration. Ladew Topiary Gardens. Monkton, MD. (410) 557-9570. www.ladewgardens.com.

RAP AUG. 19. **Totally Tomatoes Class.** Rutgers Gardens. New Brunswick, NJ. (732) 932-8451. www.rutgersgardens.rutgers.edu.

RAP AUG. 26. **Hershey Horticulture Society Flower Show.** Hershey Gardens. Hershey, PA. (717) 534-3492. www.hersheygardens.org.

RAP AUG. 26. **Wildflower Walk.** West Virginia Botanic Garden. Morgantown, WV. (304) 322-2093. www.wvbg.org.

Looking ahead

SEPT. 9. **Annual Heritage Harvest Festival.** Monticello. Charlottesville, VA. (434) 984-9800. www.heritageharvestfestival.com.

RAP SEPT. 9. **Seed Collecting 101.** Class. Glen Burnie Gardens at the Museum of the Shenandoah Valley. Winchester, VA. (540) 662-1473. www.themsv.org.

RAP SEPT. 14. **Returning Bulbs.** Class.

Smithsonian Gardens. Washington, D.C. (202) 633-2220. www.gardens.si.edu.

SOUTHEAST

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

RAP AUG. 5. **Orchids 101.** Class. Marie Selby Botanical Gardens. Sarasota, FL. (941) 366-5731. www.selby.org.

RAP AUG. 8. **Walk & Talk: Hybridized Daylilies.** Western Kentucky Botanical Garden. Owensboro, KY. (270) 852-8925. www.wkbg.org.

RAP AUG. 13. **Growing Miniature Hostas in North Carolina.** Class. Paul J. Ciener Botanical Garden. Kernersville, NC. (336) 996-7888. www.cienerbotanicalgarden.org.

RAP AUG. 17. **Summer Tree I.D.** Guided tour. Boone County Arboretum. Union, KY. (859) 384-4999. www.bcarboretum.org.

RAP AUG. 26. **Orchids and More Plant Sale.** Port St. Lucie Botanical Gardens. Port St. Lucie, FL. (772) 337-1959. www.pslbotanicalgardens.org.

RAP AUG. 26. **Plant Conservation.** Class. State Botanical Garden of Georgia. Athens, GA. (706) 542-1244. www.botgarden.uga.edu.

Looking ahead

RAP SEPT. 2. **Cactus & Succulent Society Labor Day Sale.** University of South Florida Botanical Gardens. Tampa, FL. (813) 910-3274. www.cas.usf.edu/garden.

RAP SEPT. 16. **Exotic Plant and Orchid Sale and Indoor Craft Fair.** Mounts Botanical Garden. West Palm Beach, FL. (561) 233-1757. www.mounts.org/events.

RAP SEPT. 16. **Fall Plant Sale.** Boone County Arboretum. Union, KY. (859) 384-4999. www.bcarboretum.org.

RAP SEPT. 17. **Native Seed Propagation.** Class. North Carolina Botanical Garden. Chapel Hill, NC. (919) 962-0522. www.ncbg.unc.edu.

NORTH CENTRAL

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

RAP AUG. 3. **Monarchs.** Class. Nebraska Statewide Arboretum. Lincoln, NE. (402)

472-2971. www.plantnebraska.org.

RAP AUG. 5. **Central Illinois Daylily Society Plant Sale.** Washington Park Botanical Garden. Springfield, IL. (217) 546-4116. www.springfieldparks.org.

RAP AUG. 19. **Shade Gardening.** Class. Taltree Arboretum & Gardens. Valparaiso, IN. (219) 462-0025. www.taltree.org.

RAP AUG. 19 & 20. **Dahlia Show.** Olbrich Botanical Gardens. Madison, WI. (608) 246-4550. www.olbrich.org.

RAP AUG. 26. **Ohio Sustainable Landscape Symposium: Getting to Know Your Native Trees.** The Dawes Arboretum. Newark, OH. (740) 323-2355. www.dawesarb.org.

Looking ahead

RAP SEPT. 3. **Monarch Butterflies.** Class. Fernwood Botanical Garden & Nature Preserve. Niles, MI. (269) 695-6491. www.fernwoodbotanical.org.

RAP SEPT. 9. **Annual Iris, Peony, and Unique Plant Sale.** Iowa Arboretum. Madrid, IA. (515) 795-3216. www.iowaarboretum.org.

RAP SEPT. 9 & 10. **American Dahlia Society National Show.** Chicago Botanic Garden. Glencoe, IL. (847) 835-5440. www.chicagobotanic.org.

Enlightening Art Exhibit at Olbrich Botanical Gardens in Wisconsin

NOTHING MAKES an evening feel as elegant and festive as beautiful lights, especially if those lights are part of an innovative art exhibit in a public garden. Olbrich Botanical Gardens in Madison, Wis-



'Portal', by artists Victoria Reed and Keenan Lampe and lighting designer Jonathan Adams, was on display last year.

consin, will host its third annual "GLEAM: Art in a New Light," an illuminated sculpture display beginning on August 25, and continuing through the fall until October 28. It will feature colorful pieces by professional artists and designers who will "bring various and stunning approaches to how light will be used to transform the gardens," says GLEAM Artistic Director David Wells.

In addition to illuminating the 16-acre outdoor garden space, these light sculptures also will adorn the Bolz Conservatory. In conjunction with the exhibit, Olbrich will offer special events such as night photography classes and guided evening walks with Wells. For more information about Olbrich Gardens and GLEAM, visit www.olbrich.org.

—Stephanie George, Editorial Intern

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Embracing Japanese Culture in Gardens

CHERRY BLOSSOMS are certainly an iconic symbol of Japanese cultural and horticultural influences, but after these springtime flowers have faded, there's much more to enjoy. This summer, a number of special events across the country will feature Japanese garden design and culture, from serene rock gardens and meditation areas to tea ceremonies and traditional dance.

On August 19 and 20, **Anderson Japanese Gardens** in Rockford, Illinois, will host its annual Japanese Summer Festival. This event will include exhib-



Musical performers at the Anderson Japanese Gardens

its, performances, and demonstrations of traditional Japanese cultural arts, from drums and dances to origami and pottery. Guests may also explore the 12-acre garden's winding paths, ponds, and sukiya style tea house. For more information, visit www.andersongardens.org.

At the **Shofuso Japanese House and Garden**, the Japan America

Society of Greater Philadelphia in Pennsylvania will host its fifth annual Philadelphia Obon Festival on August 27. Live Japanese music, dance, and crafts will take place amid the one-and-a-half acre site that features three types of traditional Japanese gardens. Find more details at www.japanesehouse.org.

From August 25 to September 5, the **Portland Japanese Garden** in Portland, Oregon, is offering "Waza to Kokoro—Hands and Heart: the Use of Stone in the Japanese Tea Garden." This 12-day seminar will explore hands-on stonework methods important to traditional tea culture. Go to www.japanesegarden.org for more information.

—Stephanie George, Editorial Intern

RAP SEPT. 16. **Growing Herbal Teas in South Dakota.** Class. The Mary Jo Wegner Arboretum & East Sioux Falls Historic Site. Sioux Falls, SD. (605) 367-4414. www.maryjowegnerarboretum.com.

RAP SEPT. 27. **Over-Wintering Tropical Plants and Favorite Houseplants.** Class. Rotary Botanical Gardens. Janesville, WI. (608) 752-3885. www.rotarybotanicalgardens.org.

SOUTH CENTRAL

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

RAP JULY 29. **Collecting Seeds.** Workshop. Myriad Botanical Gardens. Oklahoma City, OK. (405) 445-7079. www.myriadgardens.org.

RAP AUG. 2. **Plants that Love Kansas Sun.** Class. Botanica, the Wichita Gardens. Wichita, KS. (316) 264-0448. www.botanica.org.

RAP AUG. 7. **Southern Living Plants.** Class. LSU AgCenter Botanic Gardens at Burden. Baton Rouge, LA. (225) 763-3990. www.burdenhorticulturesociety.com.

RAP AUG. 14. **Learn to Grow: Dwarf Conifer Garden.** Class. Springfield Botanical Gardens. Springfield, MO. (417) 891-1515. www.friendsofthegarden.org.

RAP AUG. 17. **Plant Propagation.** Class. East Texas Arboretum & Botanical Society. Athens, TX. (903) 675-5630. www.easttexasarboretum.org.

RAP AUG. 19. **Sustainable Landscaping: Practices & Principles.** Class. The Crosby Arboretum. Picayune, MS. (601) 799-2311. www.crosbyarboretum.msstate.edu.

RAP AUG. 26. **Composting 101.** Class. Missouri Botanical Garden. St. Louis, MO. (314) 577-5118. www.mobot.org.

RAP AUG. 27. **Making and Installing a Rain Barrel.** Class. Tulsa Garden Center. Tulsa, OK. (918) 576-5155. www.tulsagardencenters.com.

Looking ahead

RAP SEPT. 11. **Maples and Small Ornamental Trees.** Class. LSU AgCenter Botanic Gardens at Burden. Baton Rouge, LA. (225) 763-3990. www.burdenhorticulturesociety.com.

SOUTHWEST

AZ, CO, NM, UT

RAP AUG. 9. **Environmental Challenges of Desert Gardening.** Class. Desert Botanical Garden. Phoenix, AZ. (480) 941-1225. www.dbg.org.

RAP AUG. 11. **Beekeeping.** Workshop. Denver Botanic Gardens. Denver, CO. (720) 865-3500. www.botanicgardens.org.

RAP AUG. 18 & 19. **Mushroom Festival.** Arboretum at Flagstaff. Flagstaff, AZ. (928) 774-1442. www.thearb.org.

RAP AUG. 19. **Design Ecology.** Class. Santa Fe Botanical Garden. Santa Fe, NM. (505) 471-9103. www.santafebotanicalgarden.org.

RAP AUG. 21. **Integrated Pest Management for Organic Gardening.** Lecture. Red Butte Garden. Salt Lake City, UT. (801) 585-0556. www.redbuttegarden.org.

RAP AUG. 21. **Seed Collecting.** Workshop. Betty Ford Alpine Gardens. Vail, CO. (970) 476-0103. www.bettyfordalpinegardens.org.

RAP AUG. 26. **August Rose Garden Tour.** Hudson Gardens and Event Center. Littleton, CO. (303) 797-8565. www.hudsongardens.org.

Looking ahead

RAP SEPT. 16. **The Great Xeriscape.** Class. Tohono Chul. Tucson, AZ. (520) 742-6455. www.tohonochochulpark.org.

SEPT. 23 & 24. **Albuquerque Fall Rose Exhibition.** Albuquerque Botanic Garden. Albuquerque, NM. (505) 768-2000. www.cabq.gov/culturalservices/biopark.

WEST COAST

CA, HI, NV

RAP AUG. 9. **Using Mycorrhizae in the Restoration of Native Hawaiian Plants.** Lecture. Lyon Arboretum. Honolulu, HI. (808) 988-0456. www.manoa.hawaii.edu/lyonarboretum.

RAP AUG. 12. **Inter-City Cactus Show and Sale.** Los Angeles County Arboretum & Botanic Garden. Arcadia, CA. (626) 821-3222.

www.arboretum.org.

RAP AUG. 19. **Plants from Chile: California's Southern "Relatives."** Class. Markham Nature Park & Arboretum. Concord, CA. (925) 681-2968. www.markhamarboretum.org.

RAP AUG. 20. **Insects of the World and in the Garden.** Class. Regional Parks Botanic Garden. Berkeley, CA. (510) 544-3169. www.nativeplants.org.

RAP AUG. 26. **Landscape Basics.** Class. Springs Preserve Botanical Garden. Las Vegas, NV. (702) 822-7700. www.springspreserve.org.

RAP AUG. 30. **End of Summer Festival.** Descanso Gardens. La Cañada Flintridge, CA. (818) 949-4200. www.descansogardens.org.

Looking ahead

SEPT. 16. **Stories from the Garden: African Plants and Their Stories.** Lecture. Rancho Los Cerritos. Long Beach, CA. (562) 206-2040. www.rancholoscerritos.org.

NORTHWEST

AK, ID, MT, OR, WA, WY

RAP AUG. 11. **Plant and Manage Indoor**

Gardens. Workshop. W.W. Seymour Botanical Conservatory. Tacoma, WA. (253) 591-5330. www.metroparkstacoma.org/conservatory.

RAP AUG. 17. **Getting to Know the Best Ferns for the Garden.** Class. Lakewold Gardens. Lakewood, WA. (253) 584-4106. www.lakewoldgardens.org.

RAP AUG. 19. **Bug Day.** Festival. Idaho Botanical Garden. Boise, ID. (208) 343-8674. www.idahobotanicalgarden.org.

AUG. 19. **Lasagna Gardening Workshop.** Wildlife Botanical Gardens. Brush Prairie, WA. (360) 737-1160. www.naturescaping.org.

RAP AUG. 23. **From Far and Near: Native and Not-So-Native Plants for the Pacific Northwest Gardener.** Class. Bellevue Botanical Garden. Bellevue, WA. (425) 451-3755. www.bellevuebotanical.org.

AUG. 23-25. **Farwest Trade Show.** Oregon Association of Nurseries. Portland, OR. (503) 682-5089. www.farwestshow.com.

Looking ahead

RAP SEPT. 16. **Native Conifers of Northwest Oregon.** Class. Hoyt Arboretum. Portland, OR. (503) 865-8733. www.hoytarboretum.org.

RAP SEPT. 28. **Propagation 101.** Class. Bellevue Botanical Garden. Bellevue, WA. (425) 451-3755. www.bellevuebotanical.org.

CANADA

RAP AUG. 19. **Plant Identification & Culture.** Workshop. Horticulture Centre of the Pacific. Victoria, BC. (250) 479-6162. www.hcp.org.

AUG. 28. **Cool Containers.** Lecture. Edmonton Horticultural Society. Edmonton, AB. (780) 456-3324. www.edmontonhort.com.

Looking ahead

SEPT. 13-16. **National Symposium on Parks & Grounds and National & International Awards Ceremonies.** Communities in Bloom. Ottawa, ON. (514) 694-8871. www.communitiesinbloom.ca.

SEPT. 23. **Treasured Bulb Sale.** UBC Botanical Garden. Vancouver, BC. (604) 822-4208. www.botanicalgarden.ubc.ca.

RAP SEPT. 29. **Ecological Solutions: Landscaping for Bees.** Workshop. Royal Botanical Gardens. West Burlington, ON. (800) 694-4769. www.rbg.ca.

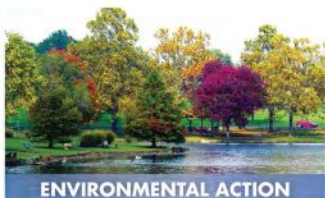


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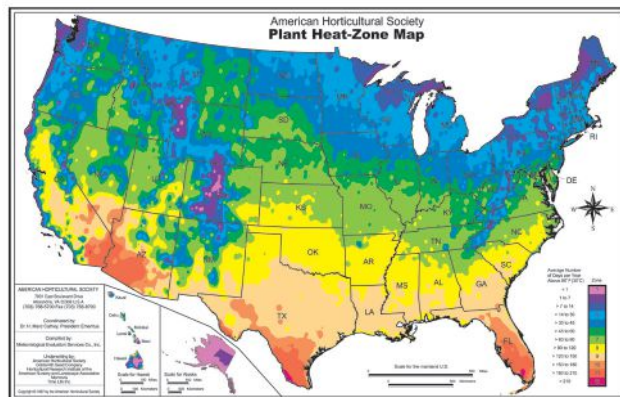
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PRONUNCIATIONS AND PLANTING ZONES

Most of the cultivated plants described in this issue are listed here with their pronunciations, USDA Plant Hardiness Zones, and AHS Plant Heat Zones. These zones suggest a range of locations where temperatures are appropriate—both in winter and summer—for growing each plant. USDA Zones listed are still aligned with the 1990 version of the USDA's map.

While the zones are a good place to start in determining plant adaptability in your region, factors such as exposure, moisture, snow cover, and humidity also play an important role in plant survival. The zones tend to be conservative; plants may grow outside the ranges indicated. A USDA zone rating of 0–0 means that the plant is a true annual and completes its life cycle in a year or less.



A–D

- Acanthus mollis*** uh-KAN-thus MOL-lis (USDA Hardiness Zones 7–10, AHS Heat Zones 10–4)
Actaea racemosa ack-TEE-uh ras-eh-MO-suh (3–8, 12–1)
A. simplex A. SIM-pleks (4–8, 8–1)
Agastache foeniculum ah-guh-STAH-she fee-NICK-yoo-lum (4–11, 12–5)
Alchemilla mollis al-kem-ILL-uh MOL-lis (4–7, 7–1)
Allium sphaerocephalon AL-ee-um sfee-oh-SEFF-uh-lon (4–11, 12–1)
Amsonia hubrichtii am-SO-nee-uh hew-BRIK-tee-eye (4–9, 9–5)
A. tabernaemontana A. tab-ur-nee-mon-TAN-uh (3–9, 9–3)
Aralia cachemirica uh-RAY-lee-uh cash-MEER-ih-kuh (7–9, 9–7)
Argemone munita ar-JEM-o-nee mew-NYE-tuh (5–10, 10–3)
A. sanguinea A. san-GWIN-ee-uh (5–10, 10–3)
Artemisia ludoviciana ar-teh-MEEZ-yuh loo-doh-vik-ee-AN-uh (4–9, 9–1)
Asarum canadense uh-SAR-um kan-uh-DEN-see (3–8, 8–1)
A. caudatum A. kaw-DAY-tum (5–8, 8–5)
Astilboides tabularis uh-stil-BOY-deez tab-yew-LAIR-iss (5–7, 7–5)
Baptisia australis bap-TIZ-yuh aw-STRAY-liss (3–9, 9–1)
Brassica oleracea BRASS-ih-kuh o-luh-RAY-see-uh (7–11, 6–1)
Callirhoe involucrata kah-LIR-o-ee in-vol-yew-KRAY-tuh (4–9, 9–4)
Cordylone australis KORE-dih-line aw-STRAY-liss (8–11, 12–10)
Darmera peltata DAR-mer-uh pel-TAY-tuh (5–8, 8–5)
Dendromecon harfordii den-dro-MEE-kon har-FORD-ee-eye (7–10, 10–7)
D. rigida D. RI-ji-duh (6–10, 10–6)
Diphylleia cymosa dy-FILL-ee-uh sih-MO-suh (4–8, 7–3)
Dryopteris erythrosora dry-OP-ter-iss air-ih-THRO-sor-uh (5–9, 9–5)

E–L

- Echinacea angustifolia*** ek-ih-NAY-see-uh ang-gus-tih-FO-lee-uh (4–9, 9–1)
E. pallida E. PAL-lih-duh (3–10, 10–1)
E. purpurea E. pur-PUR-ee-uh (3–9, 9–1)
Eryngium yuccifolium ee-RIN-jee-um yuk-ih-FO-lee-um (3–8, 8–1)
Eschscholzia caespitosa es-SHLOZ-zee-uh see-spi-TOE-sa (8–10, 10–1)
E. californica E. kal-ih-FORN-ih-kuh (8–10, 10–1)
Euonymus atropurpureus yew-ON-ih-mus at-tro-per-per-EE-us (3–9, 10–4)
Eutrochium fistulosum yew-TRO-kee-um fist-yew-LO-sum (3–8, 8–2)
Farfugium japonicum far-FEW-jee-um jah-PON-ih-kum (7–10, 10–7)
Festuca glauca fes-TEW-kuh GLAW-kuh (4–8, 8–1)
Filipendula camtschatica fih-lih-PEN-dyew-luh kam-CHA-tih-kuh (3–7, 8–1)
F. rubra F. ROO-bruh (3–9, 9–1)
Heuchera micrantha HEW-ker-ah my-KRAN-thah (3–8, 8–1)
Hydrangea arborescens hy-DRAN-juh ar-bo-RES-enz (4–9, 9–1)

- H. paniculata*** H. pan-ik-yew-LAY-tuh (4–8, 8–1)
Hydrastis canadensis hy-DRASS-tis kan-uh-DEN-sis (4–9, 8–4)
Kallstroemia grandiflora kal-STRO-me-uh gran-dih-FLO-uh (7–8, 8–6)
Kirengeshoma koreana kee-reng-geh-SHO-muh kor-ee-AN-uh (5–8, 8–5)
K. palmata K. pal-MAY-tuh (5–8, 8–5)
Ligularia dentata lig-yew-LAIR-ee-uh den-TAY-tuh (5–8, 8–1)
L. przewalskii L. shah-WAL-skee-eye (4–8, 8–1)
L. stenocephala L. sten-oh-SEF-ah-la (4–8, 8–1)
Lysichiton americanus ly-sih-KY-ton a-mer-ih-KAY-nus (5–8, 8–1)

M–Z

- Maianthemum racemosum*** my-AN-theh-mum rass-eh-MO-sum (4–9, 9–1)
Mertensia virginica mur-TEN-see-uh vir-JIN-ih-kuh (3–8, 7–1)
Miscanthus sinensis miz-KAN-thus sih-NEN-siss (6–9, 9–1)
Monarda didyma moh-NAR-duh DID-ih-muh (4–10, 10–1)
Monardella villosa mon-ar-DEL-luh vih-LO-suh (8–10, 10–8)
Napaea dioica na-PAY-uh dy-oh-EE-kuh (5–7, 8–3)
Panax quiquefolius PAN-aks kwin-kwe-FO-lee-us (3–9, 9–1)
Papaver heterophyllum puh-PAY-uh het-er-oh-FY-lum (8–10, 10–7)
Phlox paniculata FLOKS pan-ik-yew-LAH-tuh (4–8, 8–1)
Physocarpus opulifolius fie-so-KAR-pus op-yew-lih-FO-lee-us (3–7, 7–1)
Platystemon californicus plat-ee-STEE-mon kal-ih-FOR-nik-us (7–10, 10–7)
Podophyllum difforme pah-doh-FIL-lum dy-FORM-ee (6–9, 8–6)
P. pteleanthum P. plee-AN-thum (6–8, 8–5)
Porteranthus stipulatus por-tur-AN-thus stih-pyew-LAY-tus (4–8, 8–1)
Rheum palmatum REE-um pal-MAY-tum (5–9, 9–1)
Rodgersia aesculifolia rah-JERZ-ee-uh es-kyew-lih-FO-lee-uh (5–8, 8–1)
R. pinnata R. pin-NAY-tuh (3–7, 7–1)
R. podophylla R. pah-doh-FIL-luh (5–8, 8–5)
Romneya coulteri rom-NEE-yuh KOOL-tur-eye (6–10, 10–6)
Rudbeckia fulgida var. sullivantii rood-BEK-ee-uh FUL-jih-duh var. sul-ih-VAN-tee-eye (3–9, 10–1)
Salvia elegans SAL-vee-uh EL-ih-ganz (8–11, 12–1)
S. spathacea S. spath-ah-SEE-ah (8–11, 10–7)
Sanguinaria canadensis san-gwi-NAIR-ee-uh kan-uh-DEN-siss (3–9, 9–1)
Satureja douglasii sat-oo-REE-yuh dug-LASS-ee-eye (7–10, 10–7)
Scutellaria suffrutescens skoo-tuh-LAIR-ee-uh suf-froo-TES-enz (6–9, 9–6)
Styloporum diphyllum sty-lo-FOR-um dy-FIL-lum (5–8, 8–1)
Syneilesis palmata sin-eel-ES-is pahl-MAY-tuh (4–8, 8–1)
Telekia speciosa tel-LEK-ee-uh spee-see-OH-suh (4–8, 8–5)
Veratrum viride ver-AT-trum VEER-ih-day (3–8, 8–1)

GARDEN MARKET

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Eastern Wahoo—Gardenworthy but Underutilized

by Eva Monheim



Eastern wahoo provides attractive fall color and hanging fruit clusters relished by wildlife.

AS A professor of horticulture, I spend a good bit of time introducing students to hundreds of plants during the school year. So it was a pleasant surprise to have one of my former students in turn introduce me to eastern wahoo (*Euonymus atropurpureus*, USDA Hardiness Zones 3–9, AHS Heat Zones 10–4) some five years ago, when he was working at a native plant garden in New York.

Like other euonymus species, eastern wahoo's opposite leaves are oval with fine serrations along the margins. The bright green summer foliage turns purple to red and sometimes yellow in fall. In early to midsummer, loose clusters of small, deep purple, four-petaled

flowers bloom on long, multibranched stems that emerge from the leaf axils. Although the flowers tend to be obscured by foliage, the capsulelike fruits make up for it by turning from pale green or gray to pink and then splitting open in late summer or early fall to reveal seeds covered in a bright red coating known as an aril. These dangling fruits are persistent and, if not eaten by wildlife, remain ornamental even after the leaves have dropped.

NATIVE RANGE AND GARDEN USES

Eastern wahoo has a broad native range that encompasses much of eastern North America from southern Canada down to the Gulf Coast and Texas, but its prima-

ry habitat is a broad swath running from the Mid-Atlantic region west to Nebraska, Kansas, and Oklahoma. Although largely an understory tree in the wild, it is adaptable to full sun. It thrives in average to moist soils with a neutral pH and tolerates seasonal flooding.

In the wild, eastern wahoo has been known to grow up to 40 feet tall, but in cultivation it is more likely to top out at 15

Sources

Easy Wild Flowers, Willow Springs, MO. www.easywildflowers.com.


Prairie Moon Nursery, Winona, MN. www.prairiemoon.com.

Sheffield's Seed Company, Locke, NY. www.sheffields.com.

to 20 feet. Consider using it for screening, as part of an informal hedge, along a waterway or pond where it will revel in damp soil, or as a specimen tree in an open area under a high woodland canopy.

OBSCURE BUT WORTHY

Perhaps one reason this small, native tree or large shrub is not better known is that it is sometimes listed under other common names—spindle tree and burning bush—that are associated with notoriously invasive Eurasian relatives *E. europaeus* and *E. alatus*.

A more likely explanation is that it is not widely available in the nursery trade. But the plant is worth seeking out because it grows on you as the season goes on, starting out bright green in spring and early summer and then becoming increasingly colorful from late summer through the end of the year. 

Eva Monheim is an assistant professor in the Department of Landscape Architecture and Horticulture at Temple University in Ambler, Pennsylvania.

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