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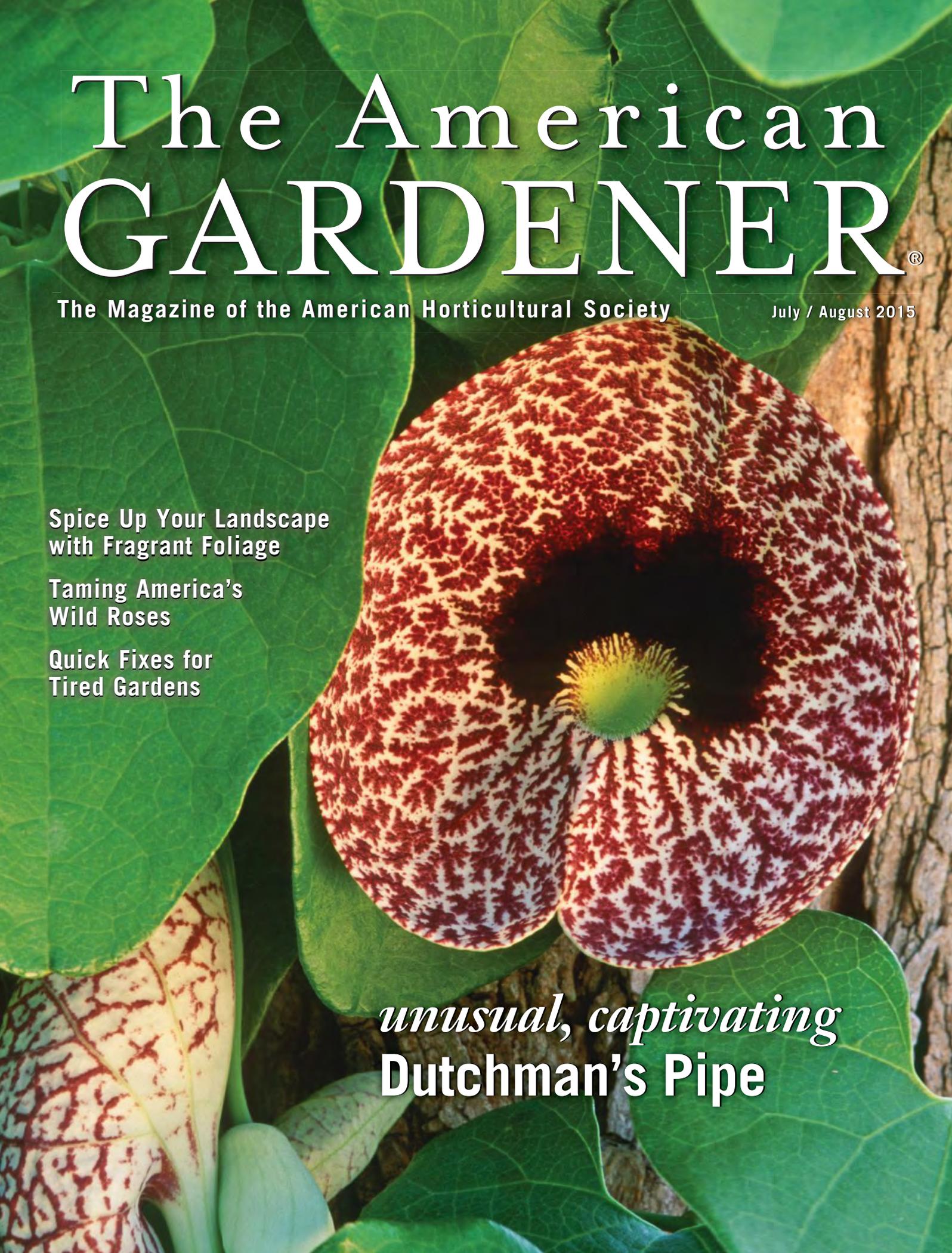
The Magazine of the American Horticultural Society

July / August 2015

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with Fragrant Foliage

Taming America's
Wild Roses

Quick Fixes for
Tired Gardens



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NOTES FROM RIVER FARM

THE VERY NATURE of a nonprofit organization like the American Horticultural Society (AHS) is to make the world a better place. Our vision statement, “Making America a Nation of Gardeners, a Land of Gardens,” may sound like a challenging goal, but it inspires our Board and staff and resonates with our members.

In my travels around the country, I’m often asked how a national organization like the AHS goes about promoting its cause. Some of the ways are very visible and easy to describe, such as our annual National Children & Youth Garden Symposium, Reciprocal Admissions Program, bimonthly magazine, national awards program, and the gardens at our River Farm headquarters. Tailored to our members and visitors from around the country and even the world, these are the core of our work and the crux of our existence.

But each year we also engage in a select number of outreach activities that extend our message to a broader audience. More often than not, we accomplish this through partnerships or collaborations with likeminded organizations. We are currently involved in three such outreach activities, most recently signing on as one of more than 20 partner organizations in the National Pollinator Garden Network, which is rallying gardeners to reverse the decline of pollinators (for more on this, turn to “News from the AHS” on page 8).

Two other activities that the AHS is aligned with are promoting horticulture education and careers—via a partnership with several major horticultural organizations—and the Coalition of American Plant Societies (you can read more about the latter on page 10). Although each of these initiatives targets different audiences, collectively they serve to bring people together to share resources and tackle complex issues. At the end of the day, each is seeking to promote an awareness and understanding of the important role gardens and gardening play in environmental stewardship and quality of life. The goal is to create more gardeners, more sustainable gardens, and more horticultural professionals for a greener, healthier world. As they progress, we will keep you posted on these and other important efforts that complement our mission and programs.

Bringing the focus a little closer to home, we’re pleased to present another information- and inspiration-packed issue of *The American Gardener*. If you have ever been faced with the prospect of opening your garden to visitors for a tour or special occasion, you’ll be sure to appreciate the tips that noted garden writer Carole Ottesen provides in “Quick Fixes for Tired Gardens.” Those of you with an interest in attracting and providing habitat for beneficial wildlife will want to read Julie Bawden-Davis’s article on growing rugged roses native to North America. And for anyone who loves ornamental plants with bizarre habits, a profile of the genus *Aristolochia*—commonly known as “Dutchman’s pipe”—is sure to please.

We hope you enjoy this issue of *The American Gardener* and thank you for being a part of our AHS family. And, as always, happy gardening!

Tom Underwood
Executive Director



Tom Underwood

The American GARDENER

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The American Gardener (ISSN 1087-9978) is published bimonthly (January/February, March/April, May/June, July/August, September/October, November/December) by the American Horticultural Society, 7931 East Boulevard Drive, Alexandria, VA 22308-1300, (703) 768-5700. Membership in the Society includes a subscription to *The American Gardener*. Annual dues are \$35; international dues are \$55. \$10 of annual dues goes toward magazine subscription. Periodicals postage paid at Alexandria, Virginia, and at additional mailing offices. Postmaster: Please send Form 3579 to *The American Gardener*, 7931 East Boulevard Drive, Alexandria, VA 22308-1300.

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

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Printed in the U.S.A.



MEMBERS' FORUM

TAKE-AWAY FROM NATIVARS ARTICLE

In my garden, a typical urban lot in Detroit, Michigan, I grow more than 200 species of native plants. So I was particularly interested in Graham Rice's article ("Coming to Terms With Nativars," March/April 2015), which explored whether cultivars of native plants, dubbed "nativars," are as beneficial to pollinators and other beneficial animals as the unmodified species.

Frankly, I am mystified by what seems to be a general perception that insect activity is a negative in our gardens when it is in fact essential to the planet's ongoing health. The math is fairly straightforward: Plants



'Hello Yellow' butterfly weed attracts beneficial pollinators.

are the only organisms capable of making their own food, and insects are the most critical means of converting that food to available protein.

For me, the article confirmed a conclusion I'd come to some time ago: If I really want to have not only an absolutely gorgeous garden that requires little or no maintenance, but one that also provides a haven for native birds, butterflies, and other fauna, there is absolutely no substitute for planting native plant species, ideally local genotypes.

*Cheryl M. English
Advanced Master Gardener
Wayne County, Michigan*

We are looking for candidates for our "AHS Members Making a Difference" department, in which we profile current members who are using their gardening or horticultural skills for the greater good. We've spotlighted members who volunteer in a community garden, donate their business services for a good cause, help protect rare or endangered plants, and share their passion for gardening with others in creative ways. If you have a story you'd like us to consider, e-mail a brief description of your efforts to editor@ahs.org or send a letter to us at the address listed below.

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

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E-MAIL LISTS To subscribe to specific e-mail lists for updates on programs and events, visit <http://americanhort.ahs.org/email>.

INTERNSHIP PROGRAM The AHS offers internships in communications, horticulture, and youth programs. For information, send an e-mail to education@ahs.org. Information and application forms can also be found in the Gardening Programs area of www.ahs.org.

NATIONAL CHILDREN & YOUTH GARDEN SYMPOSIUM For information about the Society's annual National Children & Youth Garden Symposium, e-mail education@ahs.org or visit www.ahs.org/ncygs.

RECIPROCAL ADMISSIONS PROGRAM The AHS Reciprocal Admissions Program offers members free admission and other discounts to nearly 300 botanical gardens and other horticultural destinations throughout North America. A list of participating gardens can be found on www.ahs.org/rap. For more information, call (800) 777-7931 ext. 119.

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.ahs.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@ahs.org, or visit the Gardening Programs section of www.ahs.org.

WEBSITE: www.ahs.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 2015

PROGRAMS • EVENTS • ANNOUNCEMENTS

NATIONAL POLLINATOR GARDEN NETWORK LAUNCHES

THE AMERICAN HORTICULTURAL SOCIETY (AHS) has joined the **National Pollinator Garden Network (NPGN)**, a coalition of conservation and gardening associations, federal agencies, and more than 800,000 individual gardeners supporting the creation of critical pollinator habitat across the United States.



This June, the NPGN launched its Million Pollinator Garden Challenge, with the goal of inspiring 1 million registered pollinator gardens nationwide. This collective effort comes in response to mounting evidence that pollinators of all kinds—from honey bees to native bees and butterflies—are in decline, in large part because of loss of habitat.

It also dovetails with President Obama's 2014 pollinator directive, to "[Create] a Federal Strategy to Promote the Health of Honey Bees and Other Pollinators."

Combined with other regional and national programs, the million garden initiative is a critical early step to offset the loss of habitat due to changing agricultural practices, urban expansion, and climate change, while raising awareness of how gardeners can play a vital role in reversing this trend.

"Anyone in urban, suburban, or rural communities can make a difference by planting for pollinators, and coming together in an effort to create and enhance one million pollinator gardens," says **Laurie Adams**, executive director of the Pollinator Partnership, one of NPGN's founding partners. "Any size habitat counts in that million—window boxes, gardens, farm borders, golf courses, school gardens, corporate and university campuses. Every garden counts."

To learn how to create and register your own pollinator garden, along with other resources, visit the homepage of the AHS website (www.ahs.org) for a link to the Million Pollinator Garden Challenge.

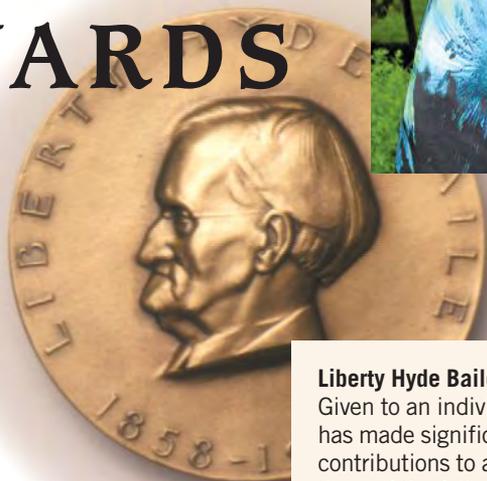
AHS PARTICIPATES IN SUNSET CELEBRATION WEEKEND

IN JUNE, the AHS participated in *Sunset* magazine's annual Celebration Weekend, a two-day festival of western living held at its headquarters in Menlo Park, California. Attracting upwards of 20,000 visitors a year, the event features special exhibits sprawled across *Sunset*'s famous seven-acre garden campus, along with stage presentations by garden writers, landscape designers, celebrity chefs, and *Sunset* editorial staff. This was the final Celebration Weekend to be held at the Menlo Park location, because the magazine is moving to a new facility in Oakland.

The AHS shared exhibit space in the garden with corporate member **Corona Tools**, passing out copies of *The American Gardener*, seed packets, and gardening advice. "We had people spilling out of the booth from the minute we opened," says Digital Communications Manager **Charlotte Germane**, who represented AHS at the event. "It was definitely a wonderful venue for raising awareness of the American Horticultural Society among West Coast gardeners, although bittersweet since this was the last time the event will be held at this beautiful venue."

Call for Nominations

AMERICAN HORTICULTURAL SOCIETY 2016 GREAT AMERICAN GARDENERS AWARDS



2015 Paul Ecke Jr. Commercial Award recipient Renee Shepherd, center, with AHS Awards Committee Chair Jane Diamantis and AHS Executive Director Tom Underwood

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 2016.

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.ahs.org or call (703) 768-5700 ext. 121.

Nominations must be submitted by September 30, 2015.



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.

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.

2016 AWARDS

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.

Frances Jones Poetker Award

Recognizes significant contributions to floral design in publications, on the platform, and to the public.

Professional Award

Given to a public garden administrator whose achievements during the

course of his or her career have cultivated widespread interest in horticulture.

Catherine H. Sweeney Award

Recognizes extraordinary and dedicated philanthropic support of the field of 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 NATIONAL EVENTS CALENDAR

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

- AUG. 14–16. **The Homestead Resort's "In the Garden" Weekend Symposium.** Hot Springs, Virginia.
 SEPT. 19. **Annual AHS Gala.** River Farm, Alexandria, Virginia.
 SEPT. 22–25. **International Master Gardener Conference.** Council Bluffs, Iowa.
 SEPT. 24–26. **America in Bloom Symposium and Awards Program.** Holland, Michigan.
 OCT. 7–15. **Gardens in and Around Rome, Italy.** AHS Travel Study Program.

2016

- JAN. 7–20. **South Africa: Gardens of the Cape** (with optional post-tour safari, Jan. 20–23). AHS Travel Study Program.
 APR. 21–MAY 1. **Gardens of Portugal: Lisbon, Sintra and Madeira.** AHS Travel Study Program.
 AUG. 31–SEPT. 10. **Italy: Architecture and Gardens of the Veneto, Dolomites, and Venice.** AHS Travel Study Program.

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, 2015.

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COALITION OF AMERICAN PLANT SOCIETIES MEETS IN OHIO

THE HERB SOCIETY OF AMERICA hosted the fourth annual Coalition of American Plant Societies (CAPS) meeting



The Cleveland Botanical Garden was part of the 2015 CAPS tour.

in Kirtland, Ohio, in June. Representatives from several national plant societies and other gardening organizations, including the AHS and the **Garden Writers Association**, attended the three-day meeting, which affords a unique opportunity for plant societies to network and share successful membership, communication, and education strategies with each other.

Guest speakers included **Maria Zampini** of Upshoot LLC, who discussed social

media as a tool to grow membership and educate existing members, and **Ashley Oeken** of Engage! Cleveland, who talked about connecting with young professionals. Attendees also toured the Cleveland Botanical Garden and Holden Arboretum. Next year, the **American Rose Society** will host the CAPS meeting at its headquarters in Shreveport, Louisiana. For a complete list of national plant societies, see the AHS website, at www.ahs.org/gardening-resources/societies-clubs-organizations.

AHS GREAT AMERICAN GARDENERS AWARDS CEREMONY & BANQUET 2015

THIS YEAR'S Great American Gardeners and Book Awards Ceremony and Banquet was held at River Farm in early June. Individuals, organizations, and businesses that have significantly contributed to wide-ranging fields of gardening, horticulture, and landscape design were honored, along with outstanding garden-related books.

William E. Barrick, executive director of Bellingrath Gardens and Home in Theodore, Alabama, received AHS's highest honor, the Liberty Hyde Bailey Award, for his lifetime contributions to American horticulture. **Floyd Zaiger**, founder of Zaiger's Inc. Genetics received the Luther Burbank



William E. Barrick, center, with Awards Committee Chair **Jane Diamantis** and AHS Executive Director **Tom Underwood**.

Award for his pioneering work in stone fruit breeding, and **Renee Shepherd** of Renee's Garden received the Paul Ecke Jr. Commercial Award for her efforts to increase the diversity of edible and heirloom plants available to home gardeners.

Garden writer and editor **James Augustus Baggett**, landscape architect **Thomas Woltz**, and **Paul Redman**, director of Longwood Gardens, were also among the honorees at this year's ceremony.

Nominations are now open for the 2016 Great American Gardeners Awards (see page 9 for details).

WEEKEND SYMPOSIUM RETURNS TO OMNI HOMESTEAD RESORT

FROM FRIDAY August 14 through Sunday the 16, the Omni Homestead Resort will host "In the Garden," an annual weekend symposium in Hot Springs, Virginia, cosponsored by the AHS. The weekend will feature presentations by gardening experts such as radio personality and author **André Viette**, a cooking demonstration, and a tour of the Homestead gardens with **Forrest Lee**. Registration for the event includes two nights at the resort, meals, and a complimentary AHS membership. Guests also have the option of signing up for activities such as spa treatments, carriage rides, Segway tours, hikes, kayaking, archery, and falconry. For more information or to register call (800) 838-1766 or visit www.thehomestead.com.

ANNUAL GALA COMING UP IN SEPTEMBER

JOIN THE AHS Saturday, September 19, for "Reflections of River Farm: A Step Back in Time," the AHS annual gala, held at its River Farm headquarters in Alexandria, Virginia. The

formal evening will feature live music, food and wine, and a silent auction to benefit the AHS's stewardship of River Farm and its outreach programs. Vacation packages, garden tours, tools, plants, and many other special items will be available at the silent auction. For more information or to register, call (703) 768-5700 or visit www.ahs.org.

SEED EXCHANGE IS AROUND THE CORNER

THE AHS will be accepting seed donations for the 57th annual Seed Exchange beginning in September, so start saving seeds from your favorite plants to share with other AHS members.

Seeds of all kinds, including uncommon and hard-to-find species and selections, are offered, so if you've been looking for something unique, this is the program for you. And remember, while every AHS member can participate in the exchange, first dibs always go to members who donate seeds. A seed donation form will be included in the next issue of *The American Gardener*.

AMERICA IN BLOOM AWARDS SYMPOSIUM

THE 2015 America in Bloom Awards Symposium will be held in Holland, Michigan, September 24 to 26. Co-sponsored by AHS, the symposium will feature panel presentations on gardening for your community, along with tours of local gardens. On Thursday and Saturday nights, awards will be presented to America in Bloom member communities and honored guests. For more information or to register, visit www.americainbloom.org/Symposium. Early bird registration ends September 4. 🌸

News written by Editorial Intern Amy G. McDermott.

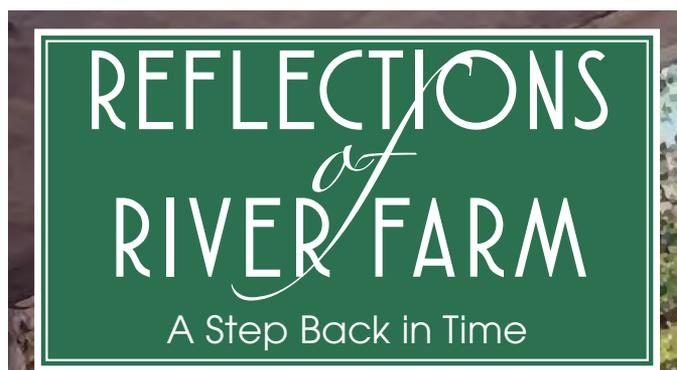


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THE AMERICAN HORTICULTURAL SOCIETY'S 22ND ANNUAL GALA
◆ SATURDAY, SEPTEMBER 19, 2015 ◆
For more information visit www.ahs.org or call (703) 768-5700.

AHS MEMBERS MAKING A DIFFERENCE: Betty Adelman

by Mary S. Chadduck and Amy G. McDermott

THE VARIETY OF heirloom flowers, vegetables, and herbs available to home gardeners has decreased dramatically over the last century, endangering our horticultural heritage and limiting the palette of colors and flavors we can grow at home. Betty Adelman, an American Horticultural Society (AHS) member since 1997, is helping to keep heirlooms in our gardens through her nursery, Heritage Flower Farm, in Mukwonago, Wisconsin. The nursery, which she founded in 2000, currently offers more than 1,000 kinds of heirloom plants for sale.

“Heirlooms connect us with ancient Greece and Rome, China, Native Americans, early American gardens, and to our grandparents, who grew these in their gardens,” explains Adelman. “Time has tested heirloom classics; they are sustainable, lasting generations, sometimes thousands of years. Many are simply beautiful and rare.”

A PASSION FOR PROPAGATION

For Adelman, the metamorphosis from gardener to proprietor of a nursery didn't begin as a crusade to save heirlooms. Instead, it began, innocently enough, with tomatoes and an unused hot tub in the basement of the house she lived in. The top of the covered tub was a perfect seed starting table for an entire packet of tomato seeds that Adelman sowed one year. She was enthralled by the germination process, “the miracle of watching these little things...figuring out what they needed to grow and prosper.”

Bitten with the propagation bug, Adelman started running out of space for her projects, which prompted her to move to her current location in 1992. The seven-acre property is “large enough to be dangerous but not enough to be overwhelming,” she quips. The property's original owner, Anne Patterson, took the time to introduce Adelman to the garden's numerous heirloom varieties, which sparked a new focus for Adel-

man's propagation efforts. “I wanted to grow heirloom plants more than anything else,” she recalls.

Before long, she needed an outlet for selling all the extra plants she was

origin that she nicknamed “Anne's iris” to honor the property's previous owner, who had planted it. Other plants Adelman offers often trigger childhood memories. Many customers have remarked to



AHS member Betty Adelman cultivates heirloom plants at her Wisconsin nursery and gardens.

growing, so Heritage Flower Farm was born. She also began doing research on the plants because, “how could I do this without being a history buff?” Adelman asks with a laugh.

Naturally, she includes the fruits of this research in the catalog descriptions of each plant. These notes might include provenance (native origin) and discovery dates; the historical significance of a plant's botanical name, such as early explorers it was named after; and historically important people who had a connection with the plant.

PRESERVING CONNECTIONS TO THE PAST

Heirlooms don't need a storied past to be worth saving. For example, Adelman sells a purple bearded iris of unknown

her, “My grandmother used to grow this and I've been looking for it for years.”

Among the rarer offerings is *Rudbeckia laciniata* ‘Golden Glow’, a double-flowered cutleaf coneflower selection that enjoyed popularity at the turn of the 20th century following its chance discovery in 1894. “I think we are the only place in North America that sells it,” says Adelman.

For Adelman, cultivating these kinds of connections is what it's all about. Growing heirlooms “connects people to the past, it connects people to other places,” she says. “It's interesting to see how similar we are to the people who first grew them.”

Mary S. Chadduck and Amy G. McDermott are editorial interns for The American Gardener.

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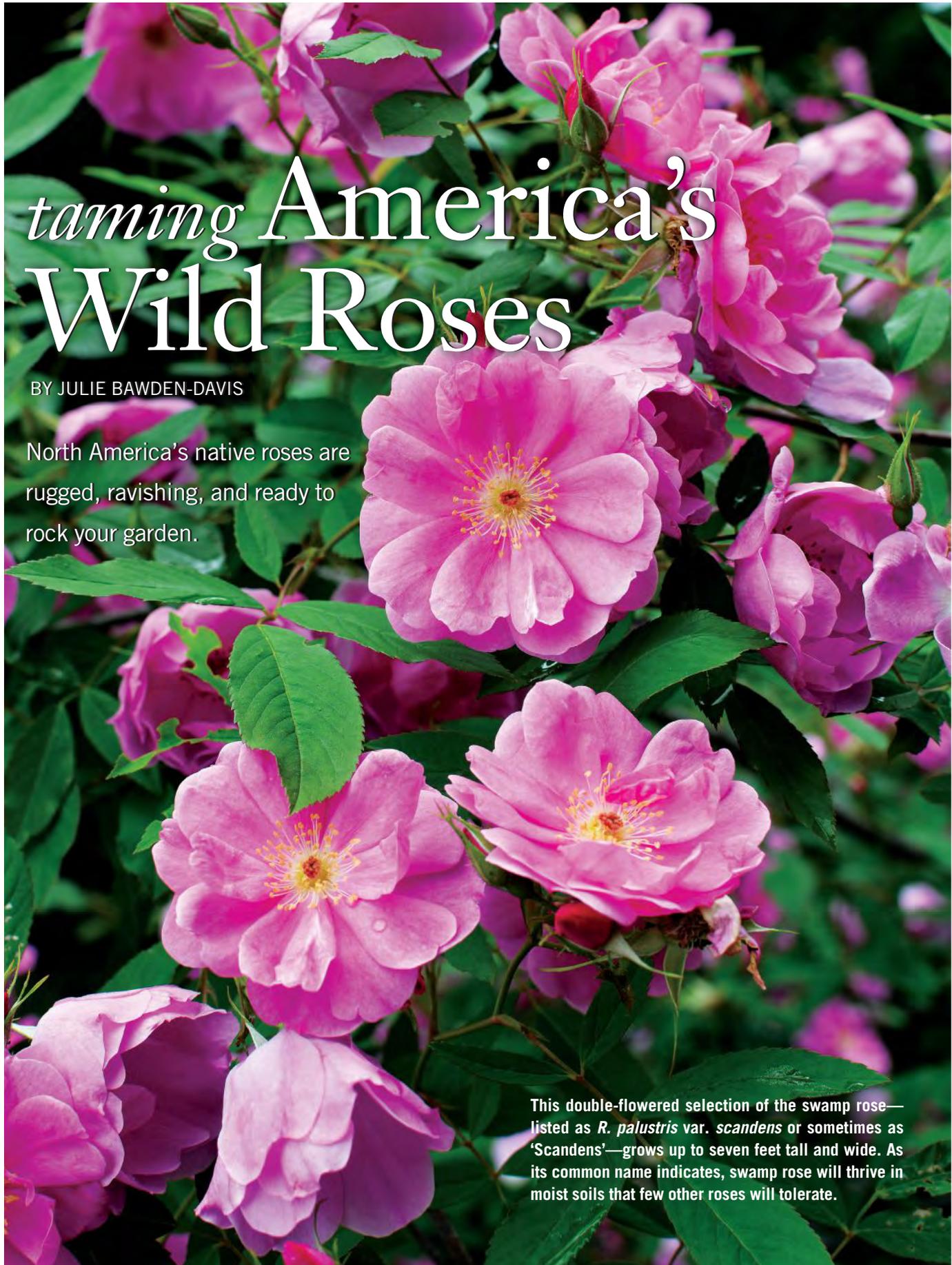
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taming America's Wild Roses

BY JULIE BAWDEN-DAVIS

North America's native roses are rugged, ravishing, and ready to rock your garden.

This double-flowered selection of the swamp rose—listed as *R. palustris* var. *scandens* or sometimes as 'Scandens'—grows up to seven feet tall and wide. As its common name indicates, swamp rose will thrive in moist soils that few other roses will tolerate.

THE WILD ROSES of North America have a lot going for them. They require minimal care, adapt to a broad range of growing conditions and landscape uses, and produce food and shelter for wildlife. Despite their no-fuss attributes, however, native roses are not widely grown in gardens.

Although they lack the large, showy blooms of hybrid tea roses and they are rarely available at the local nursery, native roses are enjoyed by a number of rosarians passionate about indigenous species and what they offer gardeners.

Walter Lewis, author of the rose family (Rosaceae) section of *Flora of North America: Volume 9* (Oxford University Press, 2015) and professor emeritus in the Department of Biology at Washington University in St. Louis, is one of the foremost experts on North American native roses. His infatuation with these easy-to-grow, woody perennials started in the early 1940s when, for his 12th birthday, his father told him he could have whatever he wished. Rather than ask for the era's standard fare such as a BB gun or train set, Lewis requested a greenhouse.

"Once I had the greenhouse organized, my Uncle George, who grew commercial roses, taught me how to propagate them," says Lewis, who, at the time, lived in Victoria, British Columbia, just two miles from Butchart Gardens. From there the budding gardener's interest in roses quickly grew.

RUGGED BEAUTIES

Like many who turn their attention to species roses rather than hybrids, Lewis did so because of their compelling mix of understated beauty and tenacity. "Grow native roses and you won't find yourself fussing over them and spraying for diseases," says Bill Cullina, executive director of the Coastal Maine Botanical Gardens in Boothbay and author of *Native Trees, Shrubs, and Vines* (Houghton Mifflin, 2002). Although they may be difficult to find in a nursery, they are fairly easy to propagate (see "Propagating Native Roses," page 17). And pruning is a breeze. "Except for the climber, *Rosa setigera*, native roses don't need to be pruned and even do better when you don't cut them back much, but just give them a light shearing," he says.

The flowers are typically small, single, open-faced, and usually some shade of



Grow Virginia rose not only for its stellar pink flowers, shown top, growing with fireweed (*Epilobium angustifolium*) in coastal Maine, but for its attractive fall foliage, above left, and glossy red hips that last into winter, above right.

pink, from light pink to magenta. Many are unscented or only slightly scented. “Most have a flush of bloom in late spring or early summer and then bloom sporadically later in the year when it cools down,” says Cullina.

The stems of many native roses, especially prickly wild rose (*R. acicularis*) and Carolina rose (*R. carolina*) are covered with prickles and thorns that can make pruning or transplanting painful. This armament does provide additional protection for birds and small animals that may shelter or nest in them, and they may be put to use if you are looking for a barrier hedge to keep out deer or deter short cuts.

The flowers produce pollen that attracts bees and butterflies; the colorful and nutritious fruits—rosehips—form in the fall. “Whereas many cultivated roses are sterile and don’t set fruit, native roses produce abundant rosehips, which are a high value food for wildlife, especially over-wintering animals like birds,” says Cullina.

VALUABLE TRAITS

Despite their many desirable attributes, native roses haven’t been used much in hybridizing. “Except for a small amount of breeding with the native climber *Rosa setigera* and European climbers, there has been limited breeding done using species roses,” says David Zlesak, an associate professor of horticulture at the University of Wisconsin–River Falls. That is changing, however, in part because of an outbreak of the virus known as rose rosette disease (RRD), which disfigures and kills hybrid roses.

“Rose rosette is becoming a serious problem,” says David Byrne, a professor who holds the Basye Endowed Chair of Rose Genetics in the Department of Horticultural Sciences at Texas A&M University in College Station. “We’ve seen what appears to be resistance to this virus in three native roses—*Rosa setigera*, *R. palustris*, and *R. carolina*, so we’re currently working to verify this. If these three genotypes do indeed have resistance, we’ll be using them in hybridizing more extensively in the future.”

Native roses also have a lot to offer in the area of adaptability. At the University of Wisconsin–River Falls, Zlesak, who specializes in plant pathology, is looking at utilizing the cold hardiness and disease



The deep pink flowers of Carolina rose gradually fade to a more muted shade. Its stems are heavily armored with thorns, so wear long, thick gloves when pruning or transplanting.

resistance of native species in hybridizing.

“One of my students recently did work on some rose materials derived from native species that stand up to high salt and pressure found in coastal areas,” says Byrne, who notes that the student’s work will likely lead to the creation of roses that can thrive in a seaside environment.

LANDSCAPING OPTIONS

While the flowers are smaller, native roses more than make up for this by growing in a range of soil conditions and exposures—from full sun to part shade. Several species offer good solutions to problem areas. For constantly moist soil, try swamp rose (*R. palustris*) or shining rose (*R. nitida*); des-



In addition to their rugged constitution and simple charm, native species such as prairie rose attract pollinators and provide food and shelter for a variety of wildlife.

PROPAGATING NATIVE ROSES

Perhaps the gardener's most difficult challenge when it comes to native roses is finding them. Enjoy native roses in your landscape by sourcing them from your local native plant grower or propagating your own. Here are three ways of producing your own native rose plants.

■ **Dig up suckers** The easiest way to get your own native rosebush is to dig up a sucker, which you are likely to find growing nearby a mother plant. "Simply dig up the small rose plant with the roots intact, making sure not to damage the main plant," says Malcolm Manners, professor of horticulture and chair of the Department of Horticultural Science at Florida Southern College. "In the case of some roses, like *R. palustris*, one scoop with a shovel and you'll have enough roots for a plant." As with any wild plant, only dig plants on private land with permission from the property owner.

■ **Take cuttings** Most roses easily root from cuttings. Manners suggests taking cuttings from firm, young stems in the spring or early summer. Keep two to three leaves attached and allow for at least an inch of stem to insert into the soil for rooting. Roses will root at any point along the stem. Hasten rooting by slicing a strip of bark off opposite sides of the base of the cutting. Stick the cutting in rooting hormone powder and then slip it into a planting medium of 50 percent potting soil to 50 percent perlite or pumice.

Keep the cuttings under a glass cloche or plastic cover to maintain humidity and place them in a warm location that gets morning sun and afternoon shade. They should root within three to eight weeks, depending on the time of year and growing situation. Once they've rooted, gradually move them into brighter light. Plant the cuttings in the garden when they have put on a significant amount of new growth.

■ **Collect and plant seeds** Bill Cullina, executive director of the Coastal Maine Botanical Gardens in Boothbay, often grows roses by seed. "The seeds are designed to be eaten by birds and passed through their systems prior to germinating, so extract the seeds from the hips once they've turned a reddish color," instructs Cullina. Clean and dry the seeds before rubbing them between two pieces of medium sandpaper for about 20 to 30 seconds (this simulates the abrasion caused by digestion). Place them in a plastic bag in the refrigerator for two to three months so they get their required chilling hours.

Sow the cold-treated rose seeds in containers, preferably in spring. They will go from seedling to full-sized plant in one year, although they may take two to three years to flower. —J.B-D.

ert rose (*R. stellata*) is useful for dry and rocky areas; and smooth rose (*R. blanda*), Carolina or pasture rose (*R. carolina*), and several other species grow well in either moist or dry conditions.

Depending on the species, there are native roses that fill a variety of landscape needs. Position them as a focal point or as an addition to a mixed shrub border. Many tend to sprawl and spread by rhizomes; these can be employed to create a thicket that offers privacy and even a measure of security. Low growing species are useful as ground covers or can be maintained as low hedges.

As part of a wildlife friendly garden, native roses are hard to beat. They provide nesting sites for birds and cover for small mammals. Their flowers attract pollinators and the hips are a nutritious food source for many birds. The hips, which are high in antioxidants and vitamin C, can also be used to make delicious teas and jellies for human consumption.

SPECIES VARIABILITY

Each species of native rose may perform differently from one garden to the next, depending on the climate and the growing conditions.

"It's much more of an adventure to grow wild roses," says Cullina. "Whereas



Thicket-forming Nootka rose is prized for its large pink flowers and purple hips.

hybrids are grafted and essentially made uniform, native roses vary in their growth habits, depending on where they're growing and where they were originally found. For instance, the Carolina rose grows in the South and New England, but those in the East tend to be smaller plants than the South," says Cullina.

Keeping that potential for variation in mind, here are several species that may be worth investigating for your garden. (For details on more native roses, see the chart on page 19.)

Smooth rose (*Rosa blanda*, USDA Hardiness Zones 3–7, AHS Heat Zones 8–3). Smooth rose is an attractive, foolproof grower that reaches four to six feet tall and is nearly thornless. Its native range stretches from Mississippi and parts of the southeast northward through much of Canada, and westward to Montana.

Lewis collected a specimen in Montreal several years ago, "The plant continues to amaze me," he says. "No matter the weather, it never deviates. I rarely water it, and it survives without a whimper." It is adaptable to moist or dry soil and sun or part shade, spreading quickly to form a dense thicket. The leaves are blue-green in color, and the stems feature spines at the bottom and none at the top. In early to midsummer, blooms open deep magenta and fade to lighter pink. Red hips follow the flowers.

Swamp rose (*Rosa palustris*, Zones 4–9, 9–4). Swamp rose's native range includes the Northeast, Southeast, and parts of the Midwest. It grows three to seven feet

tall with a dense, mounding habit and, as its common name implies, it is well suited for marshy, damp areas of the garden. This beauty offers a continuous show of striking pink blossoms in the early summer, followed in the fall by large red rose hips and burgundy leaves.

Malcom Manners is a professor of horticulture and chair of the Department of Horticultural Science at Florida Southern College in Lakeland. He has collected *R. palustris* from a variety of swamps, bogs, and marshes in Florida and has found a significant amount of variability. A selection that he collected 20 years ago was planted in the college's rose garden. "The *R. palustris* in the school's rose garden is located near a mist system and blooms throughout the year—most likely because it's being well cared for," says Manners.

Prairie rose (*Rosa setigera*, Zones 4–9, 9–4). From eastern Canada to the Southeast and west to Texas and parts of the Midwest, the prairie rose has arching canes that grow six to 15 feet tall. It prefers moist soil and adapts to full sun or part shade, producing light to dark pink blooms

Sources

Antique Rose Emporium, Brenham, TX. (800) 441-0002.

www.antiqueroseemporium.com.

Forestfarm at Pacifica, Williams, OR. (541) 846-7269.

www.forestfarm.com.

Prairie Moon Nursery, Winona, MN. (866) 417-8156.

www.prairiemoon.com.

Resources

American Rose Society,
www.rose.org.

Lady Bird Johnson Wildflower Center, University of Texas, Austin, TX.
www.wildflower.org.

Native Trees, Shrubs, and Vines by William Cullina. Houghton Mifflin, New York, NY, 2002.

"Wild Roses: The Native Roses and Naturalized Roses of North America" by Gloria Cole. Dave's Garden Guides, 2012. <http://davesgarden.com/guides/articles/view/710/#b>.

in early to midsummer and small, green hips after the flowers fade.

In addition to its genetic potential for contributing resistance to hybrid rose virus woes, prairie rose decorates the garden with its unusual presence. "It's a unique, sprawling monster of a plant with 10 to 12 flowers opening on a stem at the same time," says Lewis. "The plant really takes over and spreads in many directions, so it's not an easy one to keep in the landscape, but I'm so glad I have it growing in my garden."

Desert rose (*Rosa stellata*, Zones 6–9, 9–6). The desert rose, native to Arizona, New Mexico, and Texas, is a good choice as a groundcover or small shrub for dry, rocky soils in full sun or part shade. It develops a rounded form, one to two feet tall and wide, with prickly stems. It sports two-and-a-half-inch, rose-purple flowers over an extended period in summer and early fall, followed by dark red hips.

Virginia rose (*Rosa virginiana*, Zones 3–8, 9–3). The Virginia rose is the most common wild rose on the East Coast,



'Plena' is a cultivar of California wild rose that bears loads of fragrant, semi-double pink blossoms on cascading stems.

MORE NORTH AMERICAN NATIVE ROSES

Common Name (Botanical Name)	Height (in feet)	Soil Conditions/ Light Requirement	Flower Color/Bloom Time	Native Range	USDA Hardiness, AHS Heat Zones
<i>Rosa acicularis</i> (Circumpolar or prickly rose)	2–3	Moist/sun to part shade	Dark pink, fragrant/ June and July	Alaska, parts of West and SW, most of Midwest, NE, and Canada	1–6, 6–1
<i>Rosa arkansana</i> (Arkansas rose)	1–2	Moist to dry, well drained/full sun	Light pink/late spring to early summer	Most of U.S. and Canada, except parts of West and SE	4–8, 8–3
<i>Rosa californica</i> (California wild rose)	3–6	Moist to dry and rocky/sun to part shade	Soft pink, fragrant/ spring through fall	California and Oregon	6–9, 9–6
<i>Rosa carolina</i> (Carolina rose)	2–3	Moist to dry, well-drained/sun to part shade	Open dark pink, fade to light pink/May and June	NE, SE, and parts of Midwest, SW, and Canada	4–9, 9–3
<i>Rosa foliolosa</i> (White prairie rose)	1½–3	Wet to dry/sun to part shade	White or pink, fragrant/ early summer	Texas, Oklahoma, Kansas, Arkansas, Tennessee, Mississippi	5–9, 9–5
<i>Rosa nitida</i> (Shining rose)	1–3	Moist to wet/part shade	Medium pink/ June to September	NE, eastern Canada, parts of the SE	2–6, 6–1
<i>Rosa nutkana</i> (Nootka rose)	5–10	Moist to dry/sun to part shade	Large, soft pink/ early to midsummer	Pacific Northwest south to New Mexico	5–8, 9–1



Woods' rose forms dense thickets that provide cover for wildlife and help control erosion.

indigenous to the Northeast and parts of the Southeast and Midwest. It is an adaptable drought-tolerant species that can also grow in moist conditions and thrives in full sun or part shade, developing stiff upright canes that grow two to six feet tall. This charmer features glossy,

leathery leaves and produces deep red to maroon flowers from early to mid-summer. Unless consumed by wildlife or removed by humans, the plant's brilliant red hips remain on the plant throughout winter, providing welcome color in the late-season garden.

Woods' rose (*Rosa woodsii*, Zones 3–8, 8–3). Also known as the desert wild rose, Woods' rose is native from Minnesota west to British Columbia, the Southwest, and northern Mexico. It grows best in full sun, but is adaptable to either moist or dry, rocky soil. Depending on conditions, it grows two to five feet tall and can form dense colonies up to 10 feet across. It is a good choice for a slope to hold soil against erosion and for providing cover for wildlife. Its two-inch pink flowers appear from late spring to early summer, followed by bright red or orange hips.

While fancy hybrid roses often struggle with pests and diseases and tend to be temperamental about their growing conditions, North American native roses shrug off the inevitable vagaries of life in the garden and grow on. No matter how many hybrid roses appear on the scene, native rose afficiandos know these versatile, eye-catching plants are well worth growing. Perhaps it's time for you to give these no-nonsense natives a try. 🌹

Julie Bawden-Davis is a Certified Master Gardener, blogger, and author of numerous books and articles on both indoor and outdoor gardening. She lives in Orange County, California.

BY CAROLE OTTESEN

Quick Fixes *for*



Need to spruce up your garden on short notice? Here are some tips for creating a visitor-worthy garden when time is tight.

REMEMBER months ago when you agreed to **a)** open your garden for the community garden tour; **b)** host your garden club's annual summer meeting; or **c)** hold a summer party for the neighborhood association? Then, it seemed like there was all the time in the world to get the garden ready. And now: Yikes! The garden is not at its best and you have just a week or two to bash it into shape.

Don't panic. You can do this! Basically, it's just cleaning things up, "possibly adding a little seasonal interest or some art," says Louisiana landscape architect John

Mayronne. Remember, he emphasizes, "The garden should speak for itself."

ASSESS THE JOB

Before you gallop off in all directions, frantically clipping, raking, and trimming, step back and look critically at what is already working and what needs help. Begin your appraisal at the front of your property. It is the first thing visitors will see. Your prize Himalayan blue

Painted a cheerful orange that harmonizes with the lilies in the foreground, this door creates a sense of welcome for garden visitors.

poppy may be in the back garden, but in order to see it, visitors will have to make their way around from the front of the house. As you assess your property, take notes. Identify the bare spots, the bad views, and the messy beds as well as the better-looking spots, which will need only minimal effort to tidy up closer to the scheduled event. Start working on what needs the most help.

AIM FOR A POSITIVE FIRST IMPRESSION

"The sense of arrival is heavily dependent on the combined impact of porch and front door," says California landscape

LYNNE HARRISON

Tired Gardens



A little pruning, edging, and a fresh layer of mulch can quickly transform a slightly overgrown garden, top, into a trim and tidy one ready to receive visitors, above.

designer and media personality Maureen “Mo” Gilmer. “The front door is the most important part of the front facade. Every decision made should be considered for its support and accent.”

If the front door fades into the background, consider adding a colorful wreath or even painting it for a pop of color. De-clutter the front porch. Attractive containers of brightly colored annuals or tropicals will add a friendly touch.

If, after that, your front facade still looks dreary, determine why. Have the white porch posts gone dull gray? If so, power wash them or give them a coat of paint. If the trim has darkened due to mold, cleaning it with apple cider vinegar will soon have it looking clean and bright. Even if your visitors never go inside, a neat, clean front door and pots of colorful flowers on the front porch will make a positive first impression.

CREATE A CLEAR AND INVITING ROUTE

As well as an aesthetically pleasing first view, the guests’ positive experience has everything to do with the ease of getting to where they are going. The path you want your visitors to follow should be unambiguous. If there are any alternative routes, block them off to avoid confusion. Something attractive—a large potted plant, a lawn chair, a sculpture—blocking the way will keep your visitors from taking the wrong turn.

The path guests are to follow must also be commodious and safe. Trim back any plants that encroach upon the walkway. Secure any loose stones. Emphasize the route with repeated elements that point the way—such as clay pots of flowers. If the function is held in the evening, provide lighting. Luminarias—paper bags filled with sand and lit by candles—are a quick, attractive, and inexpensive way to delineate the route.

As you assess the path, be alert to and remove detritus abandoned by children and your own interrupted labors. Also re-

move any unattractive objects that have been left in place so long you barely notice them—such as a clay pot with a big crack that is dribbling soil, plant identification tags askew in containers or in the ground, a table that has gone rusty, a shabby bird feeder. Stow or discard these as well as any errant trowels, garden hoses, and empty pots that are lying around.

USE FOCAL POINTS TO GUIDE VISITORS

As you work your way around to the back garden, says Gilmer, “follow a visitor in your mind, visualizing ... how they walk ... and what they feel when they get there.” A focal point in the distance—such as an arbor, a birdbath, or a piece of sculpture—invites guests to venture toward it.

Perhaps nothing says “welcome” and defines the way as clearly as a garden arbor; it will draw visitors along the path like a magnet. Once they pass under an arbor, through the gate, or arrive at the goal, they will have entered your garden room. The experience of arrival will be complete and the focus will shift to the plants.

Right: A clear pathway, such as this one in Phyllis Gustafson's Oregon garden, is essential for guiding a visitor's experience. Bottom right: Focal points, such as this large blue urn, provide an observer's eyes a place to rest while taking in the view of a busy garden.

A focal point might also be needed to anchor an otherwise spacious, empty area such as a swath of featureless lawn. A garden bench, a table, or group of garden chairs can serve this purpose and will work even better if they are brightly colored.

IT'S ALL IN THE DETAILS OF THE PLANTS

A garden is about plants. Examine the crowd of perennials, annuals, trees, and shrubs that make up your garden...and groom them. Alabama gardener Dean Clark advises first “remove the dead, dying, weeds, and litter.” Then, “prune back the overgrown where necessary.”

“Tip prune the shrubs crowding or stretching out from bed edges. Prune tips that hide the shrubs' natural shapes by pruning to that shape,” says Mike Zajic, director of Mill Pond Garden in Lewes, Delaware. “Feathered edges, a discernible shape, and clean lines give a sense of serenity and calm.



When growth goes every which way, it hides the basic shape and looks visually weedy.”

Rampant growth can also obscure your garden’s ornamental assets. Remove rambunctious foliage around a small, choice, low-growing shrub. Make sure the beautiful bark of a crape myrtle is clearly visible. Removing excess branches and foliage allows what is left to develop properly and far more attractively.

Do “weed the pavements” and remove “any large conspicuous weeds,” advises Zajic. And “straighten the line or smooth the curve of the bed edges.” People “read” a space by its edges—especially those along driveways and paths and between beds and lawn.

With time, grass and weeds will creep into the space between garden beds and lawn, blurring the edge. Reestablishing

a hedge of green-and-yellow variegated hollies? Add yellow annuals. Will the pink hydrangeas be in bloom? Add something else with pink flowers. A single color scheme repeated throughout the garden will have enormous impact by creating a sense of harmony.

In the same vein, Zajic cautions against combining “too many different flowers, colors, or shapes,” because that



An arbor like this one, draped in clematis blossoms, serves as a focal point and defines a garden “room” on the other side.

If there is time, replace bloomed-out, overgrown annuals with neat new candidates. If not, deadhead as much as you can. Attention to detail, Clark observes, “makes all the difference.”

SMOOTH EDGES FOR INSTANT LIFT

Especially when time is short and the clean-up seems overwhelming, look to the edges. “Don’t bother weeding the insides of beds,” says Zajic. If you can’t find the time to clean out the entire bed, tidy the first foot or two where the bed meets driveway, path, or lawn.

a crisp, clean edge—whether straight or sinuous—will provide instant punch. Use a straight shovel to dig a shallow “V” shaped trench starting on the lawn side and doubling back on the bed side. The shadow the trench throws will further delineate between lawn and bed.

UNIFY A SPACE WITH REPEATED COLOR

Perhaps the quickest and easiest way to unify a garden is with color. Augment the color of a dominant plant or plants already growing in the garden. Is there

can contribute to a garden that is “hectic looking” and overstimulating for visitors.

If other elements in your garden—such as chairs, tables, or containers—add a disruptive rather than a unifying note to your color scheme, either stow them or bring them into line with new paint. Automotive shops can powder-coat iron outdoor furniture in just about any color. Or you can spray paint it yourself. Further enhance the color scheme of the furniture with matching accessories such as pillows and tablecloths.

THE FINAL TOUCH UP

■ **A few days before the event** Spray any new weeds that have popped up with a five-percent vinegar solution. Refresh mulch. Position furniture for the best visual effect; this may have nothing to do with how you usually use it.

■ **A day or so before the event** “Water the garden to restore turgor and sheen,” says Mike Zajic, director of Mill Pond Garden in Lewes, Delaware. Mow the lawn. Rake up noticeable grass clippings.

■ **The morning of the event** Deadhead flowering plants in containers and in the garden. Make sure paths are free of any debris. Wipe garden furniture clean.

Walk through the garden and “pull off conspicuous dead plant parts or yellow leaves,” says Zajic. “Pick up debris like branches and pine cones.”

■ **Last minute** Sweep any final litter under the shrubs. Sit back and enjoy your visitor-worthy garden. —C.O.

WHEN ALL ELSE FAILS, DIVERT ATTENTION OR CAMOUFLAGE

A bed full of plants that have already bloomed lacks interest and can look messy. A focal point such as a handsome container or a piece of sculpture will draw attention away from post-bloom plants. Zajic likes “one big, abundantly potted plant that has a complementary fit to the garden and some eye-catching impact. Large scale is better than smaller.”

Is there a bare spot in a prominent bed? No time to plant? The easiest thing to do is camouflage. Cut a bouquet of fresh greens and lay it over the bare ground. No one will be the wiser and the spot will blend with all of the other greens in the garden. It will “read” as planted.

If there are distracting objects that cannot be budged—a heavy garden implement or containers of plants too numerous to put into the ground before the event—create a tableau by arranging them as artistically as possible. Or hide them by placing a screen or piece of furniture there.

DO A FINAL TOUCH UP

When you’ve finished the major cleaning, pruning, edging, camouflaging, and decorating, you are ready for a final



Repetition of color—such as the yellow in the peonies and the chairs in Gail Gee’s Maryland garden, top—creates unity. Eye-catching plants in containers can be moved where needed for accent. Teresa Scholly and John Holt designed this arrangement, above, for a brick patio.

touch up (see sidebar, above left). Start a day or more before and repeat on the morning of the event.

Signing up to host a garden tour or party may be a daunting undertaking, but it has a huge upside. The best thing about being motivated to groom a garden for an event is that, afterward, you can

bask in a fabulous garden for the rest of the summer! Who knows? You might even be tempted to host events on a regular basis.

Carole Ottesen is a contributing writer for The American Gardener. She splits her time between gardens in Maryland and Nova Scotia.

ONE OF THE great things about being a gardener is that you never know when, or where, you may experience a horticultural epiphany. I've lived in California nearly all my life, and until three years ago, at age 44, had never visited Washington, D.C. From the moment I arrived in the nation's capital, I was wide-eyed with excitement, reminding myself of when I was a six-year-old staring in awe at Mount Rushmore. After returning the Segway I'd rented to tour the monuments, I escaped the crowds by taking a quiet stroll in the Smithsonian's Mary Livingston Ripley Garden. It was in this little Eden of lushly planted, thoughtfully tended plots that I encountered one of the most stunning ornamental vines I had ever seen.

Commonly known as Dutchman's pipe, this diverse genus of vines with eye-popping and sometimes bizarre flowers includes valuable ornamental and wildlife plants.

Lime-green, heart-shaped leaves clung in pirouettes around a black-painted light post, creating gorgeous contrast. Peering out from the glossy foliage was a large floppy flower divided into two lobes at the base. It was the color of a fine cabernet, with white veiny streaks and a darker red plume at the entrance to its yellow throat.

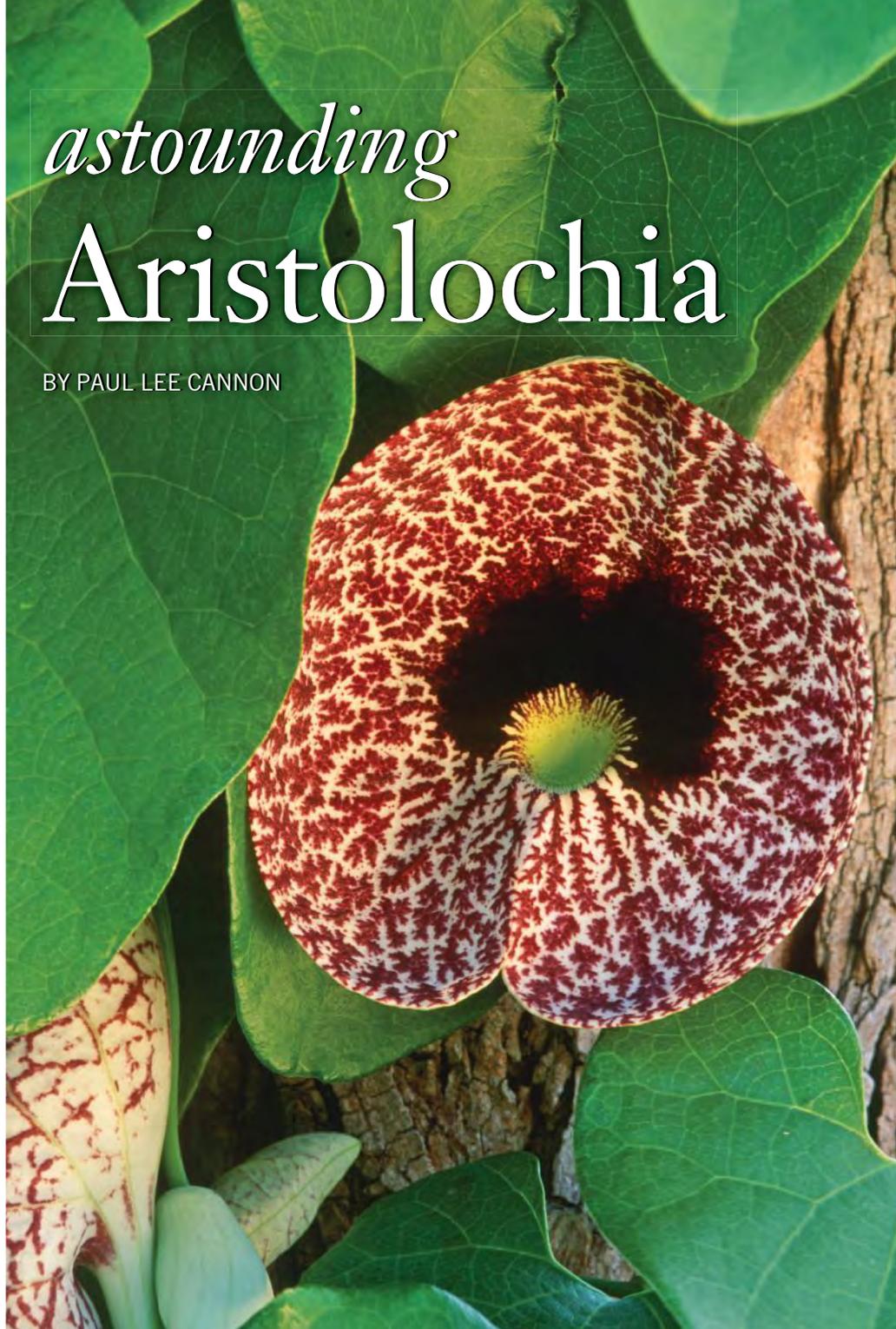
It was *Aristolochia littoralis*, a Dutchman's pipe also known as calico flower. I recalled the genus name because at one time I'd grown California pipevine (*A. californica*) in my Oakland garden. This chance rendezvous with calico flower reinvigorated my interest in this seemingly underused genus, which combines ornamental interest, wildlife-attracting value, and intriguingly bizarre pollination strategies.

FAMILY TIES

The genus *Aristolochia* is the primary member of the birthwort family (Aristolochiaceae), which also includes the hardy gingers (*Asarum* spp. and *Hexastylis* spp.). The genus name, which translates to "best childbirth," reflects early herbalists' convictions that because of the flower's resemblance to

astounding Aristolochia

BY PAUL LEE CANNON



The three- to four-inch-wide flowers of calico vine have a pattern similar to marbling on a steak.

a birth canal, its species could aid women in labor. Other medicinal qualities have been attributed to various species, including use of the roots of Virginia snakeroot (*A. serpentaria*) as a remedy for snakebite. *Aristolochia* species contain toxic alkaloids that have been implicated in causing kidney damage, however, so don't be tempted to consume any part of them.

The genus is a large one, comprising between 300 and 400 species of evergreen

and deciduous vines, shrubs, and herbaceous perennials. Most are native to tropical and subtropical regions around the world. "It's a known, appreciated group, but very underappreciated as far as diversity," says Dylan Hannon, curator of the conservatory and tropical collections at the Huntington Botanical Gardens in San Marino, California, which grows a selection of *Aristolochia* species both in the conservatory and on the grounds. "It's

astonishing. There are hundreds of *Aristolochia* species but most people have never seen more than a few,” says Hannon.

The exotic, sometimes otherworldly flowers are the genus’s hallmark. Janet Draper, a horticulturist at Smithsonian Gardens who has grown various species over the past 10 years—including the *A. littoralis* that stopped me in my tracks—recalls the first time she laid eyes on an *A. gigantea* trained on an overhead wire in a conservatory. “These big, nasty-looking bladder things were hanging right above me,” says Draper, who was immediately captivated. “I thought ‘OK, I need this plant.’”

On first glance at an *Aristolochia* in bloom, it’s clear why its common names include Dutchman’s pipe and pipevine. Each flower is comprised of a curved, often rather contorted, tube fancifully resembling the pipe fictional detective Sherlock Holmes was wont to use. Size and color are highly variable, however, with some only an inch in diameter and others reaching 20 inches. Most come in mottled shades of purple, brown, pink, and ivory, but then there are some species, like *A. peruviana*, that boast a brilliant yellow.

NATURAL CONNECTIONS

In doing some research, I learned the beautiful mottled coloration of many of the flowers, along with a floral odor that ranges from lemony to fetid, is part of the genus’s pollination strategy to attract flies and other insects drawn to rotting meat, where they hope to lay their eggs. (For more on the genus’s pollination strategy, see the sidebar on this page.)

In addition to their ornamental allure, Dutchman’s pipes are a valuable wildlife plant. Many of the vines are the larval food source for the lovely pipevine swallowtail butterfly (*Battus philenor*). The caterpillars that feast on the leaves aren’t affected by the plant’s toxicity. In fact, consuming the plant makes them poisonous to predators, which they advertise via their striking black and orange coloration.

Gardeners, fortunately, can enjoy the caterpillars without fear of losing their vine. “No matter how many caterpillars are munching away on the vine, it doesn’t seem to affect the plant’s vigor,” says Ben Anderson, horticulturist at the University of California Botanical Garden in Berkeley. When pollination is successful, sausage-shaped fruits form late in

IMPRISONED POLLINATORS

One of the things that piqued my interest in this genus is its peculiar pollination mechanism. These plants have evolved in such a way that the pollinators—flies, fungus gnats, wasps, etc.—do most of the handiwork. Many species, like *Aristolochia littoralis* for instance, have flowers that somewhat resemble—and smell



Pollinators such as this grass fly, shown on a Dutchman’s pipe flower, are lured by scent.

like—rotting meat. Fooled by this, insects that typically lay their eggs in carrion enter the flower and are trapped by stiff, lubricated hairs that force them downward. “It’s like a parking lot with the spikes where you can’t leave until you pay,” says Smithsonian Gardens horticulturist Janet Draper.

Imprisoned in the depths of the flower, the insects transfer pollen from previous flowers onto the stigma. “Near the pollen the tissues are thinner, so light comes through, like a window. Mother Nature is guiding the fly where it needs to go,” explains Draper. “The fly is searching for the exit and in the process gets covered with pollen. That’s when it gets fascinating to me—somehow the plant knows when the fresh pollen has been transferred to the

insect and within 12 hours those hairs relax to allow the fly to walk out the way it came in! It’s a win-win situation—flower gets pollinated, fly gets food and shelter.”

Draper uses this peculiar feature of *Aristolochia* as an attention-grabbing way of sharing with the public that “even something as annoying as a fly is an essential pollinator.” She gets a kick out of making Smithsonian visitors—especially youngsters—squeamish when she slices open flowers to reveal the trapped insects.

(For a video of Draper cutting open a Dutchman’s pipe flower, click on the link to this article on the AHS website.)

—P.L.C.



Dutchman’s pipes are host plants for the larvae of pipevine swallowtail butterflies. The spiked black caterpillars with orange spots ingest toxins in the leaves, making them poisonous to predators.

the growing season, dangling amid the leaves on wiry stalks.

SUGGESTED SPECIES

Despite the dizzying number of *Aristolochia* species, fewer than a dozen are commonly available either as plants or seeds. Of these, only two or three are hardy in temperate gardens; the remainder must be grown as annuals or overwintered in containers in regions other than southern Florida, the Gulf Coast, and southern California. Here are a few worth trying no matter where you garden.



Aristolochia flowers come in a wide range of shapes. Shown here are Dutchman's pipe, left, California pipevine, center, and white-veined Dutchman's pipe, right.

Dutchman's pipe (*A. macrophylla*, syn. *A. durior*, USDA Hardiness Zones 4–8, AHS Heat Zones 8–1) is native to the Appalachians from Alabama north to Maine. This deciduous, woody-stemmed climber grows 15 to 30 feet tall. Its stems are densely covered with large, heart-shaped leaves that often obscure the small yellowish-green flowers that bloom from late spring to early summer. The pipe-shaped flowers flare open to reveal a circular maroon-colored mouth. “The flowers are fairly small and hidden by the foliage,” says Draper, “so they’re best displayed where you can see them close up.” A vigorous grower that’s adaptable to full sun or part shade, it’s ideal for training on porches, pillars, and arbors. It is also valuable for camouflaging unsightly wire-mesh fencing.

Native to the Southeast and South Central United States from Texas to northern Florida up to Kansas and Illinois, **woolly Dutchman's pipe** (*A. tomentosa*, Zones 4–9, 9–1) is a fast-growing deciduous vine that can reach 20 to 30 feet where hardy. The stems, cloaked with large, deep-green, slightly fuzzy, heart-shaped leaves that overlap to create a dense cover, become woody with age. As with Dutchman's pipe, the dense foliage tends to hide the flowers, which are two-inch, greenish-yellow, curved pipes with flaring, maroon-colored mouths. It will



grow in full sun to part shade and tolerates a wide range of soils. In rich, moist soil it may grow a little too well, spreading vigorously via rhizomatous roots. Use it to shade porches and cover arbors, fences, and other sturdy structures.

Native to the foothills and Coastal Range of northern and central California, **California Dutchman's pipe**, (*A. californica*, Zones 8–10, 10–6), is a deciduous climber growing eight to 15 feet tall. Blooming in late winter to early spring, the small, contorted, bulbous flowers are creamy white with reddish-purple veining. The stems and newly opened heart-shaped foliage are lime green with a dense covering of silvery fuzz, gradually fading to a darker green as they mature. Plants are adaptable to a wide range of soils and drought

tolerant once established. Pete Veilleux, a landscape designer in Oakland who specializes in California natives, likes to grow California Dutchman's pipe under trees that are “big and tough enough for them to climb onto,” such as toyon, oaks, and redwoods. He also has trained them as espaliers on fences and trellises.

White-veined Dutchman's pipe (*A. fimbriata*, Zones 7–9, 9–1) is a low-growing, scandent deciduous plant native to Argentina and Brazil. Its small, round to heart-shaped leaves have prominent



silvery-white veining similar to that of cyclamen foliage. Flowers, produced along the stems from midsummer to early fall, are veiny, inch-long, curved pipes with a yellow and brownish-purple mouth. The blooms are edged with antennalike fringe, which gives them a look reminiscent of a sea anemone. “It’s a very low groundcover, not a vine, that spreads slowly,” says Draper, noting that it has proven hardy in the mid-Atlantic region. It’s adaptable to sunny and shady sites, but thrives in evenly moist, free-draining soil.

Calico flower (*A. littoralis*, syn. *A. elegans*, Zones 9–12, 12–1) is a tropical, evergreen twining vine. It can reach 20 feet in regions

where it's winter hardy but is generally grown as an annual or in a container that is overwintered indoors. Native to South and Central America, it has naturalized in central to southern Florida, so has the potential to be invasive in mild-winter regions. The flowers look much like dangling curved pipes with a speckled, veiny pattern of burgundy and ivory. It blooms from summer to early fall but is free-flowering in warm climates. The three-inch, heart- or kidney-shaped leaves are a glossy light green with grayish-green undersides. Calico flower grows best in part shade in warm regions, but full sun is fine in regions with cool summers. It can be overwintered indoors in containers.

warm climate regions. Attractive heart-shaped leaves have fine hairs on the undersides. This species is adaptable to sites in full sun to part shade and grows best in rich, evenly moist soil. It's suitable for an arbor, sturdy trellis, or to be grown up a tree. 'Brasiliensis', a selection with larger, wrinkled flowers, is sometimes available.

Yellow Dutchman's pipe (*A. peruviana*, Zones 9–10, 11–1) is a Peruvian native that stands out from its relatives because of its lemon yellow flowers decorated with chocolate-purple splotches. The conservatory at the Huntington Botanical Gardens has been home to an *A. peruviana*

man's pipes in containers and cuts them back before winter, reports they reached about six feet tall in one growing season. Plant them in full sun to part shade in rich, evenly moist soil. "It's really well behaved, one of the few species that seems to not be really rambunctious," says Hannon.

GROWING REQUIREMENTS

Dutchman's pipes are generally tolerant of a wide range of light exposure. Most will thrive in sunny sites but may benefit from part shade in regions that experience particularly hot summers. "As far as cultivation, they're mostly pretty standard," says Hannon. "They almost all like bright light, are



The dense foliage of Dutchman's pipe shows to good effect on this trellis in a Long Island, New York, garden designed by Jeff Mendoza.

Native to Panama and Brazil, **giant Dutchman's pipe** (*A. gigantea*, Zones 10–11, 12–1) is a tender evergreen climber that can reach 30 feet tall where hardy. In temperate regions, it will reach 10 to 15 feet tall grown as an annual or in a container. The "beefsteak" patterned, deep maroon and white mottled flowers typically measure 12 inches long by six inches wide. On the back side of the flower, a curved pipe leads to a stomachlike pouch. Unlike some other Dutchman's pipes, the flowers have a pleasant, lemony scent when they bloom from summer to fall, or in late winter in

specimen since 2005. It blooms in clusters near the base and more sporadically along the woody stems. "When it's in bloom, it's covered with masses of stunning flowers," says Kathy Musial, the Huntington's curator of living collections. Draper at the Smithsonian says she cuts back basal foliage "to be sure you notice the flowers, which are easy to miss if you aren't looking." The mature size of the plant seems to depend on growing environment. "I think this plant will grow to fill the space it is given," says the Huntington's Hannon. Draper, who grows her yellow Dutch-

man's pipes in containers and cuts them back before winter, reports they reached about six feet tall in one growing season. Plant them in full sun to part shade in rich, evenly moist soil. "It's really well behaved, one of the few species that seems to not be really rambunctious," says Hannon.

pretty tolerant of different soils, like fertilizer, grow when it's warm," he continues. "They don't seem to be super specialized." The tropical Dutchman's pipes are root hardy in USDA Zones 9 to 11 with protection, but extended cold periods or sudden changes in temperature can be rough on them. "In Southern California our issue with cold hardiness is we don't often have a cool-down period in the fall," says Musial. "When the plants don't harden off, we tend to lose more things."

Draper grows all the Smithsonian's Dutchman's pipes in containers and



Growing in a container, 'Brasiliensis', a cultivar of giant Dutchman's pipe, is supported on a light post in the Smithsonian's gardens in Washington, D.C.

moves them into a cool greenhouse for the winter as soon as temperatures start to dip. "We want to keep them alive but not in rambunctious active growth," she says.

Depending on where you live, pruning should be done from late fall to late winter, prior to the onset of blooming. Several species have a robust rambling habit, but can easily be kept in check. "If they are vigorous growers, I cut them back to between two to three feet above the top of the container," Draper says. "They can get very leggy with no foliage at the base. By cutting them back, you get new growth down lower and keep them more manageable."

If you're growing Dutchman's pipe in containers, check the moisture level daily during the growing season. "They dry out quickly," says Draper. Also, feed

them two to three times during the growing season with an organic fertilizer that's low in nitrogen.

The horticulturists and growers I spoke with didn't report any major pest problems, but references mention that some Dutchman's pipe species are susceptible to mealy bugs and slugs—as well as spider mites and root diseases when grown in cold-winter regions.

Most Dutchman's pipes can be grown easily from seed. They spread—sometimes vigorously—by rhizomatous roots, so you can also dig up a sucker from an established plant.

DESIGNING WITH ARISTOLOCHIA

Vigorous *Aristolochia* species such as giant Dutchman's pipe need lots of space,

Draper observes, so "a little tiny trellis is not going to do it." To train vines vertically, Draper wraps supports such as lamp posts or columns in bird netting. She trains larger species to grow on wires suspended between the tops of posts. "You need to provide ample support otherwise the vine will grow over itself and cover the flowers," she says. "Cables overhead work well for me. Plus it's cool to walk underneath the vines." In tropical settings, Dutchman's pipes are often found scrambling up trees to reach for the light, a habit that can be adopted by gardeners in temperate regions.

Because they grow quickly and cover a lot of space, Dutchman's pipes are often used to camouflage unsightly wire-mesh fencing. Musial of the Huntington also

Sources

Annie's Annuals, Richmond, CA. (888) 266-4370. www.anniesannuals.com.

Forestfarm at Pacifica, Williams, OR. (541) 846-7269. www.forestfarm.com.

Logee's, Danielson, CT. (888) 330-8038. www.logees.com.

Plant Delights Nursery, Raleigh, NC. (919) 772-4794. www.plantdelights.com.

Shooting Star Nursery, Georgetown, KY. (866) 405-7979. www.shootingstarnursery.com.

recommends using them for disguising dead tree stumps.

While most *Aristolochia* species have a strong climbing or rambling nature, more restrained growers such as *A. fimbriata* are worth trying in hanging baskets, where they will trail elegantly. "They're all easy container plants—just give them support for the rapid growth," Draper says.

Now that I've spent more time researching Dutchman's pipes, I'm going to add a couple of new ones to my own garden. With luck, I should be seeing pipevine swallowtail butterflies arriving to lay eggs. Who knows, I may even amuse the neighborhood kids by cutting open some flowers to release the imprisoned pollinators.

Paul Lee Cannon is a freelance writer based in Oakland, California.



Fragrant Foliage

Plants with fragrant leaves provide a garden with season-long appeal.

BY RAND B. LEE

MY FAVORITE gardens are those that engage all of my senses: the tactile appeal of leaf, wood, stone, and soil; the sound of birdsong, trickling water, and wind-rustled foliage; the taste of some magical morsel that I can pluck and pop into my mouth. But above all, my favorite gardens are those that beguile my sense of smell, not only with perfumed flowers, but also by way of scented foliage. Most plants, after all, produce far more leaves than flowers, which means you get a lot more bang for your olfactory buck with scented-leaf plants.

While many flowers will fling their fragrance across the garden at you, most

fragrant foliage must be touched to release the scent. All this means is that you must site them where you can tread on them, brush up against them, or pinch them in passing: in the sunroom, flanking entryways, along paths, between paving stones, dangling from hanging baskets and window boxes, or even in small lawns. The following plants offer a wide range of scents sure to tantalize your nose.

SCENT UNDERFOOT

For paths and lawns, tough low-growing herbs that can tolerate moderate trampling work best. One such plant is Roman chamomile (*Chamaemelum nobile*, USDA

Hardiness Zones 5–9, AHS Heat Zones 9–5), which became popular with the Elizabethans in 16th-century England for lawns and bowling greens. Reaching about one foot tall in bloom, this plant boasts apple-scented, feathery foliage and adorable yellow-centered white daisies in spring to early summer. ‘Treneague’ is a strongly perfumed, non-flowering cultivar that grows only one to four inches tall.

Creeping thymes, which typically form spreading mats between one and four inches tall, are ideal for growing between stepping stones. In addition to their aromatic foliage, they bloom in late spring to midsummer. Most are quite



Placing aromatic herbs such as creeping thyme, opposite, and ‘Munstead’ English lavender, above, along pathways puts them within easy reach of passersby, who can release their fragrance by brushing against them or stepping on the foliage.

drought-tolerant and do best in a well-drained site.

There are myriad suitable species and cultivars available, but one of my favorites is caraway thyme (*Thymus herba-barona*, Zones 5–9, 9–5). This fast-spreading groundcover makes a reddish-stemmed mat with dark green leaves that are strongly scented and flavored like caraway seeds. It bears rose-pink flowers in summer. *Thymus* ‘Spicy Orange’ (Zones 5–9, 9–5) also boasts an intriguing scent. When brushed, its needlelike leaves exude a resinous, citrusy perfume. It produces soft pink flowers in summer.

‘Betty Rollins’ oregano (*Origanum majorana*, Zones 9–11, 11–1) is a delightfully mint-scented mat-former that reaches three inches tall when in bloom. Its leaves start out bright green, darkening as the season progresses until they bear a hint of red. The flowers, which are borne in summer, are a vivid reddish-purple.

Corsican mint (*Mentha requienii*, Zones 7–10, 10–6) hugs the ground,

forming a dense mat no more than a quarter-inch tall that smells strongly of crème de menthe when bruised. It also produces occasional purple summer flowers.

AROMATIC PERENNIALS

English lavender (*Lavandula angustifolia*, Zones 5–8, 8–1) was the first aromatic plant in my Santa Fe, New Mexico, garden, thriving in the gravelly, sun-drenched, alkaline soil. Both foliage and flowers of this plant are fragrant, and there are many new cultivars of varying hardiness to choose from. One of my favorites for its strong scent is ‘Twickel Purple’ (Zones 6–9, 9–1), which makes broad, bushy, compact hemispheres of gray-green foliage about two feet tall, topped with rich violet blossoms on long, thin stems in summer.

Several other members of the mint or dead nettle family (Lamiaceae) have strongly scented leaves and adapt easily across a wide swath of the country. Of

these, I’m partial to catmints (*Nepeta* spp.). Common catnip (*Nepeta cataria*, Zones 3–7, 7–1) grows three feet tall by about a foot and a half wide; its gray-green leaves have furry undersides and bear an incenselike fragrance that humans find relaxing and most cats find intoxicating. There is also a lemon-scented form.

More ornamental, but no less fragrant, are the many forms of garden catmint (*Nepeta xfaassenii*, syn. *N. mussinii*, Zones 4–8, 8–1). The most common cultivar is probably ‘Dropmore’, which makes a soft gray mound up to two feet tall, topped in summer with lavender blossoms. But I like *Nepeta* ‘Six Hills Giant’ better. A hybrid, it is just as hardy and just as fragrant as ‘Dropmore’, but is bigger—three feet tall by two feet wide or more.

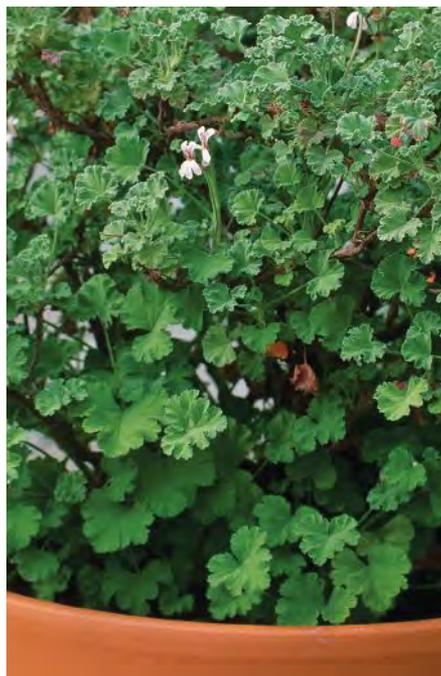
Cousins to catmints, all members of the North American genus *Agastache* are fragrant-leaved treats that serve as hummingbird magnets when in bloom. For gardeners in climes that receive regular



rainfall, the best species to grow are probably anise hyssop (*Agastache foeniculum*, Zones 4–9, 10–5) and purple giant hyssop (*A. scrophulariifolia*, Zones 4–9, 9–1).

Anise hyssop grows three to five feet tall and a foot wide and bears dense spikes of bluish blossoms from midsummer to frost. It reseeds prolifically but is not a menace. The purple giant hyssop, despite its name, rarely tops four feet. It bears long wands of purple-blue flowers in summer. Both species produce licorice-scented leaves.

Pretty as they are, these agastaches are dullards compared to their dry-climate relatives, the hummingbird mints, which love the sun-baked alkaline soil in my garden. The two best known species are *Agastache cana* (Zones 6–11, 12–1) and *A. aurantiaca* (Zones 7–10, 10–7), both native to the Southwest. *Agastache cana*, also called dog hyssop, wild hyssop, and just hummingbird mint, is an upright, gray-leafed, rather airy plant two to three feet tall by about two feet wide. All its parts smell like a wonderful mix of bubble gum and camphor, including its pinkish-red summer flowers.



Top: The fruit-scented leaves of pineapple sage set off the scarlet flowers that appear in late summer. **Above:** The small, fuzzy leaves of *Pelargonium fragrans* smell like nutmeg.

Agastache aurantiaca grows 18 to 30 inches tall by 24 inches wide, with narrow gray leaves that smell of anise and mint. It bears loose clusters of slender orange trumpets in summer. Easy to grow from either cuttings or seeds, it can be coaxed to survive Zone 6 winters with the help of a warm wall, well-drained soil, and protection from wind. I especially like the hybrid selection ‘Apricot Sunrise’, which bears purplish calyxes and stems and pale orange trumpets.

Many perennial salvias offer lovely fragrances such as balsam-scented *Salvia clevelandii* (Zones 8–10, 10–5), pineapple-scented *S. elegans* (Zones 8–11, 12–1), and the glorious, furry-leafed, fruit-scented, magenta-blossomed peach sage (*S. dorisiana*, Zones 9–11, 10–1), native to Honduras. Sadly, these three are not hardy in Santa Fe, but I don’t let this little detail stop me; I just grow them in containers on my patio where I can enjoy them up close.

Even more frost-tender are the scented geraniums (*Pelargonium* spp.), which hail from southern Africa. Though not

related to mint family members, the leaves of these plants can be just as aromatic. For example, *P. tomentosum* (Zones 10–11, 12–1) bears velvety, peppermint-scented leaves on a spreading, low-growing plant; one of its sports, ‘Variegatum’, bears minty emerald leaves edged in cream. The rough-textured leaves of *P. crispum* (Zones 10–11, 12–1) give off a strong lemon scent; a variant, ‘Peach Cream’, has fruity scented leaves. The apple geranium (*P. odoratissimum*, Zones 10–11, 12–1) has a trailing form and light green, apple-scented leaves.

NOSING AMONG THE SHRUBS

If you’re looking for a larger plant with fragrant foliage, there are several shrubs that you can plant along a pathway or behind a favored bench. Among the native options is the common sweetshrub or Carolina allspice (*Calycanthus floridus*, Zones 5–9, 9–1). Though I associate it with the Deep South, this deciduous shrub is surprisingly hardy and can be grown in most areas of the country. Its reddish-brown summer flowers do have a fruity fragrance, but I like it more for the strong, pleasant camphor scent of its dark green leaves and the bark that smells like cloves or cinnamon. It can grow up to eight feet tall by 10 feet wide, with a tendency to sucker prolifically.

Another North American native, spicebush (*Lindera benzoin*, Zones 4–9, 8–1) has deliciously fragrant, bright green foliage on 10-foot-tall plants best sited in part shade. Its slightly less hardy relative, the Japanese spicebush (*L. obtusiloba*, Zones 6–9, 8–1) also has scented leaves and grows twice as large. Both offer excellent yellow fall color to boot.

Shade- and moisture-loving Florida anise (*Illicium floridanum*, Zones 6–9, 9–6) is native from Florida to Louisiana. It slowly grows up to 10 feet tall, covered with leathery evergreen leaves that emit a spicy fragrance when crushed. Star-shaped red flowers in summer are a bonus, though their odor isn’t particularly pleasant. Several cultivars with white or pink flowers exist, as well as some with variegated foliage such as Shady Lady® (‘Thayer’).

The aptly named Carolina allspice boasts scented foliage, flowers, bark, and roots.

MAKING SENSE OF SCENTS

We all know that scented flowers attract pollinators, but biologists have found that fragrances emitted from other parts of the plant—including leaves—also lure pollinating insects. This plant–pollinator interaction is often very specific. Such relationships suggest that fragrance has played a significant role in the co-evolution of many insect and plant species.

Scented leaves also repel or kill certain predators. Plants that are poisonous to indigenous herbivores have a distinct survival advantage over those that are not. Extracting these volatile oils has led to the development of several botanical insecticides. Thyme oil has been used in flea collars for pets as a repellent and products that include oil from the neem tree (*Azadirachta indica*) can be applied to many ornamental plants to protect them against a variety of insect pests.

The volatile compounds that are responsible for scent in leaves also protect certain plants from drought and desiccation. Sunlight stimulates the release of oils as a vapor, providing a buffer that keeps the leaf surface significantly cooler. Observation of this phenomenon led to the old English custom of using branches of rosemary to cool walls that stood in full sun. Studies have shown that the volatile oils in thyme and lavender plants demonstrate cooling qualities similar to those of rosemary.

—Rita Pelczar, Contributing Editor



MORE PLANTS WITH FRAGRANT FOLIAGE

Botanical Name (Common Name)	Height, Spread (inches)	Scent and Other Features	USDA Hardiness Zones, AHS Heat Zones
<i>Acorus gramineus</i> (Japanese sweet flag)	12–18, 24	Narrow grasslike leaves have a sweet, citrusy scent.	6–9, 9–5
<i>Asarum canadense</i> * (Wild ginger)	3–6, 12–18	Heart-shaped leaves spicy-scented when crushed; little purplish-brown juglike flowers in spring.	3–8, 8–2
<i>Calamintha grandiflora</i> (Large-flowered calamint)	15–18, 18–24	Rose-pink flowers in summer; large fragrant leaves.	5–9, 9–3
<i>Calamintha nepeta</i> (Lesser calamint)	12–18, 15–18	Gray-green leaves with a scent reminiscent of mint. Tiny pink flowers starting in late spring.	5–9, 9–5
<i>Clinopodium georgianum</i> * (Georgia savory)	18, 24	Small dark green leaves have peppermint scent; abundant tiny white to light pink flowers in late summer.	7–8, 8–7
<i>Cistus incanus</i> ssp. <i>creticus</i> (Cretan rock rose)	24–36, 30	Silver-leaved shrub with incense fragrance; pink flowers in spring.	8–10, 10–7
<i>Dennstaedtia punctilobula</i> * (Hay-scented fern)	24–36, 24	Bright green fronds smell of new-mown hay.	3–8, 8–1
<i>Geranium macrorrhizum</i> 'Bevan's Variety' (Bigroot hardy geranium)	12–18, 18–24	Pine-scented foliage turns reddish in fall; rose-red flowers in spring.	4–8, 8–1
<i>Lavandula dentata</i> (Toothed lavender)	14–36, 48–60	Finely toothed, gray-green, strongly fragrant foliage topped with wands of violet to purple flowers in summer.	5–9, 9–4
<i>Monarda didyma</i> * (Scarlet beebalm)	24–36, 24	Large heads of bright pink or red flowers over deliciously scented, mildew-resistant foliage.	4–10, 10–1
<i>Monardella villosa</i> * (Coyote mint)	24, 24	Strongly mint-scented, fuzzy gray-green leaves; lavender flowers all summer.	7–10, 10–7
<i>Rosmarinus officinalis</i> 'Prostratus' (Prostrate rosemary)	18–24, 36	Widely cascading plant perfect for draping over a wall; small blue flowers in spring and summer.	7–9, 10–1
<i>Santolina</i> 'Lemon Queen' (Lavender cotton)	30, 36	Aromatic gray-green foliage, soft lemon-yellow flowers in summer.	6–11, 10–6
<i>Satureja douglasii</i> * (Yerba buena)	2, 36	Small, evergreen leaves on trailing stems smell minty when bruised; small white to purple flowers from spring through summer.	7–10, 10–7
<i>Teucrium cossonii</i> (Fruity germander)	4–6, indefinite	Gray-green leaves have fruity fragrance, rose-purple spring flowers.	7–10, 10–6

* Native to North America



Dennstaedtia punctilobula



Rosmarinus officinalis 'Prostratus'



Top: Blooming in spring, the Asian incense rose is prized as much for its soft yellow flowers as it is for the incenselike fragrance of its leaves. **Above:** Small flowers appear in spring among yellow anise's licorice-scented, evergreen foliage.

Yellow anise (*I. parviflorum*, Zones 7–9, 9–1), native to much of the same region as Florida anise, is more tolerant of sun and dry conditions than its cousin and can grow up to 20 feet tall. It has insignificant flowers but its evergreen foliage

has a licoricelike scent when crushed.

There are a number of species roses with scented foliage. Asian incense rose (*Rosa primula*, Zones 5–9, 9–5) has highly aromatic, fernlike leaves and bears single yellow blossoms in spring. The leaves of

Resources

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The Encyclopedia of Herbs by Arthur O. Tucker and Thomas DeBaggio. Timber Press, Portland, OR, 2009.

Essential Perennials by Ruth Rogers Clausen and Thomas Christopher. Timber Press, Portland, OR, 2014.

Fragrant Designs. Brooklyn Botanic Garden, Brooklyn, NY, 2009.

Sources

Annie's Annuals & Perennials, Richmond, CA. (888) 266-4370. www.anniesannuals.com.

Bluestone Perennials, Madison, OH. (800) 852-5243. www.bluestoneperennials.com.

Mail-Order Natives, Lee, FL. (850) 973-0585. www.mailordernatives.com.

Mountain Valley Growers, Squaw Valley, CA. (559) 338-2775. www.mountainvalleygrowers.com.

Rare Find Nursery, Jackson, NJ. (732) 833-0613. www.rarefindnursery.com.

Richters Herbs, Goodwood, ON, Canada. (905) 640-6677. www.richters.com.

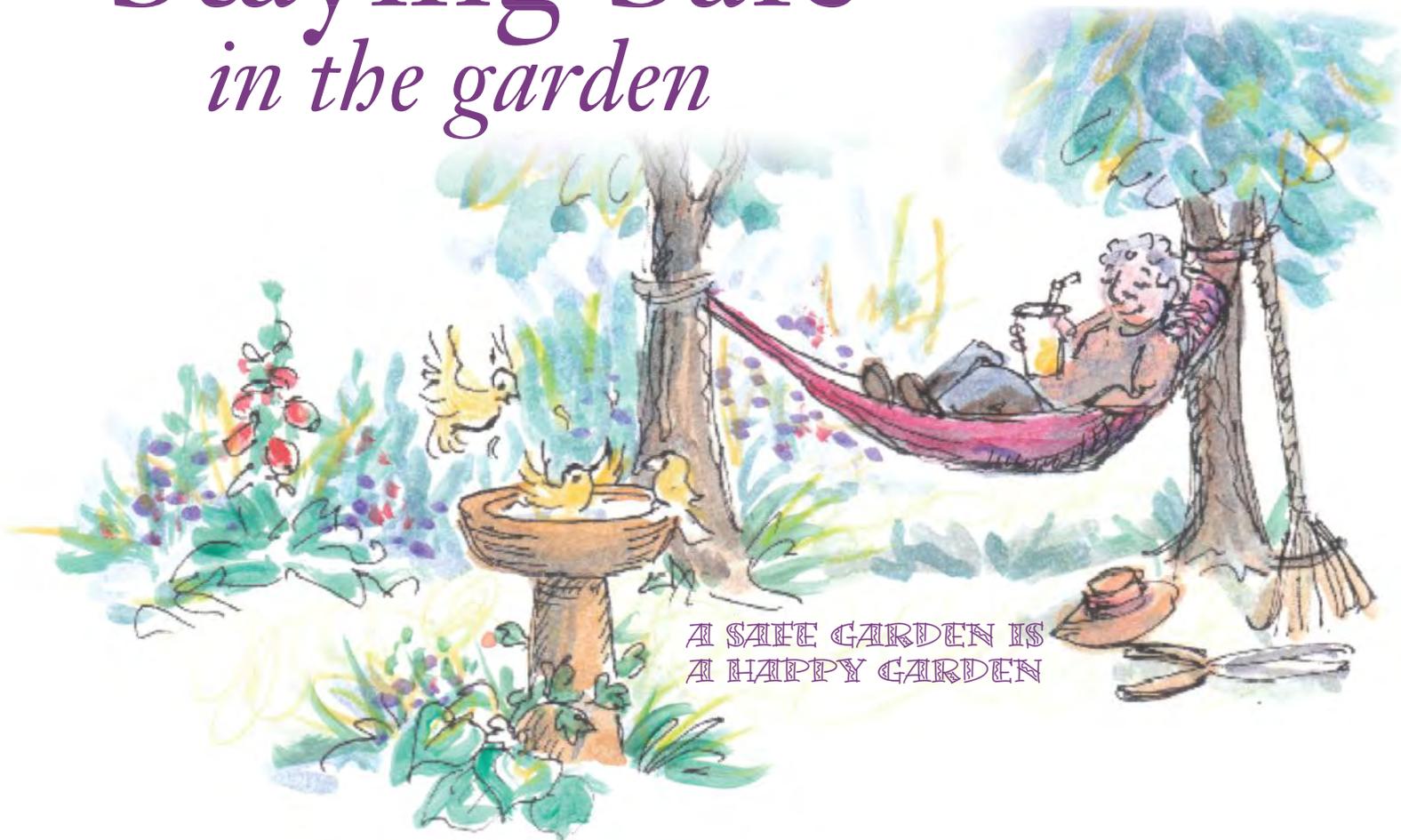
eglantine roses (*R. rubiginosa*, syn. *R. eglanteria*, Zones 4–9, 9–1) give off an apple scent, and *R. villosa* (Zones 5–11, 12–1) bears apple-scented leaves, too.

SCENTS ALL AROUND

The relationship between plants with fragrant leaves and the gardener who tends them is an intimate one, because the scent is released only with touch. Many of these aromatic wonders are also edible, can be used to make herbal teas, and produce floral displays that attract pollinators, engaging all the senses. These plants offer such enchanting rewards that any garden task that puts them within your reach becomes a delight. 🌿

Rand B. Lee is a garden writer and lecturer based in Santa Fe, New Mexico. This is a revised and updated version of the author's article originally published in the November/December 2004 issue of this magazine.

Staying Safe *in the garden*



A SAFE GARDEN IS
A HAPPY GARDEN

FOR MANY of us, summertime is gardening time. Whether your passion is designing an inviting landscape, growing fabulous flowers, or cultivating flavorful food, your gardening efforts can yield many benefits. As you beautify your outdoor spaces, you also top off your vitamin-D levels, burn calories, soothe stress, and exercise your muscles.

But as with most outdoor pursuits, occasional bumps and bruises may be encountered along the way. There are easy ways to avoid most garden related injuries; with a little planning, preparation, prudence, and a hefty dose of common sense, you can keep mishaps to a minimum so that you are still smiling at the end of each hard day's work in the yard. I asked a number of gardening veterans and a doctor experienced in treating gardening injuries for their safe gardening tips; these serve as good reminders to all of us who enjoy digging in the dirt. (For information about products that improve and

Gardening is a healthy and satisfying pursuit, but as with any outdoor activity, following a few safety tips will help prevent injuries and accidents.

BY KRIS WETHERBEE

ILLUSTRATIONS BY
MARILYNNE K. ROACH

encourage gardening health and safety see "Green Garage" on page 58.)

■ PRUNING AND POWER TOOL INJURIES

Emergency rooms in the United States treat more than 400,000 people each year for lawn and garden tool-related injuries. One wrong cut with a chain saw, weed trimmer, pruning shears, or hedge clippers can cause a serious injury. Play it safe by staying alert and knowing where your hands, fingers, and toes are at all times. Wear heavy gloves, make sure to operate your equipment safely and correctly, and always use the right tool for the task at hand. "Just like my mom always told me never to cut paper with her pinking shears, don't try to cut a large branch with pruning shears when a pruning saw should be used," says Todd Lasseigne, president and CEO of Tulsa Botanic Garden in Oklahoma.

Horticulturist and Master Gardener Jamie Sloan in Salem, Oregon, knows

firsthand how vital it is to be aware where your hands and fingers are while using power tools. Once, she was using electric shears to cut the top-heavy stems of a large shrub while lifting the stems with her left hand. The overgrown foliage blocked her vision and her hand got in the way of the blades. “The blades tore through my gloves and flesh, leaving me with 17 stitches and a hefty ER bill,” she says. Now she always grabs high and cuts low.

Another important precaution with electric power tools is making sure the cord is positioned so you won’t slice through it or get a foot entangled in a loop. Work slowly and methodically and pause frequently to ensure the cord is out of the way.

“Lawn mowers account for many foot injuries annually when homeowners slip and accidentally slide their foot under the mower deck,” says orthopedic trauma surgeon Dr. Douglas Lundy, a spokesperson for the American Academy of Orthopaedic Surgeons. “Not surprisingly, these tend to be painful and dramatic injuries.” Always shut off mowers and make sure the blade has fully stopped before checking, repairing, or cleaning underneath.

Dress for safety when you use any power equipment: wear long pants, close-toed shoes, eye protection, work gloves, and hearing protection, if needed. Avoid loose-fitting clothing that might get caught in the blades of power tools.

■ LADDER ACCIDENTS

Most gardeners need to use a ladder from time to time, whether it’s to trim a tree, reach branches on a tall shrub that need pruning, mount a bird house, or to train vines growing up a trellis or arbor. But a fall of any kind can land you in the emergency room.

Ladder accidents typically occur in one of four ways: using the wrong type of ladder for the task at hand, using a worn or damaged ladder, using the ladder incorrectly, or placing the ladder incorrectly. Home gardener W. Dean Pulley learned a



DON'T OVERSTEP ON LADDERS

lesson the hard way while directing a flowering vine on his deck garden in North Fort Myers, Florida. He was using a ladder that converted from a step to an extension ladder. “When a ladder has ‘collapsible’ in its brand name, that’s not necessarily a product benefit,” he says. His fall resulted in a twisted knee, bruised rib, and a nasty splinter.

When using a ladder, follow the manufacturer’s precautions and always keep safety in mind: avoid over-balancing by keeping your center of gravity—think belly button—within either side of the ladder; place the ladder on a flat, stable surface; face the ladder when climbing or descending; make

sure to lock the center brace in position on A-frame ladders; never use the very top of the ladder as a step; and have someone at the bottom to make sure that the ladder doesn’t slip.

Garden designer Lucy Hardiman in Portland, Oregon, has learned from experience that stability is critical when working on a ladder. “Be sure the base of the ladder is level and the soil is firm so the legs don’t dig in, causing the ladder to tilt,” she says. Hardiman emphasizes that she only works on a ladder, “when someone else is outside at the same time.”

■ CUTS, SCRAPES, BUMPS, AND BRUISES

Cuts and scrapes are a given when gardening, especially if you’re working around thorny or prickly plants or jagged rocks. And it can happen when you least expect it. Gearing up before you head out in the garden can go a long way to keeping you safe.

Oregon resident Grace Peterson, a certified Master Gardener, cut her finger when she came across a piece of glass



WEAR PROTECTIVE GEAR

while digging a hole with her bare hands. “Lesson learned—I now wear garden gloves,” she says.

New York City-based garden writer Ellen Zachos recalls an accident she had when transplanting a flowering quince. “I put all of my weight into the shovel, slipped, and fell on the shrub.” A broken branch that went through one of her fingers had to be surgically removed. “If I’d been wearing leather gloves, I might have been scratched, but I doubt I would have required surgery,” she says. “I never do the big jobs without leather gloves nowadays.”

Although stepping on tools left lying on the ground may seem like something you see in a Charlie Chaplin movie, they can cause real injuries. Shane Smith, director of Cheyenne Botanic Gardens in Wyoming, recalls stepping on a rake left with the tines face up. “The next thing I knew, I had the rake handle wallop me in the face,” says Smith. “Ever since, I constantly police a garden site or garage to be sure that all rakes have been left with the tines facing down and back towards whatever they are leaning on.”

My most memorable garden injury came when I stepped on a rusty nail that went straight through my shoe and into my foot, requiring a tetanus shot. The Centers for Disease Control and Prevention (CDCP) recommends that everyone get a tetanus booster every 10 years, and this is particularly important for gardeners. According to the CDCP, a third of the 130 tetanus cases reported from 1998 to 2000 resulted from injuries in home gardens.

The bacterium that causes tetanus, *Clostridium tetani*, is found in soil, mulch, and animal manure and can enter the body through a puncture wound, open sore, or even a superficial wound. So in addition to the tetanus booster, practice common sense measures such as wearing gloves, washing hands, and keeping any pre-existing cuts and wounds bandaged.

■ BITES AND STINGS

A wide range of biting or stinging insects from mosquitoes to caterpillars can cause intense itching, swelling, and sometimes welts. Wasps, yellow jackets, bumble bees, and honey bees typically don’t sting at random, but often will if they feel threatened. Certain caterpillars, such as the saddleback, have stinging hairs that can cause a rash if you brush against them accidentally.



Here are tips to avoid those bites and stings: don’t swat at stinging or biting insects, don’t wear bright colors, and don’t wear perfume or scented products that may attract bees. Look out for nests of ground-dwelling bees such as yellow jackets. Do wear appropriate clothing, especially gloves, apply bug repellent if needed, and if you’re allergic to bee stings, wear a medical ID bracelet.

Bites from spiders and snakes are not all that common in garden settings, but it’s best to be cautious if you live in a region where venomous species reside.

And, of course, tick bites bring with them the risk of several serious diseases, so

avoiding ticks and their bites is always important (for more on this, see the sidebar on opposite page).

■ RASHES AND ALLERGIC REACTIONS

Plant-induced rashes are common and can vary from mild itching to swelling and serious distress. Plants with spines, thorns, or prickly outgrowths known as glochids can result in itchy, bumpy eruptions, especially if they get under your skin. Some people break out in hives from brushing up against thistles or stinging nettles.

Several common garden plants can result in rashes for some individuals. “I like to make people aware of the dermatitis issues that can occur with fennel, amsonia, and euphorbias, especially with pruning,” says Ohio-based garden writer and designer Tracy DiSabato-Aust. As for me, I always wear a long-sleeved shirt when harvesting tomatoes or my arms will break out in an itchy rash from the plant.

Some of the most common and potentially severe allergic reactions are caused by poison ivy, poison oak, and poison sumac. These plants contain urushiol, a resinous sap that causes a reaction in about 50 percent of adults. Mild reactions result in minor irritation and itching. But nasty rashes may necessitate a trip to the doctor, and

Resources

Garden Health and Safety Tips, Center for Disease Control and Prevention.

www.cdc.gov/family/gardening/

How to Avoid Common Garden Injuries, Mother Nature Network.

www.mnn.com/family/protection-safety/stories/how-to-avoid-common-garden-injuries

Lawn Maintenance Safety, Texas A & M University Extension Service.

<http://agsafety.tamu.edu/files/2011/06/LAWN-MAINTENANCE-SAFETY2.pdf>

TICK BITES AND LYME DISEASE

No matter where you live, ticks can transmit trouble in the form of disease-causing microbes, including Lyme disease bacteria, *Babesia* protozoa, and *Bartonella* bacteria.

At one time, Lyme disease was primarily restricted to New England and the Mid-Atlantic, but it is now a problem throughout the United States. The federal Centers for Disease Control and Prevention (CDC) estimates that there are about 300,000 cases of Lyme disease a year. Yet some researchers believe actual infection levels may be 10 times higher than the CDC estimates.



Ticks, such as this blacklegged tick (*Ixodes scapularis*), can transmit a variety of diseases to humans, including Lyme disease.

My husband, Rick, contracted Lyme disease from a tick bite in our Oregon garden

several years ago. He did not get the tell-tale bull's eye rash that is a classic symptom of Lyme disease. It turns out that fewer than 50 percent of people who are infected present with the bull's eye rash, which can aid in early diagnosis of the disease. Instead, Rick experienced flulike symptoms and pain and swelling on the knee that was bitten. A trip to a doctor and a month-long treatment with antibiotics cleared up the disease.

The good news is that tick bites and tick-borne disease are preventable if you are proactive. Start by discouraging the presence of tick carriers such as deer and rodents in your garden. Treat outdoor pets regularly with flea and tick controls. Wear light-colored clothing outdoors so you can easily spot ticks. Before going outdoors, apply tick repellent to shoes, socks, and exposed areas of the skin, or wear clothing with built-in tick repellent.

Always do a thorough tick check at the end of each garden session. That way you can remove ticks within the 24-hour period required to transmit infection. If you think a tick has been attached for more than 24 hours, notify your doctor.

—K.W.

severe allergic reactions—such as difficulty in breathing or swallowing—a trip to the emergency room. (For more information on poison ivy, see the article “A Larger Perspective on Poison Ivy” in the September/October 2014 issue of this magazine.)

If you are working in an area where there is a lot of poison ivy, oak, or sumac, consider using a commercial urushiol block (such as IvyBlock) to prevent the oil from causing a rash.

If you do come in contact, immediately rinse the affected areas with cool water—hot water will only spread the rash by opening up the pores of your skin. Then wash with a grease-cutting dishwashing soap or, better yet, a cleanser designed to break through the oil, such as Tecnu Original, Tecnu Extreme, or All Terrain's Poison Ivy Bar. Rinse anything else that has come in contact with you or the plant, including clothes, shoes, garden tools, or pets.

■ REPETITIVE AND OVERUSE INJURIES

Raking, digging, pruning, and other repetitive movements associated with



gardening can lead to inflammation, tenderness, and pain in the joints by putting undue strain on specific muscles. Case in point—weeding. Through the years, there have been a few times when I spent

the entire day weeding and ended up with tendonitis in my forearm from both repetitive motion and overuse.

“Tendonitis is a very common condition,” says Lundy. “With constant repetitive motion that is outside the normal course of a person’s activity, irritation of the tendons can occur, causing pain and tenderness.”

Here’s where an ounce of prevention pays dividends. A short warm up or walk followed by stretching exercises can significantly reduce the risk of injury. Using ergonomically-designed tools with cushioned handles reduces stress on joints and minimizes strain and fatigue. And it helps to know your limits. “Awareness of overuse is integral to avoiding many injuries,” Lundy says.

Take frequent breaks and rotate tasks every 30 to 60 minutes. Switch sides when using a shovel, rake, or other tool so that you don’t use one muscle group over and over again. If you can, enlist helpers to share the labor for the most strenuous tasks. Above all—avoid the gardening marathon—don’t try to renovate an entire garden in one weekend!

■ KNEE KNOCKERS AND BACK BREAKERS

Some garden tasks such as weeding, planting, or pushing a wheelbarrow or cart uphill can be especially hard on the knees. “Prepatellar bursitis is an often seen overuse injury associated with gardening,” says Lundy. “When a gardener spends a significant amount of time in the kneeling position, the bursa (fluid-filled sack) in front of the knee cap (patella) can become very irritated and swollen, causing redness, pain with motion, and tenderness to the touch.”

Nurture your knees by using a soft foam pad or cushioned kneepad for garden tasks that involve kneeling. This will help take the pressure off your knees, as will taking breaks to stand up and walk around every 30 minutes or so.

The back can be a big target for pain and strain injuries that occur due to overuse, repetitive motion, and lifting incorrectly. Again, using ergonomic tools, switching up tasks, and taking regular breaks helps to avoid back injury. So does maintaining good posture, especially when lifting.

The key is to keep your spine straight, bend with your knees and not your waist, and lift with your leg muscles. Get help when lifting heavy objects, and use a

garden cart or wheelbarrow to move bags of garden soil, manure, or other heavy objects—or drag the items to the intended destination on a tarp.

■ SUN SENSE

Gardening and sweating go hand in hand, especially in the heat of summer. Staying hydrated to replace lost fluids will help sustain your energy, ward off dizziness, and lower your risk for heat-related illness. The Occupational Safety and Health Administration (OSHA) recommends drinking at least one pint of water every hour.

Lasseigne suggests working early in the morning or in the evenings to avoid the hottest part of the day. And remember to take regular breaks in the shade.

Sun exposure is another cause for concern, especially since each year in the United States nearly five million people

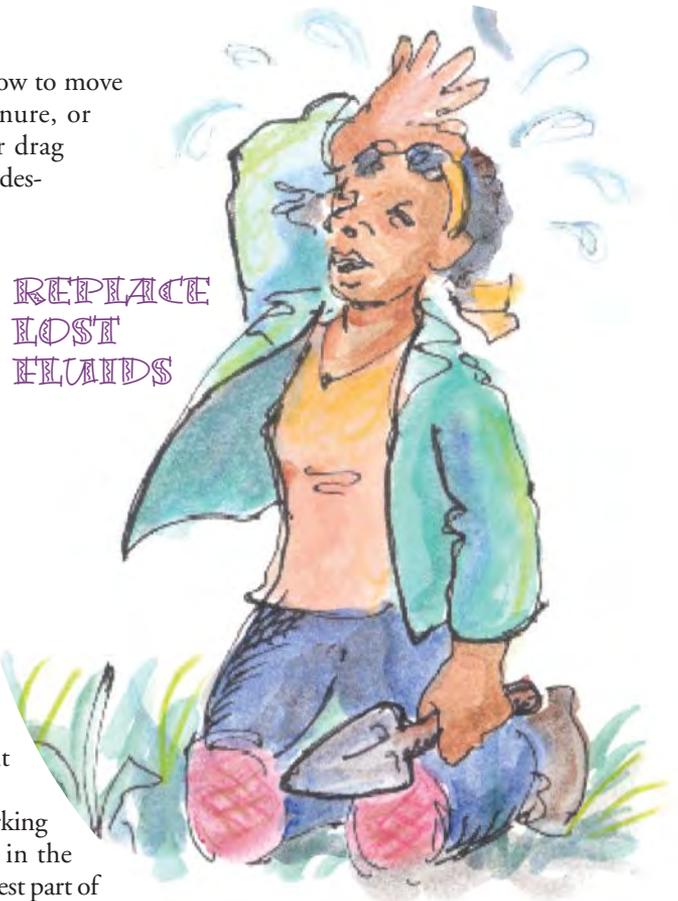
are treated for skin cancer. Reduce your overall exposure, especially between 10 a.m. and 4 p.m., when the sun’s ultraviolet (UVA/UVB) rays are strongest.

“Wear a hat and use appropriate sun protection even on cloudy days,” says Lasseigne. This includes a broad-spectrum sunscreen and lip balm, with a Sun Protection Factor (SPF) of 30 or higher, loose-fitting clothing made of tightly woven or sun-protective fabrics, a wide-brimmed hat that protects your face and neck, and sunglasses with UVA/B protection that fully cover the sensitive area around your eyes.

THE COMMON-SENSE APPROACH

Creating and maintaining a garden is a favorite outdoor activity for many of us. It’s not just the results of our labors that are satisfying, but the effort itself. A little common sense with your tools and attire, plus a bit of situational awareness, will go a long way to ensure that you will continue to appreciate the fruits of your hard work for years to come.

Kris Wetherbee is a contributing editor with The American Gardener. She lives in Oakland, Oregon.



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Tangy Tomatillos

by Kris Wetherbee

WHAT LOOKS like a small green tomato but isn't; is generally used while still green, tart, and quite firm; becomes very sweet when the fruit turns yellow or purple; and all the while remains wrapped up in a papery husk? If it weren't for the obvious title above, would you know the answer?

The summer fruiting tomatillo (*Physalis ixocarpa*) can take your taste buds on a tart to sweet adventure all on one prolific, easy-to-grow plant. Also known as husk tomato or Mexican green tomato, they are popular in Mexican and Southwestern cooking and are the main ingredient in salsa verde.

Beyond its piquant flavor and abundance of nutritious minerals, vitamins, and antioxidants, the tomatillo is a delightful garden plant. I especially treasure its bushy, sprawling growth habit, its easy-care nature, and its dangling papery packages filled with tasty summer treats just waiting to be unwrapped.

GROWING GUIDELINES

A close relative of tomatoes and cape gooseberries in the nightshade family, tomatillos love summer heat, so choose a site in full sun with free draining, moderately rich soil. If you garden in heavy clay soil, work ample amounts of organic matter into the soil in advance of planting, or create raised beds. Free draining is the key phrase, because tomatillos won't survive for long in soggy, heavy soil. For prolific harvests, the soil pH should be as close to neutral (7.0) as possible.

Prior to planting, amend the soil with compost or well-aged manure. If your plants seem to need a nutritional boost after they start to bloom, side dress with additional compost or manure, or add a balanced organic fertilizer.

As with tomatoes, plant tomatillo seedlings outdoors only when air and soil temperatures are consistently warm



Tomatillo fruits are covered with papery husks that must be removed before they can be eaten out of hand, chopped to make fresh salsa, baked in pies, or cooked in jams.

(see "Planting Basics," opposite page). Water regularly and deeply as you would for tomatoes and apply a two- to three-inch layer of mulch shortly after planting to keep the soil evenly moist. You can cut back on water slightly once fruiting begins to reduce skin cracking.

Tomatillos grow from three to four feet tall and, if left to sprawl, equally wide. Staking plants when young, training them on a trellis, or growing them in tomato cages not only makes the fruit

more accessible and reduces the needed planting area but also increases air circulation and thus discourages diseases.

PESTS AND DISEASES

One reason that tomatillos are easy to grow is that they rarely suffer from diseases or pest infestations. Aphids are the most likely encountered pests, signaled by stunted growth and curling or yellowing of young shoots and leaves. The war on aphids, however, is easily won by knocking them off

PLANTING BASICS

Getting Started In warmer climates, tomatillos can be directly seeded in the ground about four to six weeks after your last spring frost. Transplants, however, are recommended in cooler regions of the country or where summers are short.

For transplants, sow seeds indoors five to six weeks ahead of when you want to plant them, which should be one to two weeks later than tomatoes, or about the same time that you normally transplant basil outdoors. Be sure to harden the transplants off as you would tomato plants. Regardless of whether you direct seed or start with transplants, the key is to wait until the days and nights are consistently warm—and above 60 degrees. Tomatillos don't self-pollinate readily, so it's best to grow at least two plants to ensure an abundant harvest. Set your transplants deep—with soil level just below the first set of leaves—as you would for tomatoes.

Spacing Plants grow large, so space seedlings or transplants two to three feet apart in—and between—rows, depending on whether plants are left to sprawl on the ground, or are staked or caged.

Days to Maturity 60 to 80 days, depending on variety.

with a strong jet of water, or by applying a natural soap-based spray.

Powdery mildew and other fungal diseases can be an issue if plants are spaced too closely, particularly if you garden where summers are hot and humid. Avoid overhead watering as much as possible to slow the spread of these diseases.

RECOMMENDED VARIETIES

Early-maturing varieties grown for their green fruits include **'Toma Verde'** and the slightly larger-fruited **'Mexican Strain'** (both 60–65 days). Later ma-

turing selections include the purple-blushed fruit of the Mexican heirloom **'De Milpa'** (70 days), known for its tart-sweet flavor and long storage, and decorative **'Purple'** (70 days), which has deep purple skin and green husks. Even later maturing are **'Miltomate'** (80–83 days), which yields small but richly flavored one-inch fruits, the large-fruited **'San Juanito'** (80–83 days), and the slightly larger **'Rio Grande Verde'** (80–83 days).

ENJOYING THE HARVEST

Tomatillo fruits are generally harvested when they are still green and firm but



'De Milpa' is an heirloom variety from Mexico that produces purple-tinged fruits.

Sources

Baker Creek Heirloom Seeds, Mansfield, MO. (417) 924-8917. www.rareseeds.com.

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

Territorial Seed Company, Cottage Grove, OR. (800) 626-0866. www.territorialseed.com.

have swollen to fill the husk—technically it's the flower's calyx—which may or may not have split open. Depending on the variety, the fruits range in size from a marble to a golf ball. They will have a tart crisp bite with hints of lemon and apple, making them ideal for use in salsas, sauces, and salads.

When fully ripe, tomatillo fruits become softer and sweeter and turn pale yellow to purple. The loose, papery husks typically turn buff in color. At this stage, some people like to eat tomatillos fresh off the plant, or use them to make jams, jellies, and pies. Overripe fruits should be harvested as well to prevent self-sown seedlings the following year. Regardless of when you harvest the fruits, simmering, grilling, or roasting them will enhance the flavor.

After harvest, leave the protective papery husks in place until you are ready to use the fruit. You can store tomatillos in a paper bag in the vegetable bin of your refrigerator for two to four weeks. When you are ready to use them, remove the husk and wash the fruit thoroughly to remove their natural stickiness.

Making salsa verde is simply a matter of combining tomatillos with onion, garlic, green chilies, cilantro, and a little salt in a food processor and blending to your desired consistency. Extra salsa freezes well in plastic containers.

If you don't have time to cook tomatillos for long-term storage or are overwhelmed by a bountiful harvest, whole fruits also keep well in the freezer; just remove the husks, rinse and dry the fruit, and place them whole in freezer bags. These can be thawed later to make sauces that will add fresh summer flavor to your winter fare.

Freelance garden writer Kris Wetherbee lives in Oakland, Oregon.

Preventing the Spread of Sudden Oak Death

by Scott Aker

IN THE PAST century, devastating diseases like chestnut blight and Dutch elm disease have had far-reaching consequences for both our native woodlands and ornamental plants. A relatively new disease that is of concern to American ecologists and horticulturists is sudden oak death (SOD), which was first identified about 20 years ago in California.

The disease is caused by a fungus-like microorganism called *Phytophthora ramorum*. Its common name is dramatic, but a bit misleading. Oaks infected with the disease may take years to die, and the disease also causes dieback and foliar blight on about 150 other host plants, including azaleas, rhododendrons, and camellias.

In the United States, the SOD pathogen is primarily found in the coastal counties of California from the Big Sur area northward to southern Humboldt County, with Sonoma County being hardest hit. In this region coast live oak (*Quercus agrifolia*), black oak (*Q. kelloggii*), Shreve's oak (*Q. parvula* var. *shrevei*), and an oak relative called tanoak (*Lithocarpus densiflorus*) are most heavily affected. Because coast live oak and tanoak are dominant species that largely define the nature of the woodlands they grow in, their loss has resulted in significant ecological disruption.

The disease has also become established in the southeast corner of Oregon and, with the movement of nursery stock, has been detected on plants at a few nursery and garden centers in the South and mid-Atlantic. Nurseries on the West Coast are now inspected regularly to ensure that infected plants are not transported to other states, and a number of nurseries have been quarantined and stock destroyed to avoid spread of the disease.

So far, it has not affected woodlands outside the West Coast, but gardeners and horticulturists everywhere need to



In the last few decades, sudden oak death has killed many coast live oaks in California, above left. Affected trees exhibit cankers on the trunks that weep a sticky fluid, above right.

be aware of the disease and take precautions to avoid spreading it.

MYSTERIOUS ROOTS

The origin of the SOD pathogen is still unknown. Theories range from accidental importation on plants from overseas, to a chance mating of two different *Phytophthora* strains. There are two mating types, A1 and A2, both of which are needed for the organism to reproduce sexually. While

both types exist in the United States, they are geographically separated, and no sexual reproduction has been documented. The SOD pathogen was identified in Europe not long after the initial discovery in California, but the European strain is a different mating type than the one found in the United States.

VARIABLE EFFECTS OF THE DISEASE AND HOW IT SPREADS

Symptoms of SOD vary depending on the host. In most plants, mainly the foliage and branches are affected; diseased leaves display brown, black, or gray spots or patches and the tips of twigs may die, but the plants are not usually killed. In susceptible oaks, however, the disease targets the trunks, causing the development of cankers that ooze a sticky reddish, black, or amber liquid with an odor that has been compared to that of wine. The cankers disrupt the flow of water and

Resources

California Oak Mortality Task Force, www.suddenoakdeath.org.
Risk Analysis for Phytophthora ramorum, USDA Animal and Plant Health Inspection Service, www.aphis.usda.gov/plant_health/plant_pest_info/pram/downloads/pdf_files/pram-cphst-08.pdf

Gardening Q&A with Scott Aker

CONEFLOWER MALADY

Some of the flowers on my purple coneflower (*Echinacea purpurea*) have lots of little green petals that never turn pink, and there are a lot more flowers than usual per stem. What can I do to fix the problem?

Your coneflowers have been infected by aster yellows, a disease that is spread by leafhoppers. The only remedy is to remove the plant, because the disease-causing phytoplasma (a type of bacterium) is present throughout its tissues. To prevent the spread, control weeds around your garden that may serve as a reservoir for the phytoplasma. Control of the leafhopper vector only works if you spray your plants with insecticidal soap frequently as a preventive measure.

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

nutrients in infected trees, causing their leaves to turn brown in a matter of weeks and eventually killing the oaks. Tanoak exhibits bleeding cankers as well as twig dieback and foliar symptoms.

Phytophthora ramorum is easily spread from tree to tree. When the microbe attacks a tree, it produces spores that can be carried to other trees via water dripping and splashing from infected foliage and stems. It can also be transferred to new locations by wind, as well as by the movement of animals and hikers. The spores exploit small cracks in the bark of the oaks or tanoaks and rapidly infect the tissue underneath, sometimes causing the bark to split.



On many non-oaks, such as this California bay laurel, sudden oak death causes browning of leaves but is usually not fatal.

The pathogen can persist on dead leaves, twigs, and wood. In woodlands, the main predictor of oak and tanoak mortality is proximity to California bay laurel (*Umbellularia californica*), which appears to serve as an important host for SOD.

Most concerning is the fact that a risk assessment by the U.S. Department of Agriculture determined that many species of oaks native to other parts of the country—such as pin oak (*Q. palustris*) and northern red oak (*Q. rubra*)—are susceptible to SOD, and that spread of the disease could be even more rapid in the wetter climates of the southern and eastern United States.

CONTROLLING SPREAD

At this time, the only effective means of control is the application of a systemic fungicide called Agri-Fos® to susceptible trees before they become infected. Agri-Fos stimulates the tree's own defenses against *P. ramorum*. It can either be applied by injecting it into the base of the tree—which should be done by a trained arborist—or by drenching the trunk and soil around the tree with this fungicide mixed with Pentra-Bark™ to help it penetrate the bark.

This obviously won't work in a forest that is being ravaged by the disease, but it can be a feasible measure to protect highly valuable landscape specimens facing almost certain infection. Annual treatments are necessary to protect susceptible trees. Either injection or trunk treatment work on oaks, but only the

STREAKY DAYLILY FOLIAGE

Many of the leaves on my daylilies (*Heemerocallis* spp.) have tan streaks. I water the plants often through the summer and apply compost in spring. How do I prevent the same problem on new leaves that are starting to grow now?

It sounds as though your daylilies are afflicted with daylily leaf streak, caused by the fungus *Aureobasidium microstictum*. Pull the diseased leaves off and avoid overhead watering. Use a soaker hose buried under the mulch or a drip system to water your daylilies, since water on the foliage may result in new infections. Remove all remaining leaves from your plants after a hard frost and dispose of them by burying them deeply in the garden or adding them to a hot compost heap. —S.A.

injection method works on tanoak. In California, the use of Agri-Fos is limited to tanoaks and certain oaks.

Some laboratory research has identified microorganisms that appear to be successful antagonists to *P. ramorum*, but these have not had any impact on the disease in a natural environment. In the future, scientists may be able to find a way to put these antagonists to work on a large scale.

Until then, managing SOD lies primarily in containing its spread. If you live in a region where forests are not yet infected, you should exercise great care in the plants you select for your garden. Some level of non-lethal infection may be present on landscape plants that can move into neighboring woodlands. Avoid planting common disease hosts, such as azaleas, rhododendrons, and camellias if susceptible oaks or tanoaks are growing nearby. Oaks in the white oak group are not susceptible to the fungus, so choose one of them if you plan on planting an oak.

Practice good sanitation by cleaning up fallen leaves and do not dispose of yard debris in nearby woods. If you have live oaks or tanoaks on your property, don't fertilize or irrigate them because additional water and nutrients seem to favor the SOD pathogen. With a little effort, gardeners can help curb the level of destruction this disease inflicts on the environment. ☞

Scott Aker is a horticulturist in the Washington, D.C., area.

Garland Farm: Bar Harbor's Little-Known Treasure

by June Mays

MANY TOURISTS go to Bar Harbor, Maine, to sail, hike, relax, or shop. Few are aware that just seven miles away from downtown is Garland Farm, the last residence of renowned landscape architect Beatrix Farrand (1872–1959), who is perhaps best known today for designing the gardens at Dumbarton Oaks in Washington, D.C. Now owned by the Beatrix Farrand Society, Garland Farm, which is also on the National Register of Historic Places, offers visitors a chance to better appreciate Farrand's contributions to American landscape design.



Beatrix Farrand

TIES TO GRANDEUR

In a time when few women had careers, especially in her field, Farrand designed more than 200 gardens, including the old campus at Princeton University, Yale University, and the University of Chicago, the grounds of the Morgan Library & Museum in New York City, the Santa Barbara Botanic Garden in California, and numerous private estates, including that of her Maine neighbors, the Rockefellers. She was an early proponent of using native plants in landscaping.

For many years, Farrand owned and lived at Reef Point, a bayfront estate her parents built on Mount Desert Island, close to Bar Harbor. In 1955, at age 83, realizing she would need to downsize and arrange for her own care, she donated her library to the University of California at Berkeley and demolished Reef Point—retaining molding, windows, and some other materials. Farrand sold the Reef



Garland Farm's main attraction is the terrace garden, top, which Beatrix Farrand designed to be viewed from her wing of the house, above.

Point property, keeping some plants for herself; other plants were purchased by Charles K. Savage to build nearby Asticou Azalea Garden and Thuya Garden (see sidebar, opposite).

Farrand moved to Garland Farm, the home of her longtime property manager Lewis Garland and his wife, Amy, a horticulturist and friend of Farrand's. Farrand loved to repurpose things, so architect Robert Patterson used many

salvaged pieces from Reef Point in designing an addition to the Garlands' cape farmhouse, which was her residence until her death in 1959.

GARLAND FARM TODAY

Amy Garland sold Garland Farm in 1970. In 2004, the estate was purchased by the newly formed Beatrix Farrand Society to preserve Farrand's legacy. Restoration efforts on the 4.88-acre property began a few years later with the farmhouse, barn, and the terrace garden. Other features on the property include a small front entrance garden, greenhouse, wild gardens, and holding garden that was added in 2008 during terrace garden restoration.

The **farmhouse** now includes a 2,000-volume reference library, an archive of Farrand's plans, drawings, and photographs, and serves as the headquarters of the Beatrix Farrand Society. The **barn** has become a lecture hall and event space. The property continues to be restored in phases, with efforts now focusing on Farrand's wing and the **entrance garden**.

Many of the specimen trees and shrubs from Farrand's time continue to grow on the property, including a state champion scarlet hawthorn (*Crataegus coccinea*) near the barn and a Sargent cherry (*Prunus sargentii*). A Korean stewartia (*Stewartia koreana*) growing close to the garage and a dawn redwood (*Metasequoia glyptostroboides*) beside the terrace garden are believed to have been transplanted from Reef Point.

AN EXQUISITE TERRACE GARDEN

The jewel of Garland Farm is the **terrace garden** located outside Farrand's wing, which has been fully restored according to her design. Raised beds lined with slate roof tiles echo the rectangles in a salvaged Reef Point door that was repurposed as the front door of her wing. The garden features three sections. The section viewed from Farrand's suite features her preferred plants from a cool color palette. Her companion, Clementine Walter, preferred a warmer palette and the section viewed from her suite is planted accordingly. The center section features lavender and heather and can be viewed from both suites as well as a common study. Part of the border fence is made from vergeboard salvaged from an estate torn down nearby,

Additional Information

Garland Farm, 475 Bay View Drive, Bar Harbor, ME 04609
(207) 288-0237. www.beatrixfarrandsociety.org.

■ Hours: Thursdays from 1–5 p.m., from the first Thursday in July through the first Thursday in September, and on selected Sunday afternoons. Check the website for current opening dates and times.

■ Admission: Free, but a \$5 donation is suggested.

Other nearby sites to explore:

Asticou Azalea Garden and **Thuya Garden**, Northeast Harbor, ME. (207) 276-3727.
www.gardenpreserve.org.

Both gardens, only a half mile apart and administered by Land & Garden Preserve of Mount Desert Island, were created by Charles Savage, who owned the nearby Asticou Inn. Savage included plants purchased from Beatrix Farrand when she sold Reef Point. Some of the original plants are still there. The gardens are open from 10 a.m. to 4:30 p.m. daily, from mid-June through mid-September. Admission is free, but a \$5 donation is suggested.

and three local millstones serve as steps from the addition's doorways to the terrace.

In 1962, Amy Garland identified more than 60 plants Farrand grew in the garden. University of Maine Master Gardeners used Garland's list to restore the beds. Included are common plants such as irises, hostas, zinnias, and marigolds as well as lesser-known *Paeonia mlokosewitschii*, *Saxifraga xmacnabiana*, and *Clematis fremontii*.

The quiet garden overlooks pastures and woods. When you visit, the crunch of gravel underfoot is the only sound you will hear, even though busy U.S. Route 3 to downtown Bar Harbor is nearby. If you let your imagination roam, you may feel like Beatrix Farrand is walking with you. 

June Mays is a freelance writer living in Birmingham, Alabama.



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Recommendations for Your Gardening Library

The New Shade Garden

Ken Druse. Stewart, Tabori & Chang, New York, NY, 2015. 256 pages. Publisher's price, hardcover: \$40.

THE LUSCIOUS color photography notwithstanding, *The New Shade Garden* is no coffee table book—big on looks but weak on practical information. Nor is it one of those plant encyclopedias with page after mind-numbing page of plant descriptions. Instead, it's a gardener's treatise on gardening in shade, and doing so in an environmentally responsible manner. Along the way, it does cover an exceptionally wide range of fascinating and little-known plants adapted to all kinds of shady conditions that will give you plenty of ideas for your own garden.

Ken Druse deftly and thoroughly covers the gamut of shade gardening, from designing to planting, to pest control, and even dealing with the effects of climate change. He illustrates his points through his personal experiences with widely different conditions, such as the deep, relentless shade of brownstone buildings in Brooklyn, and the filtered shade of an island garden in New Jersey. His enlightening anecdotes, drawn from his successes and failures over decades of shade gardening, guide readers through their own shady endeavors.

This book will be of greatest value to gardeners in the Northeast, partly because they'll be gardening under similar conditions to Druse, but also because so many of his favorite plants are native to that region. That said, it still contains plenty of information relevant to gardeners all over North America. For example, it includes a list of Mediterranean plants and trees for Southern California, like palms and bananas. It suggests varieties more tolerant of intense summer humidity for gardeners south of the Mason-Dixon line, such as camellias and tea olive and provides tips on irrigation and otherwise dealing with the drier, more alkaline conditions of the Midwest.

This is the kind of gardening book that inspires quiet reflection and note-taking. You will want to read it from cover to cover like a novel. Given Druse's assumption that readers will have some knowledge of gardening, it may not be the best choice for rank beginners, but seasoned gardeners dealing with new or developing shade will find it endlessly useful.

—Larry Hodgson

Based in Quebec, Canada, Larry Hodgson is the president of the Garden Writers Association, and the author of over 50 gardening books, including Making the Most of Shade (Rodale Books, 2005).

Roses without Chemicals

Peter Kukielski. Timber Press, Portland, OR, 2015. 266 pages. Publisher's price, softcover: \$19.95.

A NUMBER OF years ago, I visited Garden Valley Ranch in Petaluma, California, where the distinguished rosarian Rayford Reddell—who died last year at 77—farmed hundreds of different rose varieties. Impressed by how healthy and full of flowers his plants were, I asked, "What's your secret?" His reply: "Spray the *bleep* out of them."

That was then. A lot of breeding work has been done in the meantime, and there are whole new classes of roses with strong disease resistance. You can find 150 of them described in *Roses without Chemicals* by Peter Kukielski.

Kukielski trialed each of these roses at the Peggy Rockefeller Rose Garden at the New York Botanical Garden, where he was curator from 2006 until 2013, and evaluated many of them in his own home garden as well. He rates the roses on three criteria: disease resistance on a scale of 40 (good resistance) to 60 (superior); amount of bloom on a scale from 0 (scant) to 30 (profuse), and fragrance on a scale of 0 (none) to 10 (strong). He then totals these three numbers to come up with an overall rating from 60 (good rose) to 100 (superior rose).

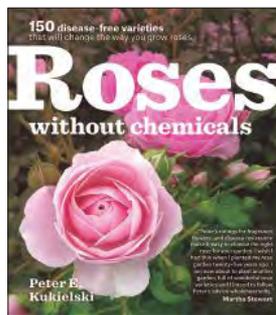
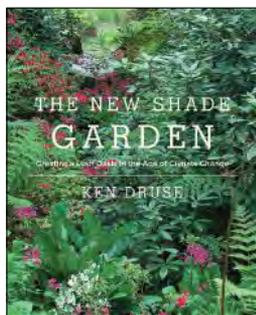
One of the highest-scoring roses in his gallery is Wedding Bells™, a hybrid tea. Hybrid teas are notorious for their susceptibility to the fungal disease known as black spot. Not Wedding Bells. "There has not been one speck of disease on this rose since I have had it in my garden," Kukielski writes. "All I can say is 'Wow!'" Each rose in the gallery gets its own page with a color photograph of the bloom, the ratings, suggested companions in the garden, and information on its growth habit.

The front of the book includes information on planting, feeding, and watering, and the back on the classes of roses. Regarding pruning, I found his long-winded explanation confusing. A few simple rules would have been better: prune once-bloomers immediately after bloom; prune repeat bloomers hard when dormant as they bloom on new growth.

All in all, though, this is an enormously valuable book, particularly for those who want to grow roses organically.

—Jeff Cox

Author of Landscape with Roses (Taunton Press, 2002), among other gardening books, Jeff Cox lives in Kenwood, California.



A Garden of Marvels

Ruth Kassinger, William Morrow, New York, NY, 2014. 395 pages. Publisher's price, softcover: \$16.99.

THIS DELIGHTFUL book is jammed with revelations on plant physiology, biology, and an array of botanical yarns that read like a Gothic page-turner. Ruth Kassinger gives her readers some mystery novel-type surprises, but counterbalances this levity with doses of serious scholarship. What fun trailing behind this knowledgeable gardener and skilled story teller, who merges her own personal garden challenges and passions with some truly peculiar pieces of botanical history and science throughout this book.

Take for example, her adventures with grafting citrus trees, which prompt an investigation into the widely held belief of early 17th-century Europeans in a plant called the "vegetable-lamb" or "borametz" that produced tiny, live lambs from the top of its central stalk. That sounds ridiculous now, but Kassinger reveals a perfectly reasonable explanation for how well-educated people once accepted this idea without question—apparently a description of a cotton plant got lost in translation from the original ancient Greek.

If you've ever wondered what it takes to raise a prize-winning, 1,700-pound pumpkin, the chapter called "The Enormous Gourd" will enlighten you on this form of extreme gardening. As Kassinger explains, "the most significant factor in growing a record-breaker is not how you care for the giant vines, leaves, and fruit that you see, but how you care for the roots that you don't."

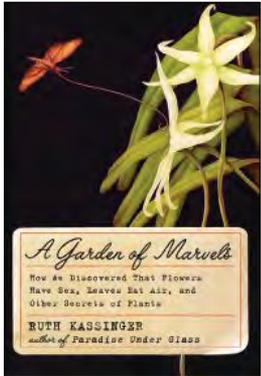
Then there's the story behind the breeding of the black-petalled petunias now appearing in garden centers across the country under the name Black Velvet. This eye-catching plant was developed by Jianping Ren, a plant breeder with the Ball Horticultural Company. "When we see it," she is quoted as saying, "it is so surprising. It is black, black, black. Nobody can believe it." I've seen it, and she's right!

Another tale of pushing the horticultural envelope involves Dean Tiessen, a tomato grower in Canada. Though he pays handsomely for his greenhouse heat, he competes successfully with Mexican growers who "get their therms for free." His secret: "tomato growing at its most intensive and efficient," with walls of tomato vines extending from floor to ceiling and an "umbilical cord of water and nutrients" for each plant.

We gardeners like to think we know a little something about this crazy green world. Kassinger's fast-paced, highly readable book will make it clear that there's much more wonderful knowledge out there to absorb.

—Linda Yang

Linda Yang is a former New York Times garden columnist and author of several books, including The City Gardener's Handbook (Storey Publishing, 2002).



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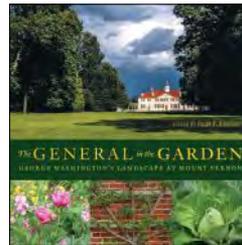
Influential Gardens and Gardeners

AS A PLACE of focus and relaxation, of work and play, a garden's influences on those who tend it are manifold. When these gardens belong to well known people such as writers, artists, thinkers, and leaders, they can reveal volumes about the minds from which they sprang. The following books share the stories of such gardens and provide fascinating insights into the people they inspired.



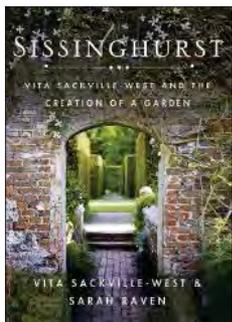
Like gardening, writing demands both creativity and discipline for beautiful results. Perhaps this is why gardens have influenced literary greats from Jane Austen to William Wordsworth. *The Writer's Garden* (Frances Lincoln, 2014, \$40) by Jackie Bennett introduces 18 British gardens, and the poets and authors who loved them. Sepia-toned historical images complement vibrant photographs of the contemporary grounds. Information on visiting each garden is included.

—Amy G. McDermott



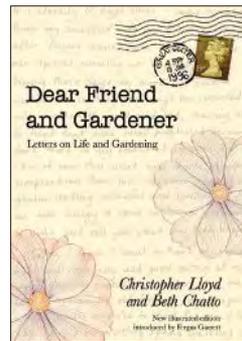
Even while commanding armies and leading a fledgling nation, George Washington's thoughts were never far from his beloved Mount Vernon estate. *The General in the Garden* (University of Virginia Press, 2015, \$39.95) explores the magnificent gardens and grounds that he created, from their origins to present-day preservation efforts. Historical drawings, snapshots, and records along with color photographs of Mount Vernon today complete the picture of Washington as an extraordinary gardener.

—V.N.



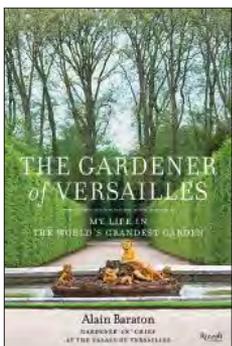
Sissinghurst (St. Martin's Press, 2014, \$34.99) tells the story of Sissinghurst's transformation from a faded English estate to flourishing garden while owned by Vita Sackville-West, a prolific writer during the first half of the 20th century. Sackville-West's own writings supplement author Sarah Raven's narration to describe the exuberance for which the garden is known. Detailed notes on favored varieties round out the book, complete with a plant index.

—A.G.M.



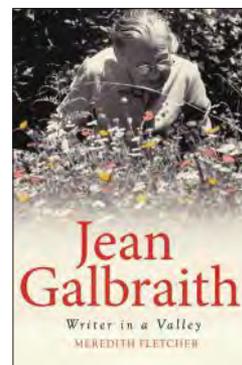
British garden gurus Christopher Lloyd and Beth Chatto chronicle a year in their long friendship in *Dear Friend and Gardener: Letters on Life and Gardening* (Frances Lincoln, 2013, \$29.95). Though from different gardening backgrounds, Chatto and the late Lloyd shared a passion for garden-making in their correspondence. The book's flyleaves contain artist's renderings of Lloyd's Great Dixter gardens and the Beth Chatto gardens for handy reference.

—Mary S. Chaddock



If you've ever wondered what it's like to garden at a palace, pick up a copy of the *Gardener of Versailles* (Rizzoli Ex Libris, 2014, \$26.95). This memoir by Alain Baraton colorfully describes his many years as gardener-in-chief at one of the world's grandest palaces. It's an homage to preserving a place's historical value while adapting it to modern challenges, told through anecdotes that illustrate the gardens' significance to their original creators and to Baraton himself.

—Viveka Neveln



Meredith Fletcher's biographical tribute, *Jean Galbraith: Writer in a Valley* (Monash University Publishing, 2014, \$39.95), portrays Jean Galbraith's development from self-taught botanist to advocate for native plant community conservation in Australia. She created her "Garden in the Valley" with native flora. The book illuminates Galbraith's devotion to this garden over her lifetime.

—M.S.C.

Mary S. Chaddock and Amy G. McDermott, editorial interns; Viveka Neveln, associate editor.



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Horticultural News and Research Important to American Gardeners



The eastern tiger swallowtail is one of the few insects that can pollinate flame azaleas.

FOR POLLINATION, SIZE MATTERS

From late spring through early summer, flame azaleas (*Rhododendron calendulaceum*), native to the Appalachians from Pennsylvania to Georgia, put on a show. Their striking flowers draw prospective pollinators such as honey bees, native bees, and butterflies. But it turns out that only butterflies—and in fact only butterflies of a certain size—actually do the pollinating of these azaleas, according to new research from the North Carolina State University in Raleigh appearing in the August 2015 issue of *The American Naturalist*.

“Just because an insect comes to a flower doesn’t mean that it pollinates it,” explains lead researcher Mary Jane Epps. Upon closer inspection, Epps discovered that flame azalea blossoms are a challenge for pollinators because of the distance between male and female flower parts. Pollen has to make it from anthers to stigma for fertilization and fruit set. In the study, only large butterflies like the eastern tiger swallowtail consistently touched both anthers and stigmas with their wings; most other insects were too small to span the gap.

Other azaleas may also depend on butterfly wings for pollination. “All the species I’ve seen have a very similar flower structure,” says Epps. “I think they are

almost certainly dependent on butterfly or other large pollinator activity.” For more on Epps’ work and to keep an eye out for ways you can be a citizen scientist, visit <http://robdunnlab.com>.

TWO PLANTS ON TOP 10 NEW SPECIES LIST

A Mexican bromeliad (*Tillandsia religiosa*) and Philippine coral plant (*Balanophora coralliformis*) are among the top 10 newly discovered species of 2015. They were selected by a committee of nine taxonomists for this annual list, released by the International Institute for Species Exploration (IISE) at the State University of New York’s College of Environmental Science and Forestry (SUNY-ESF) in Syracuse.

While coming up with a top 10 list is entertaining—as former late-night televi-



sion host David Letterman taught us—this list is also meant to inform. “We are trying to raise awareness of the biodiversity crisis, the fact that we’re losing so many species so rapidly, and of the importance of taxonomy, so we can at least document what was here,” says IISE founder and ESF President Quentin Wheeler.

The bizarre, tuberous coral plant is a perfect example. Even though it was just discovered, it’s already endangered. Fewer than 50 remain in the wild.

As for the bromeliad, it is new to science but well known in its native Morelos, Mexico, where the December blooms are used in Christmas displays.

The top 10 species were winnowed from a pool of 40 candidates submitted by ESF research volunteers, which is still a tiny fraction of the approximately 18,000 new plant and animal species described annually. For more information, visit www.esf.edu/top10.

Left: *Tillandsia religiosa* growing in the wild of its native south-central Mexico. Below: A closeup view of the flower of bizarre-looking coral plant (*Balanophora coralliformis*), a parasitic species found on the forested southwestern slopes of Mt. Mingan in the Philippines.



TOP LEFT: COURTESY OF SUZANNE ALLISON, JAMES MADISON UNIVERSITY. TOP RIGHT: P.B. FELSER AND J.F. BARELONA, COURTESY OF IISE. SUNY-ESF. BOTTOM RIGHT: A. ESPEJO, COURTESY OF IISE. SUNY-ESF.

PARASITIC ORCHID SEEDS TAKE WING

A new study, published in the May 2015 issue of the journal *Nature Plants*, reveals an unexpected source of orchid seed dispersal: birds. While birds commonly spread the seeds of many plants, they weren't previously known to disperse those of orchids. Most orchid seeds are tiny and dustlike, and therefore assumed to be disseminated by wind. However, researchers from Kyoto University, Japan, found that in the understory of east Asian forests, at least four bird species spread the seeds of an orchid named *Cyrtosia septentrionalis*.

These orchids parasitize fungi rather than create their own food through photosynthesis, which "has allowed them to succeed in the dark forest understory," explains Kenji Suetsugu, lead author of the study. However, "Seed dispersal by wind is successful in open habitats and less efficient in the understory of densely vegetated forests, where wind is less dependable. A shift to bird dispersal may have facilitated the colonization of such an environment by *C. septentrionalis*," he explains.



Caught in the act, a bird feeds on the fruit of *Cyrtosia septentrionalis*.

The birds are attracted to the orchid's unusual fruits, which are bright red and fleshy. As Suetsugu explains, reliance on

a variety of seed dispersal strategies could help account for the staggering diversity of orchids today.

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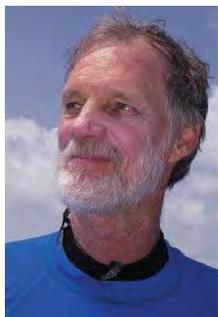
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RECIPIENTS OF 2015 NATIONAL GARDEN CLUB AWARD OF EXCELLENCE

Paul Cappiello, Ken Nedimyer, and Brian Vogt are the 2015 recipients of the National Garden Club's Award of Excellence. The annual award is the highest honor bestowed by the National Garden Club, given to gardeners and gardening organizations of exceptional local impact.



Paul Cappiello



Ken Nedimyer



Brian Vogt

plants, and water-conscious gardening. For more details on these awards, visit www.gardenclub.org.

NEW DIRECTOR FOR U.S. NATIONAL ARBORETUM

Richard T. Olsen, a research geneticist specializing in ornamental plant breeding, was recently appointed director of the United States National Arboretum,

headquartered in Washington, D.C.

Beginning in 2006, Olsen served as lead scientist in the arboretum's Floral and Nursery Plant Research Unit, where he developed non-invasive, disease and pest resistant trees for use in urban landscapes. He simultaneously expanded other breeding and genetic research programs at the arboretum.



Richard T. Olsen is the recently appointed director of the U.S. National Arboretum.

With a new director comes a new vision, but change will not arrive overnight. "While we're a collections-based research facility, we also have a tremendous public garden aspect to what we do," says Olsen. "We have to get our ducks in a row first here, and that includes financial stability. That's our number one goal."

In the future, arboretum visitors can expect more extensive signage, virtual companion materials such as an arboretum guide for smartphones, and greater access to the behind-the-scenes research. Visit www.usna.usda.gov for more information.

FRICK CANCELS PLANS TO DESTROY RUSSELL PAGE GARDEN

Last June, the Frick Collection in New York City announced plans to expand, proposing an addition to the museum that would link existing galleries with the Frick Library. This proposal entailed destruction of one of three existing gardens on the property.

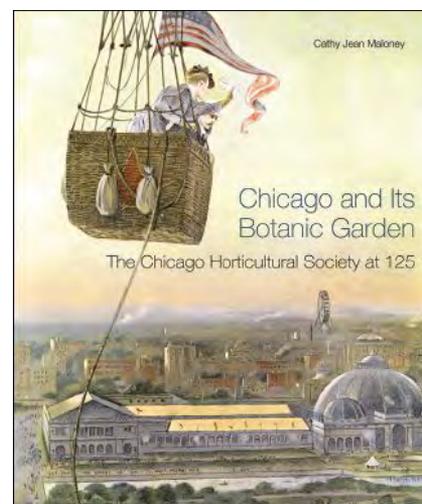
The garden in jeopardy was designed in 1977 by renowned British landscape architect Russell Page. Featuring a large central pool, fringed by lawns and framed by a rectangular path, it became a flash point of resistance to the latest renovation plan, despite never having been open to the public. The strident public outcry against the

destruction of the Page Garden and Reception Hall Pavilion, also threatened by the renovation, led the Frick to reconsider.

Despite the museum's "urgent need for more gallery space, education space, conservation space, and visitor amenities," says Frick Director Ian Wardropper, "we will avoid building on that site in our forthcoming plan." To learn more, visit www.frick.org.

THE CHICAGO HORTICULTURAL SOCIETY TURNS 125

Founded in 1890, the Chicago Horticultural Society commemorates its 125th anniversary this year. To celebrate, the Chicago Botanic Garden (which was



This new book celebrates the Chicago Botanic Garden's history.

founded by the society in 1972), will host a special exhibition inspired by the new book *Chicago and Its Botanic Garden* by Cathy Jean Maloney.

Running through August 16, the exhibition traces the history of the horticultural society and the foundations of gardening in Chicago. "We have four installations that are reminiscent of historical garden styles, trying as much as possible to use heirlooms or cultivars of the time," says Gabriel Hutchison, the Garden's exhibitions and programs production manager. "So as you go through the exhibit you'll see a vignette of what horticulture and gardening were like at that time."

For additional information, visit www.chicagobotanic.org.

Written by Amy G. McDermott, editorial intern.



REGIONAL HAPPENINGS

Horticultural Events from Around the Country

NORTHEAST

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

RAP JULY 28. **Growing GIANT Pumpkins.** Lecture. Merryspring Nature Center. Camden, Maine. (207) 236-2239. www.merryspring.org.

RAP JULY 29 & 30. **Native Island Trees.** Workshop. Polly Hill Arboretum. West Tisbury, Massachusetts. (508) 693-9426. www.pollyhillarboretum.org.

RAP JULY 31. **Blue Moon Night Hike.** Garden in the Woods. Framingham, Massachusetts. (508) 877-7630. www.newenglandwild.org.

RAP AUG. 3. **Tiny Worlds.** Workshop. Highfield Hall & Gardens. Falmouth, Massachusetts. (508) 495-1878. www.highfieldhallandgardens.org.

RAP AUG. 7. **The Language of Flowers.** Class. Coastal Maine Botanical Gardens. Boothbay, Maine. (207) 633-4333. www.mainegardens.org.

RAP AUG. 15. **Hay Day Family Festival at the Fells.** The Fells Historic Estate & Gardens. Newbury, New Hampshire. (603) 763-4789. www.thefells.org.

RAP AUG. 19. **The Ginkgo Tree Through History.** Lecture. Polly Hill Arboretum. West Tisbury, Massachusetts. (508) 693-9426. www.pollyhillarboretum.org.

Looking ahead

RAP SEPT. 10. **Perennial Plant Symposium.** Massachusetts Horticultural Society Gardens at Elm Bank. Wellesley, Massachusetts. (617) 933-4900. www.masshort.org.

SEPT. 10-13. **Roses in a New York State of Mind.** National convention. American Rose Society. Syracuse, New York. (318) 938-5402. www.newyorkroses.org.

MID-ATLANTIC

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

THROUGH OCT. 13. **Exposed: The Secret Life of Roots.** Multimedia exhibit. United States Botanic Garden. Washington, D.C. (202) 226-8333. www.usbg.gov.

RAP JULY 25. **Butterflies & Beyond.**

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.ahs.org/rap.

Family festival. Hershey Gardens. Hershey, Pennsylvania. (717) 534-3492. www.hersheygardens.org.

RAP JULY 25. **Lower-Maintenance Garden Ideas.** Tour. Green Spring Gardens. Alexandria, Virginia. (703) 642-5173. www.greenspring.org.

JULY 27-AUG. 1. **Perennial Plant Symposium.** Perennial Plant Association. Baltimore, Maryland. (614) 771-8431. www.perennialplant.org.

RAP AUG. 2. **Native Orchid Field Trip.** Mt. Cuba Center. Hockessin, Delaware. (302) 239-4244. www.mtcubacenter.org.

RAP AUG. 11. **Plant Clinic.** Workshop. The Urban Farm. Delaware Center for Horticulture. Wilmington, Delaware. (302) 658-6262. www.thedch.org.

RAP AUG. 15. **Family Butterfly Program and Walk.** Laurelwood Arboretum. Wayne, New Jersey. (973) 202-9579. www.laurelwoodarboretum.org.

RAP AUG. 20. **Rain Barrel Workshop.** The Pennsylvania Horticultural Society. Philadelphia, Pennsylvania. (215) 988-1698. www.phsonline.org.

RAP AUG. 22. **Butterfly Festival.** Tyler Arboretum. Media, Pennsylvania. (610) 566-9134. www.tylerarboretum.org.

Looking ahead

SEPT. 1-12. **Heritage Harvest Festival.** Monticello. Charlottesville, Virginia. (800) 243-0743. www.heritageharvestfestival.com.

RAP SEPT. 17. **Line and Texture in Plant Selection.** Lecture. University of Delaware Botanic Gardens. Newark, Delaware. (302) 831-0153. www.ag.udel.edu/udbg.

OCT. 16. **Perennial Plant Conference.** Lang

Performing Arts Center. Swarthmore College. Swarthmore, Pennsylvania. (610) 388-5238. www.perennialplantconference.org.

SOUTHEAST

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

RAP JULY 23-AUG. 9. **Glories of the Garden Art Exhibit.** The Arboretum, State Botanical Garden of Kentucky. Lexington, Kentucky. (859) 257-6955. www.ca.uky.edu/arboretum.

RAP JULY 28. **Conifers for Atlanta.** Class. Atlanta Botanical Garden. Atlanta, Georgia. (404) 876-5859. www.atlantabotanicalgarden.org.

RAP AUG. 1. **Orchids 101.** Class. Marie Selby Botanical Gardens. Sarasota, Florida. (941) 366-5731. www.selby.org.

RAP AUG. 4. **Dog Days of Bloomers.** Class. State Botanical Garden of Georgia. Athens, Georgia. (706) 542-1244. www.botgarden.uga.edu.

RAP AUG. 6. **Waterfalls & Wildflowers in the Southern Appalachians.** Lecture. Highlands Botanical Garden. Highlands, North Carolina. (828) 526-2602. www.highlandsbiological.org.

RAP AUG. 23. **Hummingbird Festival.** Yew Dell Botanical Gardens. Crestwood, Kentucky. (502) 241-4788. www.yewdellgardens.org.

RAP AUG. 25. **Shade Gardening.** Class. Atlanta Botanical Garden. Atlanta, Georgia. (404) 876-5859. www.atlantabotanicalgarden.org.

NORTH CENTRAL

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

RAP AUG. 1. **Herbal Harvest.** Lecture & Workshop. Garfield Park Conservatory & Gardens. Indianapolis, Indiana. (317) 327-7183. www.garfieldgardensconservatory.org.

RAP AUG. 1. **Prairie Plant Discovery.** Stroll and talk. The Brenton Arboretum. Dallas Center, Iowa. (515) 992-4211. www.thebrentonarboretum.org.

New York Botanical Garden Kahlo Celebration

MEXICO CITY comes to the Bronx this summer with the New York Botanical Garden's exhibition, "Frida Kahlo: Art, Garden, Life." Running until November 1, the show approaches Kahlo in a new way: as a gardener. "So much of what's informed previous exhibitions has been about Kahlo the personality, the very complicated cultural icon," explains Todd Forrest, the Arthur Ross Vice President for Horticulture and Living Collections, and a key collaborator on this show. "But she and [her artist husband] Diego Rivera also created a fascinating garden at her house, Casa Azul in Mexico City, which featured Mexican native plants including cacti and agave, yuccas, and other succulents."



Frida Kahlo sits in front of a cactus fence in this 1938 photo by Nickolas Muray.

"Flower of Life" (1944) and "Self-Portrait with Thorn Necklace and Hummingbird" (1940) hang in the library gallery, further highlighting Kahlo's connection to nature.

"This exhibition celebrates not just Frida Kahlo but also Mexican culture," says Forrest. Daily cultural programs include cooking classes, poetry walks, and lectures. On select evenings, the gardens are open late for live music, dancing, and film screenings. For hours and schedule, visit www.nybg.org.

Native Gardening Conference Returns to the UW–Madison Arboretum

ON SEPTEMBER 20, the University of Wisconsin–Madison Arboretum will host its annual native gardening conference, "Native by Design: Gardening for a Sustainable Future." Participants select three out of nine workshops on topics ranging from native garden design and maintenance to ornamental native plants and planting for pollinators. The afternoon keynote address will feature award-winning landscape architect Nancy Aten, principal of the East Wisconsin design and restoration firm Landscapes of Place.

"We try to offer a range of really practical information," says Susan Carpenter, a member of the conference's planning committee. "We've geared it mostly for home gardeners, to encourage and inform gardening with native plants, designing gardens, and keeping the garden healthy."

This conference has been an annual event for nearly a decade, coinciding with the autumn prairie bloom. Workshops have both classroom and outdoor components. Guests also can take a native garden tour and find additional materials at the resource table. For more information and a complete conference schedule, visit arboretum.wisc.edu. Registration ends September 10.

—Amy G. McDermott, Editorial Intern

RAP AUG. 1. **Water Gardening.** Course. Cleveland Botanical Garden. Cleveland, Ohio. (216) 721-1600. www.cbgbgarden.org.

RAP AUG. 7. **Annual Garden Party and 50th Anniversary Celebration.** McCrory Gardens. Brookings, South Dakota. (605) 688-6707. www.sdstate.edu/ps/mccrory.

RAP AUG. 14–16. **Mid-American Bonsai Show & Sale.** Chicago Botanic Garden. Glencoe, Illinois. (847) 835-5440. www.chicagobotanic.org.

RAP AUG. 22 & 23. **Japanese Summer Festival.** Anderson Japanese Gardens. Rockford, Illinois. (815) 229-9390.

www.andersongardens.org.

RAP AUG. 24. **Tomato Tasting Tour.** Greater Des Moines Botanical Garden. Des Moines, Iowa. (515) 323-6290. www.dmbotanicalgarden.com.

Looking ahead

RAP SEPT. 12 & 13. **Iris, Peony, and Unique Plant Sale.** Iowa Arboretum. Madrid, Iowa. (515) 795-3216. www.iowaarboretum.org.

SEPT. 22–25. **Horticultural Horizons in the Heartland: International Master Gardener Conference.** Council Bluffs, Iowa. (402) 472-8973. www.mastergardener.unl.edu/imgc2015.

SEPT. 24–26. **America in Bloom Symposium.** America in Bloom. Holland, Michigan. (614) 487-1117. www.americainbloom.org.

SOUTH CENTRAL

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

RAP JULY 31–AUG. 2 & AUG. 7–9. **Festival of Butterflies.** Powell Gardens. Kingsville, Missouri. (816) 697-2600. www.powellgardens.org.

AUG. 8. **Plant Sale.** New Orleans Botanical Garden. New Orleans, Louisiana. (504) 483-9464. www.neworleanscitypark.com.

RAP AUG. 16–31. **Iris Sale.** Missouri Botanical Garden. St. Louis, Missouri. (314) 577-9500. www.mobot.org.

RAP AUG. 18. **Rainbows in Flower: The Iris.** Workshop. Garvan Woodland Gardens. Hot Springs, Arkansas. (501) 262-9300. www.garvangardens.org.

AUG. 24. **Stingers! An Intimate Look at Wasps.** Talk. Zilker Botanic Garden. Austin, Texas. (512) 477-8672. www.zilker garden.org.

Looking ahead

RAP SEPT. 12 & 13. **Plant Sale.** San Antonio Botanical Garden. San Antonio, Texas. (210) 207-3250. www.sabot.org.

SEPT. 26. **GardenFest.** Family festival. The Botanic Garden at Oklahoma State University. Stillwater, Oklahoma. (405) 744-4531. www.botanicgarden.okstate.edu.

OCT. 15–18. **Capit-O-lize on Natives.** Native Plant Society of Texas Annual Symposium. Airport Hilton. Austin, Texas. (830) 997-9272. <http://npsot.org/wp/symposium2015/>.

SOUTHWEST

AZ, NM, CO, UT

RAP JULY 25 & AUG. 8. **Nature Discovery**

Days. Children's program. The Hudson Gardens and Event Center. Littleton, Colorado. (303) 797-8565. www.hudsongardens.org.

RAP JULY 30. **Hooked on Hardscape: Decks and Arbors/Pergolas.** Class. Denver Botanic Gardens. Denver, Colorado. (720) 865-3500. www.botanicgardens.org.

AUG. 13–16. **American Community Garden Association Conference.** Denver Botanic Gardens. Denver, Colorado. (877) 275-2242. www.communitygarden.org.

RAP AUG. 17. **Establishing Wildflower Meadows.** Lecture. Red Butte Garden and Arboretum at the University of Utah. Salt Lake City, Utah. (801) 585-0556. www.redbuttegarden.org.

AUG. 22 & 23. **African Violet Show and Sale.** ABQ Biopark Botanic Garden. Albuquerque, New Mexico. (505) 848-7112. www.cabq.gov/culturalservices/biopark/events.

RAP AUG. 21 & 22. **Festival of Science.** Family event. The Arboretum at Flagstaff. Flagstaff, Arizona. (928) 774-1442. www.thearb.org.

AUG. 27. **Climbers and Vines.** Class. Ogden Botanical Gardens. Ogden, Utah. www.ogdenbotanicalgardens.org.

Looking ahead

RAP SEPT. 12. **2nd Annual NoCo Urban Homestead Tour.** The Gardens on Spring Creek. Fort Collins, Colorado. (970) 416-

2486. www.fcgov.com/gardens.

NORTHWEST

AK, ID, MT, OR, WA, WY

RAP AUG. 6. **Rosalind Creasy Lecture and Book Signing.** Alaska Botanical Garden. Anchorage, Alaska. (907) 770-3692. www.alaskabg.org.

AUG. 11. **Keeping the Color Coming: Late Summer Flowers for the Garden.** Lecture. Hardy Plant Society of Oregon. Multnomah Arts Center. Portland, Oregon. (503) 224-5718. www.hardyplantsociety.org.

AUG. 15. **4th Annual Celebration of Herbs.** Tizer Gardens. Jefferson City, Montana. (866) 933-8789. www.tizergardens.com.

RAP AUG. 19. **Culinary Herbs.** Idaho Botanical Garden. Boise, Idaho. (208) 343-8674. www.idahobotanicalgarden.org.

RAP AUG. 20. **Habitats and Horticulture—Wetlands.** Workshop. Kruckeberg Botanic Garden. Shoreline, Washington. (206) 546-1281. www.kruckeberg.org.

AUG. 27–29. **Farwest Show.** Oregon Association of Nurseries. Oregon Convention Center. Portland, Oregon. (800) 342-6401. www.farwestshow.com.

AUG. 29. **Garden Conservancy/Hardy Plant Society of Oregon Open Garden Tour.** Portland, Oregon. (503) 224-5718. www.hardyplantsociety.org.

Looking ahead

RAP SEPT. 20. **Must-Have Plants for Fabulous Fall Color.** Bellevue Botanical Garden. Bellevue, Washington. (425) 451-3755. www.bellevuebotanical.org.

OCT. 9 & 10. **American Horticultural Therapy Association Annual Conference.** Red Lion Hotel on the Rivers. Portland, Oregon. (610) 992-0020. <http://ahta.org>.

WEST COAST

CA, NV, HI

RAP AUG. 14. **Preparing for the Winter Garden.** Class. Markham Nature Park and Arboretum. Concord, California. (925) 681-2968. www.markhamarboretum.org.

RAP AUG. 18. **Taking Care of Garden Tools.** Workshop. Descanso Gardens. La Cañada Flintridge, California. (818) 949-4200. www.descansogardens.org.

AUG. 21–23. **Organization of Floral Art Designers Seminar.** Embassy Suites. San Francisco, California. (951) 684-2635. www.californiagardenclubs.org/OFAD.

RAP AUG. 22. **Dudley's Kissing Cousins.** Lecture. Santa Barbara Botanic Garden. Santa Barbara, California. (805) 682-4726. www.sbbg.org.

RAP AUG. 22 & 23. **Aquatic Plants of Southern California.** Workshop. Rancho Santa Ana Botanic Garden. Claremont, California. (909) 625-8767. www.rsabg.org.

Looking ahead

RAP SEPT. 12. **Drip Irrigation Basics.** Class. Las Vegas Botanical Gardens at the Springs Preserve. Las Vegas, Nevada. (702) 822-7700. www.springspreserve.org.

SEPT. 18–21. **Garden Writers Association Annual Symposium.** Pasadena Convention Center. Pasadena, California. (806) 832-1870. www.gardenwriters.org.

OCT. 17. **10th Annual Desert Garden Community Day.** Workshop. The Living Desert. Palm Desert, California. (760) 346-5694. www.livingdesert.org.

CANADA

RAP AUG. 8. **Plants, Pulp, & Paper.** Workshop. Horticulture Centre of the Pacific. Victoria, British Columbia. (250) 479-6162. www.hcp.ca.

AUG. 15. **Vancouver Orchid Society Plant Sale.** VanDusen Botanical Garden. Vancouver, British Columbia. (604) 261-8474. www.vandusengarden.org.

Bellevue Brings Art to the Garden

A UNIQUE garden art show is coming to the Bellevue Botanical Garden in Washington on August 29 and 30. "Art in the Garden" will turn Bellevue into an outdoor gallery, showcasing a variety of artwork, including ceramic, glass, metal, and wood pieces, made by 40 regional artists.



A variety of artwork—like these glass sculptures by Jesse Kelly—will be available for sale.

"Unlike other art shows where you go down row after row of booths, this one is really different," says Gayle Picken, the art show's coordinator. "We put the artists in the garden so people can see their artwork displayed in a garden setting." All art will be for sale, at a wide range of prices. Proceeds will benefit the Bellevue Botanical Garden Society.

On Saturday, August 29, Seattle radio and television personality Ciscoe Morris also will lead a garden tour. For more information, visit www.artinthegardenbellevue.com.

—Amy G. McDermott,
Editorial Intern

Gearing Up for Safe and Comfortable Gardening

by Rita Pelczar

GARDENING INVOLVES a lot of strenuous physical activity, and as Kris Wetherbee points out in her article "Staying Safe in the Garden" on page 36, injuries occasionally occur if you are not cautious. More frequently, gardeners suffer from over exposure to the sun, sore joints, and tired muscles—not major injuries, just bodily wear and tear.

There are some very good products that are designed to promote safety, provide protection from environmental hazards, and reduce the stress of gardening activities. Here are several that I have found helpful.

PROTECTIVE ACCESSORIES

Wearing appropriate clothing—a long-sleeved shirt, long pants, a wide-brimmed hat, closed-toe shoes, gloves—and sunscreen makes sense for any outdoor gardening task. For some jobs, additional protective gear should be used for ear and eye protection.

A gardener's hands need protection from thorns, sharp rocks, spider bites, poison ivy, and the like. And palms appreciate some padding to prevent blisters. For heavier jobs, Duluth Trading Company offers comfortable **Goatskin Gloves** that have a reinforced palm, index finger, and thumb—the areas that get high wear. Mine get a lot of use, and over time they've softened, fitting now even better than when they were new.

Hestra Leather Garden Rose Gloves from Gardener's Edge are great for pruning roses or working with any thorny plant. The extended heavy-duty cowhide cuffs protect your forearms almost to the elbow, while the more flexible goatskin portion that covers your hands has a reinforced palm.

For lighter jobs such as transplanting annuals or weeding, I like breathable gloves



Top: Fully protected from the sun, the author models a wide-brimmed hat, Duluth Trading Company's Goatskin Gloves, Long Sleeve Action Shirt, and Dry on the Fly Pants. **Above:** Hestra Leather Garden Rose Gloves.

that allow for manual dexterity. **Protexgloves Elle Grip** by Foxgloves are a good choice. Made of machine-washable Supplex nylon with Lycra for extra stretch, they are tough but flexible. They also provide sun protection for hands and forearms with a 50+ Ultra-violet Protection Factor (UPF) rating and sleeves that extend to the elbow.

Clothes that block exposure to harmful UV rays are worth considering if you spend a lot of time outdoors. My **UV Skinz long sleeve shirt** gets a lot of wear and saves me from having to constantly reapply sunscreen. The fabric is breathable and quick drying. The company offers protective clothing for men, women, and kids—all rated UPF 50+. It also offers hats and visors to safeguard your face.

Another good source of UV protective clothing is Duluth Trading Company. I particularly

like its **Long Sleeve Action Shirt** and **Dry on the Fly Pants**. Both are lightweight, moisture-wicking, and have a UPF rating of 50+, so they protect while keeping you cool. And they are constructed with comfort and flexibility in mind. The pants, in particular, have become part of my "garden uniform" this summer.

To shield eyes from flying debris, Lee Valley Tools offers **Tinted Safety Glasses** that double as sunglasses that block UV rays. The anti-fog polycarbonate lens wraps protectively around the eye area and the arms are adjustable for a good fit. These are important to wear when working with power equipment or applying pesticides.

I find it's easy to forget you're wearing **Elevex Anti-Noise MaxiMuff™ Ear Protectors**, available from Gardener's Edge, except that they reduce the noise of my



Top left: Lee Valley's Tinted Safety Glasses. Left: Elevex Anti-Noise MaxiMuff™ Ear Protectors. Above: Fiskars PowerGear2™ Bypass Loppers.

mower and weed whip to a light hum. They are lightweight and adjustable, with softly cushioned muffs that fit comfortably over the ears.

RIGHT TOOL FOR THE JOB

A lot of wear and tear on your muscles and joints can be avoided simply by using the right tool for the job at hand. Ergonomically designed tools can really help reduce the stress of jobs that involve repetitive motion. Pruning tools are a good case in point.



ComfortGEL hand tools from Corona Tools

For deadheading flowers, snipping herbs, or other jobs that require cutting precision, there's no need for heavy-duty pruners. The **Little Buddy Hydroponic**

Clipper and the **Compact Shear**, both from Dramm, have stainless steel blades, and are small, durable, and lightweight. Designed with curved plastic handles, they are just the right size for thinning seedlings.

For medium-sized pruning jobs—up to 3/4-inch-diameter stems or branches—Fiskars offers the **PowerGear2™ Pruner**. Its patented gear design gives this bypass pruner more power for less effort. A low-friction coating on the steel blades helps prevent sap buildup and rust. And the contoured handle rolls as you squeeze to reduce fatigue, which took getting used to, but I've come to appreciate it for big pruning jobs.

For bigger jobs, the **PowerGear2™ Bypass Loppers** are available in three sizes: 18, 25, and 32 inch. With similar gears and blades as the above pruners, the 32-inch loppers slice through branches up to two inches in diameter. The rounded handles are designed for comfort.

Fiskars makes other ergonomic hand tools. I particularly like the **Ergo Weeder** with its large, curved grip and comfortable thumb rest that reduces hand and wrist fatigue. The forked end snags deep-root-

ed weeds like dandelions; the curve of the blade serves as a fulcrum to give you extra leverage. I also like the **Big Grip Knife**, a multi-purpose tool with a serrated edge for cutting and a forked tip for prying out weeds, rocks, or roots. Its large padded handle is very comfortable.

Ergonomic hand tools are also available from Corona Tools. The **ComfortGEL®** and **eGrip Trowels**, **Transplanters**, and **Weeders** have comfortable molded grips and thumb rests. The weeder, in particular, with its built-in fulcrum and serrated edge, is a winner.

For moving heavy loads, spare your back by using a wheelbarrow or garden cart. The **Folding Marine Utility Cart** from Life With Ease is a sturdy, lightweight cart that is very maneuverable and collapsible! Its handles are retractable and it folds for easy storage. Constructed of durable aluminum, it

Sources

Corona Tools,

<http://coronatoolsusa.com>.

Dramm,

www.rainwand.com/cutting.html.

Duluth Trading Company,

www.duluthtrading.com.

Fiskars, www.fiskars.com.

Gardener's Edge,

www.gardenersedge.com.

Lee Valley Tools, www.leevalley.com.

Life With Ease, www.lifewithease.com.

UV Skinz, www.uvskinz.com.

carries up to 330 pounds, and its front panel slides off so you can dump a load of soil or compost just by tipping it up.

I spend a lot of time kneeling in the garden and my knees appreciate the cushioning from hard surfaces that **Kneelo® Memory Foam Kneeling Pad** from Lee Valley Tools provide. Made of resilient memory foam, it's just 20 inches long and 12 inches wide, light, and has a cut-out handle for carrying.

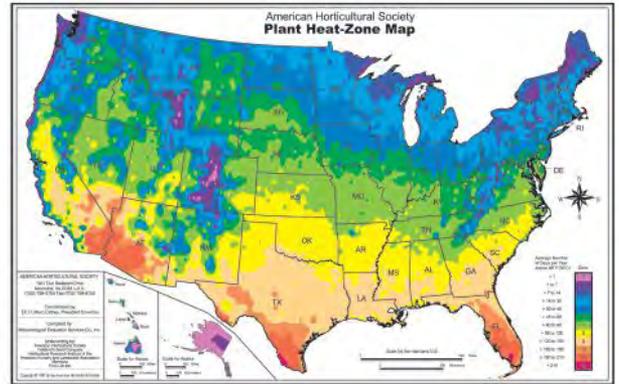
If you use appropriate equipment like these items to reduce environmental and physical gardening stress, it will go a long way towards keeping you safe—and keeping you gardening.

Rita Pelczar is contributor editor for The American Gardener.

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

- Acorus gramineus*** AK-or-us gruh-MIN-ee-us (USDA Zones 6–9, AHS Zones 9–5)
- Agastache aurantiaca*** ah-guh-STAH-she aw-ran-tih-AY-kuh (7–10, 10–7)
- A. cana*** A. KAN-uh (6–11, 12–1)
- A. foeniculum*** A. fee-NICK-yoo-lum (4–9, 10–5)
- A. scrophulariifolia*** A. skrof-yew-lar-ee-ih-FO-lee-uh (4–9, 9–1)
- Aristolochia californica*** uh-ris-toh-LO-kee-uh kal-ih-FORN-ih-kuh (7–9, 8–4)
- A. elegans*** A. EL-ih-ganz (9–12, 12–1)
- A. fimbriata*** A. fim-bree-AY-tuh (7–9, 9–1)
- A. gigantea*** A. jy-GAN-tee-uh (10–11, 12–1)
- A. littoralis*** A. li-tor-AL-lis (9–12, 12–1)
- A. macrophylla*** A. mak-ro-FIL-luh (5–8, 8–4)
- A. peruviana*** A. pur-roo-vee-AN-uh (9–10, 11–1)
- A. serpentaria*** A. ser-pen-ta-ria (6–9, 9–1)
- A. tomentosa*** A. toh-men-TOH-suh (5–9, 9–3)
- Asarum canadense*** uh-SAR-um kan-uh-DEN-see (3–8, 8–2)
- Calamintha grandiflora*** kah-luh-MIN-thuh gran-dih-FLOR-uh (5–9, 9–3)
- C. nepeta*** C. NEP-eh-tuh (5–9, 9–5)
- Calycanthus floridus*** kal-ee-KAN-thus FLOR-ih-dus (5–9, 9–1)
- Chamaemelum nobile*** kam-may-ME-lum NO-bil-ee (5–9, 9–5)
- Cistus incanus*** SIS-tus in-KAN-us (8–10, 10–7)
- Clematis fremontii*** KLEM-uh-tiss free-MON-tee-eye (4–7, 7–4)
- Clinopodium georgianum*** klij-no-PO-dee-um jor-jee-AN-um (7–8, 8–7)
- Crataegus coccinea*** krah-TEE-gus kok-SIN-ee-uh (3–7, 7–3)
- Dennstaedtia punctilobula*** den-STET-ee-uh punk-tih-LO-bew-luh (3–8, 8–1)

E–Q

- Epilobium angustifolium*** eh-pih-LO-bee-um ang-gus-tih-FO-lee-um (3–7, 7–1)
- Geranium macrorrhizum*** juh-RAY-nee-um mak-ro-RHY-zum (4–8, 8–1)
- Illicium floridanum*** ih-LISS-ee-um flor-ih-DAN-um (6–9, 9–6)
- I. parviflorum*** I. par-vih-FLOR-um (7–9, 9–1)
- Ipomoea alba*** ih-po-ME-uh AL-buh (9–11, 12–5)
- Lavandula angustifolia*** lah-VAN-dyew-luh ang-gus-tih-FO-lee-uh (5–8, 8–1)
- L. dentata*** L. den-TAY-tuh (5–9, 9–4)
- Lindera benzoin*** lin-DAIR-uh BEN-zo-in (4–9, 8–1)
- L. obtusiloba*** L. ahb-TOO-sih-lo-buh (6–9, 8–1)
- Mentha requienii*** MEN-thuh rek-wee-EN-ee-eye (7–10, 10–6)
- Metasequoia glyptostroboides*** met-uh-suh-KWOY-uh glip-toh-stro-BOY-deez (5–9, 9–5)
- Monarda didyma*** muh-NAR-duh DID-ih-muh (4–10, 10–1)
- Monardella villosa*** mon-ar-DEL-luh vih-LO-suh (7–10, 10–7)
- Nepeta cataria*** NEP-eh-tuh cat-AH-ree-uh (3–7, 7–1)
- N. ×faassenii*** N. fas-SEN-ee-eye (4–8, 8–1)
- Origanum majorana*** o-RIG-uh-num may-jo-RAN-uh (9–11, 11–1)
- Paeonia mlokosewitschii*** pee-O-nee-uh muh-lo-ko-suh-WICH-ee-eye (5–8, 8–4)
- Pelargonium crispum*** peh-lar-GO-nee-um KRIS-pum (10–11, 12–1)
- P. odoratissimum*** P. o-dor-uh-TIS-sih-mum (10–11, 12–1)
- P. tomentosum*** P. toh-men-TOH-sum (10–11, 12–1)
- Prunus sargentii*** PROO-nus sar-JEN-tee-eye (5–9, 9–5)

R–Z

- Rosa acicularis*** RO-zuh uh-sik-yew-LAIR-iss (1–6, 6–1)
- R. arkansana*** R. ar-kan-SAN-uh (4–8, 8–3)
- R. blanda*** R. BLAN-duh (3–7, 8–3)
- R. californica*** R. kal-uh-FORN-ih-kuh (6–9, 9–6)
- R. carolina*** R. kair-o-LY-nuh (4–9, 9–3)
- R. foliolosa*** R. fo-lee-o-LO-suh (5–9, 9–5)
- R. nitida*** R. NIT-ih-duh (2–6, 6–1)
- R. nutkana*** R. noot-KAN-uh (5–8, 9–1)
- R. palustris*** R. pah-LUS-triss (4–9, 9–4)
- R. primula*** R. prim-YEW-luh (5–9, 9–5)
- R. rubiginosa*** R. roo-bih-jih-NO-suh (4–9, 9–1)
- R. setigera*** R. seh-TIJ-er-uh (4–9, 9–4)
- R. stellata*** R. stel-LAY-tuh (6–9, 9–6)
- R. villosa*** R. vih-LO-suh (5–11, 12–1)
- R. virginiana*** R. vir-jin-ee-AN-uh (3–8, 9–3)
- R. woodsii*** R. WOODS-ee-eye (3–8, 8–3)
- Rosmarinus officinalis*** roze-muh-RY-nus o-fiss-ih-NAL-iss (7–9, 10–1)
- Rudbeckia laciniata*** rood-BEK-ee-uh luh-syn-ee-AY-tuh (4–8, 8–1)
- Salvia clevelandii*** SAL-vee-uh cleev-LAND-ee-eye (8–10, 10–5)
- S. dorisiana*** S. dor-ih-see-AN-uh (9–11, 10–1)
- S. elegans*** S. EL-ih-ganz (8–11, 12–1)
- Satureja douglasii*** sat-oo-REE-yuh dug-LASS-ee-eye (7–10, 10–7)
- Saxifraga × macnabiana*** sak-sih-FRAY-guh mak-nab-ee-AN-uh (7–8, 8–6)
- Teucrium cossonii*** TOO-kree-um kos-SO-nee-eye (7–10, 10–6)
- Thymus herba-barona*** TY-muss ur-buh-buh-RO-nuh (5–9, 9–5)
- T. serpyllum*** T. sur-PIL-um (4–9, 9–1)

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Moonflower Magic

by Margene Whitler Hucek

IF YOU'RE looking to add a touch of romance to your garden, you can't go wrong with moonflowers, which light up the evening garden with deliciously fragrant, pure white flowers.

Native to the American tropics, the moonflower vine (*Ipomoea alba*, USDA Zones 10–11, AHS Zones 12–5) is a twining tender perennial usually grown as an annual that has large, heart-shaped, green leaves. Starting in mid- to late summer, the vine produces white, funnel-shaped flowers, tinted green outside, that reach five to six inches across.

Flowers begin to unfurl at dusk, with each blossom opening in as little as three minutes and remaining open until the next morning. Individual flowers last only one night, but the vine is so prolific, it creates a floral display that will attract moths and other evening pollinators from late summer until the first killing frost.

PLANTING GUIDELINES

Moonflowers belong to the morning glory family (Convolvulaceae), a large group of plants that also includes sweet potato vines and parasitic dodder. Vigorous growers, moonflowers will grow 15 feet a year in temperate regions and reach up to 70 feet in the tropics, so they need a sturdy support such as a trellis, fence, or arbor. For smooth surfaces, such as walls, provide netting, string, or wire for the vine to twine around as it grows.

When choosing a site, keep in mind that you will want to have the vine where you can view it in the evening. Moonflowers grow best in a sunny, moderately fertile, well-drained location that is protected from wind. Hold off on planting seeds outdoors until the soil warms to 60 degrees Fahrenheit. Then soak seeds overnight in warm water or rub them between



Moonflower blossoms, though individually fleeting, are borne in abundance all summer.

two pieces of sandpaper before sowing six inches apart and one inch deep. When seedlings reach three inches, thin them to a foot apart. Mulch to conserve moisture and suppress weeds.

In regions with a short growing season, you can get a jump-start by sowing seeds indoors in biodegradable pots four to six weeks before your last expected frost date. Harden seedlings off and then

Sources

Park Seed Company, Hodges, SC.
(800) 845-3369.
www.parkseed.com.

Renee's Garden Seeds, Felton, CA.
(831) 335-7228.
www.reneesgarden.com.

transplant them outdoors once day and night temperatures are consistently above 60 degrees.

In late summer to early fall, dangling, capsulelike fruits form on the vines. You can harvest these when they turn gray or tan and save the seeds to sow the following year.

EASY CARE

Moonflowers thrive in moderately fertile soils and are reasonably drought tol-

Moonflowers self-sow and can become invasive in warm winter regions, so do some research before ordering seeds (moonflowers are considered noxious weeds in Arizona and Arkansas). Moonflower seeds are also toxic if ingested, which is important to know if small children frequent your garden.

erant once established. However, if you grow your vines in containers, you may need to water them daily by midsummer.

Pests are few for this vigorous vine. Whiteflies and red spider mites sometimes afflict plants, but they can be controlled with insecticidal soap. Do not use any pesticides that might harm pollinators such as moths or bats. Rust and wilt are listed as potential problems for moonflowers, but I have not had any issues growing them in my central Virginia garden, which can be quite humid.

EVENING ENTERTAINMENT

For the price of a packet of seeds you can bring a touch of the tropics to your garden with moonflower vines. As dusk turns to darkness and the first stars appear, enjoy the spectacle of the flowers opening, followed by the arrival of pollinators searching for the source of that heady fragrance. 🌙

Margene Whitler Hucek is a freelance writer based in Keswick, Virginia.



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