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The Magazine of the American Horticultural Society

September / October 2013

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## NOTES FROM RIVER FARM

ONE OF THE pleasures of visiting gardens when traveling is seeing what others are doing and getting ideas to try in your own garden. In this column in the previous issue, AHS Executive Director Tom Underwood described a garden he visited in the Seattle area. Now, while he is taking a well deserved vacation after a busy summer attending AHS events, I'd like to share some of my experiences touring the lake region of northern Italy this summer through the AHS Travel Study Program. For my wife, Grace, and me, this part of the world had been on our bucket list for many years, so we jumped at the chance to finally see it.

Along with a congenial group of about a dozen fellow travelers, we visited a diverse array of gardens over the course of nine days. Our knowledgeable guides and garden hosts gave us tremendous insight into how these places evolved over time and incorporated the successive visions of the owners and designers.

Highlights included Isola Bella on Lake Maggiore, the best Italian baroque gardens anywhere; and Palladio's Villa La Rotonda in Vicenza, which is widely recognized for inspiring Thomas Jefferson's design of Monticello. My favorite was the 160-acre Villa Taranto Botanical Gardens, with its 900 dahlia plants. Its creator, Captain Neil McEacharn, said: "A beautiful garden does not need to be big, but it should be the realization of one's dream, even though it is only a couple of square meters large and it is situated on a balcony."

We were surprised to see many American native plants—including huge southern magnolias, towering tulip trees, and redwoods—thriving in Italy. Also, many of the places we visited offered practical takeaways for our gardens back home. For example, we saw shrub roses providing as much dramatic color as any bedding plants, and in the town of Stresa, we saw the most unbelievable ivy geraniums cascading from balconies.

This fall, we hope that you are able to set aside some time for garden travel, whether visiting gardens on other continents or down the street.

You can start with some armchair traveling by reading this issue's "Traveler's Guide to Gardens" piece about Garvan Woodland Gardens in Hot Springs, Arkansas. If it inspires you to take a trip there, don't forget your AHS membership card so you can take advantage of free admission the garden offers through our Reciprocal Admissions Program.

In this issue, you'll also find plenty of tips for winter vegetable gardening, expert advice on bulbs that return year after year, and a selection of sensational stewartias that offer vibrant fall color. So turn the page and dig into another information-packed issue. Happy gardening!

Harry Risetto, Chair, AHS Board of Directors

P.S. In the July/August issue, Tom Underwood included a photo of an intriguing plant he spotted on his visit to the Bellevue Botanical Garden. To learn the identity of the plant, please turn to page 9.



Harry and Grace Risetto with José Ruiz-Berdejo (right), AHS member and former Italian consul to Sevilla, Spain, at the Villa Sigurta, his home and garden.

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## MEMBERS' FORUM

### PROGRESS FOR PLANT SOCIETIES

I was interested to learn that the Coalition of American Plant Societies had its second annual meeting and another one is planned ("Notes from River Farm," July/August). Years ago, with the intention of writing a book on plant societies, I surveyed all the plant organizations I could find. At that time, it seemed most of the groups were primarily interested in obtaining more and rarer plants or skirting importation laws. I'm glad there is a group formed to address with one voice the myriad problems facing plant societies.

*Adele Kleine  
Winnetka, Illinois*

### FILOLI GETS WELL-DESERVED PRESS

I loved your article on Filoli and its Gentleman's Orchard (July/August). The gardens at Filoli are breathtaking; its Chartres Cathedral Garden, inspired by the stained glass windows of the medie-

val landmark in France, is unbelievable. Thanks for featuring Filoli in *The American Gardener*.

*Joanne Gibbs Patton  
Lovettsville, Virginia*

### INSPIRING STANDARDS

I enjoyed reading "Raising Your Standards" in the July/August issue. I have been creating standards with hollies, hibiscuses, and boxwoods, and after reading this very informative article, I'm now anxious to experiment with angel's trumpets and Montauk daisies.

*Everett Munro  
New London, Connecticut*

### TO COMPOST OR NOT TO COMPOST?

In his article on powdery mildew in the July/August "Garden Solutions" column, Scott Aker mentions that a "hot" compost pile will kill the fungus. I have been placing plants with powdery mildew and

unwanted seeds into a hot horse manure pile this summer. When the manure was fresh, it was 145 degree F, but it has since dropped to about 115 degrees. Is this hot enough to kill diseases and weed seeds?

*Celia De Frank  
Big Bear City, California*

**Scott Aker's response** I suggest turning your compost after adding any debris with diseases or weed seeds. This introduces more oxygen and stimulates decay organisms that might bring the temperature back up to 145 degrees F, or close to it.

The duration of exposure is also important. Temperatures as low as 130 degrees F are effective at killing most diseases and weed seeds if sustained for a long period. In some instances, even if disease organisms are not killed by heat, the growth of beneficial microorganisms in compost as it ages can eliminate disease spores. While compost is not a likely mode of dispersal for powdery mildew, some other diseases, such as Southern blight, can be spread in compost that has not achieved temperatures of at least 160 degrees F.

### CLARIFICATION

Kim Eierman, who was quoted in the article about honeybees in the July/August "Gardener's Notebook," teaches beekeepers how to garden to support their bees, emphasizing native plants. She also teaches and lectures on many aspects of ecological landscapes and native plants. For more about Eierman, visit [www.ecobeneficial.com](http://www.ecobeneficial.com).

### CORRECTION

Tom Micheletti of Deer Park, Illinois, noted two misidentified cultivars shown in Kris Wetherbee's article on hostas (July/August). On page 24, the hosta in the container is 'Liberty'. And on page 29, the large variegated hosta is the selection 'Sagae'.

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



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For more information contact:  
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**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 in the Gardening Programs area of [www.ahs.org](http://www.ahs.org). 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](http://www.ahs.org).

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**WEBSITE: [www.ahs.org](http://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.

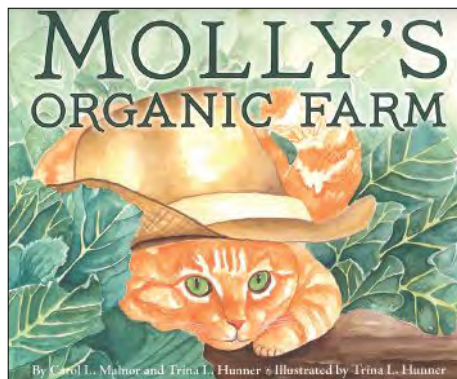
# News from the AHS

## September / October 2013

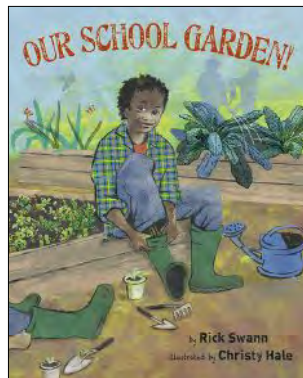
PROGRAMS • EVENTS • ANNOUNCEMENTS

### "GROWING GOOD KIDS" CHILDREN'S BOOK AWARD WINNERS ANNOUNCED

EACH YEAR during the National Children & Youth Garden Symposium, the American Horticultural Society (AHS) announces the winners of the "Growing Good Kids—Excellence in Children's Literature" Awards. Launched in 2005, this awards program is a joint effort between the AHS and the National Junior Master Gardener Program that recognizes exceptional ecology-themed titles in children's literature.



This year's three winners include one fictional tale, *Our School Garden* written by **Rick Swann** and illustrated by **Christy Hale**, about a child's experience at a new school and the friends he meets in the school garden. The other books are based on true events. *First Peas to the Table*, written by **Susan Grigsby** and illustrated by **Nicole Tadgell**, tells the story of how Thomas Jefferson inspired a class to create a school garden. **Carol Malnor** and **Trina Hunner's** *Molly's Organic*



*Farm* recounts the story of a homeless cat taken in by a group of organic farmers.

Each of these books engages young readers through fun, imaginative stories and bright illustrations while teaching them about the natural world. **Randy Seagraves**, the curriculum coordinator for the National Junior Master Gardener Program, says, "This book awards program was established to recognize and build awareness of picture books that effectively promote an understanding and appreciation for gardening, plants, and the environment."

For more information about this award program, visit [www.jmgkids.us](http://www.jmgkids.us).

### SEND IN YOUR SEEDS

THE DEADLINE for submitting your seeds for the AHS's 2014 members-only Seed Exchange is November 15. This annual event is a great way to share your favorite plants with other AHS members and discover new favorites to try in your garden. If you're interested in submitting seeds or would like more information about how the Seed Exchange works, turn to page 61 of this issue.

As always, AHS members who donate seeds to the exchange will have first pick from among the scores of seed varieties offered. The 2014 seed list will be published in the January/February 2014 issue of *The American Gardener* and a list with complete descriptions will be posted on the AHS website ([www.ahs.org](http://www.ahs.org)) in mid-January.

### MYSTERY FLOWER REVEALED

IN THE "Notes from River Farm" column published in the July/August issue of the magazine, AHS Executive Director **Tom Underwood** included an image of a striking blue flower he photographed in May at Bellevue Botanical Garden near





## AHS 2013–2014 NATIONAL EVENTS CALENDAR

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

SEPT. 19–21. **America in Bloom Symposium and Awards Program.** Orlando, Florida.

SEPT. 21. **AHS Annual Gala.** River Farm, Alexandria, Virginia.

OCT. 21–NOV. 1. **The Heritage and Gardens of Andalusia with Madrid.** AHS Travel Study Tour. Spain.

DEC. 2–20. **Holiday Trees Display.** River Farm, Alexandria, Virginia.

JAN. 11–26, 2014. **Gardens, Wine & Wilderness: A Tour of New Zealand.** AHS Travel Study Tour. New Zealand.

Seattle, Washington. He offered a gardening cookbook as a prize for correctly identifying the plant, and more than 80 members responded.

And, drum roll please...the mystery flower is *Meconopsis* (Fertile Blue Group) 'Lingholm', a hybrid of Himalayan blue poppy. Those who guessed *Meconopsis*, blue poppy, or some



*Meconopsis* 'Lingholm' growing at Bellevue Botanical Garden

variation thereof, were included in the random drawing for *The Gardener & the Grill* (Running Press, 2013). The winner is **Jane Druff**, a Master Gardener who lives in Drasco, Arkansas.

"Along with their guesses, quite a few members took a moment to write personal notes, which I have enjoyed reading," says Underwood. "Many people shared that this is a plant that does not like heat, and as a result is difficult to grow in most parts of the country. The exception seems to be the Pacific Northwest, where a number of members are growing them or have seen them in local gardens."



### 2014 "Gardener's" Calendar

One of the benefits that TGOA/MGCA offers its members is the opportunity for TGOA/MGCA and AHS members to participate in our annual photography contest. From these entries, photos are chosen for our annual calendar. We encourage all men and women to become a member of TGOA/MGCA and enjoy the benefits of a worthwhile organization. For more information about TGOA/MGCA or to order calendars for \$4.95 each postpaid, please call or e-mail:

## The Gardeners of America / Men's Garden Clubs of America

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## Gifts of Note

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## WINNER OF THE PHOTO CONTEST

AND THE WINNER IS...milkweed! For the third year in a row, **Richard States** won "Best in Show" in the Gardeners of America/Men's Garden Clubs of America (TGOA/MGCA) annual Photography Competition. The winning photograph shows an opened pod of common milkweed (*Asclepias syriaca*). States won last year's competition with a photo of mushrooms, and he has been the Sweepstakes winner since 2010. His images, as well as other winning photographs, will be featured in the upcoming TGOA/MGCA calendar.



**Richard States' prize-winning photo of a common milkweed seedpod**

Through a special partnership between the organizations, AHS members are eligible to enter this annual photography contest. For more information about how to participate, visit [www.tgoa-mgca.org](http://www.tgoa-mgca.org).

## SAVE THE DATE FOR COLUMBUS

IN 2014, the AHS's National Children & Youth Garden Symposium (NCYGS) will be held in Columbus, Ohio. The 22nd annual symposium will take place at Franklin Park Conservatory & Botanical Gardens from July 17 to 19.

Plans for the event are still in the formative stages, but highlights will include tours of the host gardens, as well as two



**The Palm House at Franklin Park Conservatory & Botanical Gardens**

pre-symposium excursions to neighboring school gardens and a day trip to children's gardens in Dayton, Ohio. Further information about the 2014 symposium will be available next spring on the AHS website ([www.ahs.org](http://www.ahs.org)).

*News written by AHS staff.*

# AHS MEMBERS MAKING A DIFFERENCE: Shelley Mitchell

by Missy Katner

**M**ANY HIGH SCHOOL students never consider a career in horticulture or landscaping, mainly because they don't know it exists. That's where Shelley Mitchell



Shelley Mitchell

comes in. As an Oklahoma State University (OSU) Extension Associate, she enthusiastically introduces young people to the field of horticulture through a variety of innovative OSU Extension

programs. Even if the kids have heard of horticulture, "they tend to think it just involves mowing grass or planting flowers. That's it," she says. It's Mitchell's job to change that perception.

## HOOKED ON HORTICULTURE

While working as a high school biology teacher for nine years in Stillwater, Oklahoma, Mitchell noticed a complete disconnect between her students and their environment. "Even though we lived in a farm town, the kids still had no idea where their food came from. They'd tell me it comes from Walmart." So she began integrating more agriculture studies into her classes.

Though she hadn't planned on changing careers, in 2008, the OSU Department of Horticulture and Landscape Architecture was looking for a youth specialist to support county Extension educators across the state. She jumped at the chance to counteract the lack of information and interest in plants on a larger scale.

Some of her many duties include coordinating the Oklahoma Junior Master Gardener program, which offers children certification in gardening. She teaches horticulture at the Grandparent University, a popular summer program at OSU that allows alumni to relive their college days as they choose a "major" and take

classes with their grandchildren. She also guides K–12 teachers on how to use gardening as part of their school curricula.

"When I talk to teachers," says Mitchell, "they say they don't have time, money, space, or Master Gardener training. I tell them, you don't need any of those things." Instead, she champions simple, inexpensive ways to integrate environmental and horticultural subjects into the classroom. All you need is a bucket, soil, and seeds, she says.

## HANDS-ON EXPERIENCE

Mitchell's jovial, get-it-done attitude has led to the success of one program in particular. A few years ago, she created Camp T.U.R.F. (Tomorrow's Undergradu-

taining athletic fields, and climbing trees with arborists. "It's very hands-on in many different areas of horticulture, and we try to explain the how and the why of everything we teach," says Mitchell. Each year, she notices a distinct change in the students' mindset by the end of the camp. "After camp, almost all of them rate plants and gardening as very important in their lives," she says.

## SHARING IDEAS

Before her OSU position, Mitchell had a limited knowledge of horticulture, so she joined the American Horticultural Society. In addition to the inspiration she finds in *The American Gardener* magazine, she notes that "if I wasn't a member, I wouldn't know



Mason Weaver, right, Urban Harvest Director of the Regional Food Bank of Oklahoma, demonstrates the composting process to Camp T.U.R.F. participants this past June.

ates Realizing the Future), a two-week summer academy aimed at introducing high school students to horticulture and landscape architecture careers. Each year, the statewide program hosts 25 teenagers who will become first-generation college students or are on the fence about going to college.

Camp attendees visit organic farms and botanical gardens, and participate in activities like propagating African violets, main-

about the Society's National Children & Youth Garden Symposium and I wouldn't have as many ideas to share at home." She has attended the symposium for the last five years and presented at three of them, most recently this past July in Denver. "It's great to hear new ideas and get excited about my job again," she says with a laugh.

*Missy Katner is an editorial intern for The American Gardener.*

# Denver Urban Gardens

## *uniting neighbors for gardening success*

Community gardens and school gardens are usually separate entities, but one Colorado organization has found that combining them can yield surprising benefits for both.

BY JANE KUHN

**D**ENVER URBAN GARDENS (DUG) facilitates one of the country's largest community garden networks, with more than 120 gardens throughout Colorado's capital. To date, 35 of these community gardens are located on school grounds. Although all of these school-based gardens are remarkably diverse in structure, community, and history, they share the unifying goals of strengthening community ties and serving as an educational outlet for youth.

This common thread is at the heart of DUG's mission to "grow community—one urban garden at a time." From providing construction and planning guidance to implementing educational programming, DUG maintains a supportive presence during every stage of a garden's creation and maintenance. The organization has been coordinating community garden enterprises since 1985, but started working with schools only about a decade ago, when the city's public schools and other Denver-area schools transitioned from a forced busing system to neighborhood schools.

"Parents and community leaders were immediately invested in the idea of improving their out-of-date neighborhood school yards into spaces for both integrated, hands-



Students from Fairview Elementary Community Garden and their volunteer mentor help out at the garden's farmer's market, which offers produce they grow.

on learning and community engagement," explains Michael Buchenau, DUG's executive director. "Not only were they looking to improve the learning environments for their children, they also saw the potential in these spaces to benefit themselves and their neighborhood as well."

Each year, four to six new neighborhoods receive DUG's assistance with the implementation of a school-based community garden. Rather than implementing a single gardening model in every location, DUG works with each space's unique characteristics in order



Plants ramble up trellises or grow under row-cover. Compost heaps and a colorful tool shed complete the scene.

With the primary goals of creating avenues of access to healthy food, providing agricultural education, and cultivating underutilized urban land, SCF's many endeavors include a farm camp, a Community Supported Agriculture (CSA) program, educational workshops, cooking classes, a youth-led farmer's market, and fun community events like "weed dating."

The farm also yields plentiful organic produce that has benefited both the school and the community. Last year, SCF produced nearly six tons of produce that was divided between the Denver Green School cafeteria, community partners who work with recently resettled refugee families and local emergency food relief programs, and



Harvesting vegetables is a gratifying activity for both adult volunteers, top left, and third-graders, left, in the extensive Sprout City Farms vegetable garden on the grounds of the Denver Green School.

the group's CSA program and "pay-what-you-can" Farm Stand.

"Having a farm on school grounds is an important part of helping students understand the connection between food, the environment, and health," says Alison Hatch, SCF development and outreach director. "Students see first-hand the benefits of nourishing the land so that it can in-turn produce the nourishing food they eat in their cafeteria."

### MENTOR-GUIDED EMPOWERMENT

Next to the recess yard at Bradley International School, raised beds of many shapes and sizes overflow with plants. Some follow themes, such as a pizza garden or a salad garden, and others are two-foot by two-foot mini-plots where students can grow whatever they want. These various yet congruent beds all comprise the Heather Regan Memorial Garden.

One of its most successful ways of engaging the community is through a DUG program called Connecting Generations that facilitates intergenerational mentorship. "Connecting Generations mentors are individuals who mostly live in the neighborhood but have no direct connection to the

to create the most benefit for its respective community or neighborhood.

### A FARM FOR EVERYONE

Take for example Sprout City Farms (SCF), a one-acre vegetable garden on the grounds of the Denver Green School in southeast Denver. While SCF operates as its own entity, it works intimately with the school, DUG, and the neighboring

community. A few short years ago, the innovative structure and educational programming that exists at SCF and the community gardens that neighbor it (also on the grounds of the Denver Green School) were all merely ideas held by parents and community members. Today, just beyond the school's parking lot are rows and rows of greens, onions, beans, squash, and many other veggies.



With the help of adult mentors, students at the Bradley International School grow vegetables and flowers in the school's Heather Regan Memorial Garden, left and above.

school,” explains Jessica Romer, community initiatives coordinator for DUG. “Either by becoming a community gardener or being recruited by DUG staff, these mentors engage in a non-traditional way with their neighborhood school and can give back using their professional and life skill sets.” During the spring and fall, students and their mentors participate in an after-school garden club to explore science, reading, writing, and cooking through the garden. Students also have access to the garden and their mentors during recess.

For Connecting Generations mentors, it’s all about helping their charges feel invested in the plots at the garden, which can yield greater nutritional and academic benefits. The students are more likely to eat a wider variety and greater volume of vegetables because they have been involved in the growing process. Students also benefit academically by being encouraged to explore interdisciplinary connections between their classroom work and garden activities.

### TRANSCENDING DIFFERENCES

The Fairview Elementary Community Garden serves the culturally diverse Sun Valley neighborhood in West Denver, which faces various socioeconomic chal-

lenges. “Although Sun Valley is situated in an industrial area that currently has few if any economic opportunities, no large grocery stores, and an overwhelming presence of transitional and public housing structures,” says Judy Elliot, the garden’s education and community empowerment coordinator employed by DUG, “it is rich in immigrant diversity and resilience.”

With a multitude of native countries and backgrounds represented in the community, the Fairview garden has become a unique vehicle for sharing and celebrating different cultures. Elliot works with students in the garden and classroom to increase culinary, gardening, and community-building skills. Students also participate in DUG’s Connecting Gen-



This colorful mural, painted by students at the Fairview Elementary Community Garden, highlights the garden’s influence on the urban neighborhood that surrounds it.

TOP LEFT: COURTESY OF DUG. TOP RIGHT: COURTESY OF ALETHEA MCCLUNE. BOTTOM: COURTESY OF DUG

erations program, the Fairview Youth Farmer's Market, and a summer youth employment program.

Another unique feature of this garden is that DUG has designated it as a site for the organization's education team to "explore new lessons, activities, recipes, and approaches before sharing them with the general public," says Romer. "It is also a training site where teachers, parents, and volunteers from across the city participate in hands-on lessons about the multitude of ways to utilize a garden for learning."

## GROWING ON

Each of these garden models demonstrates that "gardening, and the resulting harvest, is a universally relatable activity," says Romer. "It has the power to reach across cultures, continents, generations, languages, and gender." Each site is not only a place for growing beautiful and edible plants, but is also a space for making tangible educational connections, strengthening community vitality, and contributing to a more sustainable food system.

Although demand for more community gardens in the Denver area has increased dramatically in the past several years, DUG's leaders are careful not to expand its network too fast. The goal is to grow at a modest enough rate to effectively support the development of new gardens while maintaining support of existing garden sites.

DUG itself has steadily grown to the point of meriting more spacious digs to accommodate it and enable it to expand its programs. This past summer, it moved into a new office that not only "provides enough space for our staff, interns, and volunteers," says Romer, "but we also now have access to multiple collaborative spaces to host our various trainings, workshops, and activities with garden leaders, youth educators, gardeners, and the public."

The larger the audience DUG can reach, the more benefits schools and their neighborhoods will reap. Given the organization's solid foundation and impressive track record, it is well positioned to continue growing community, one urban garden at a time. ☺

*Jane Kuhn is a freelance writer currently volunteering at a farm in West Virginia.*

## LESSONS FROM DUG GARDENS

Each year during the American Horticultural Society's National Children & Youth Garden Symposium (NCYGS), participants from around the country share success stories and best practices centric to youth gardening. The 2013 NCYGS, held in the Denver area, included a tour that showcased DUG's work with schools. Symposium attendees had the opportunity to experience several different garden spaces, see the neighborhoods in which they were located, and learn from each garden's youth and community members.

"Touring the extraordinary DUG sites provided a wonderful gateway for learning firsthand what it takes to create successful and dynamic school gardens," says AHS Executive Director Tom Underwood.



At the Heather Regan Memorial Garden, symposium attendees hear from one of the garden's Connecting Generations mentors, above. A student from Fairview Elementary shows symposium attendees around its community garden, right.



The level of "persistence and cooperation" required to bring these collaborative gardens to fruition impressed Kim Bailey, an environmental outreach coordinator from Cumming, Georgia. She also notes that the enthusiasm of the volunteers "for working with the children in the garden is truly infectious!"

Nathan Larson, an education director from Madison, Wisconsin, felt the gardens demonstrated that one clear key to success is "the integral and vital role that various community partners can play in supporting school gardens." For example, engaging community members helps provide upkeep for the school gardens over the summer.

"Each garden powerfully illustrated the many positive benefits of engaging youth in gardening on both the individual and community level," says Underwood, "and we hope these will inspire similar programs in other areas of the country." ☺

—J.K.

Bulbs are an essential and versatile component of any garden. Maximize their potential by selecting ones that return reliably year after year.

**T**HE BEST surprise of the first spring in my new home in Connecticut many years ago was a mass of shaggy, fragrant daffodils that bloomed like crazy in a mountainside seep where they should have rotted. They were growing all over the neighborhood, but



Daffodils such as ‘Van Sion’, above, and ‘Thalia’, right, return year after year in the author’s Connecticut garden.

I couldn’t find them in any of my books or catalogs. Eventually I learned that my mystery daffodil was *Narcissus* ‘Van Sion’ (also known as ‘Telamonius Plenus’), an heirloom cultivated since the 1600s. Twenty-five years later, they’re still going strong. I appreciate such durable bulbs, which come up every spring, bloom with no effort on a gardener’s part, and then quietly fade away as later-emerging perennials fill the space. That’s what I call a bulb that lasts.

In my search for bulbs as forgiving as ‘Van Sion’, I managed to kill quite a few. Along the way, however, I learned to read between the lines of catalog prose; search the internet for subjects like “hardy bulbs for shade,” “deer-proof bulbs,” or even “poisonous bulbs;” pay attention to what

# Great Bulbs *that* Last

BY KAREN BUSSOLINI

thrived in untended places; and apply a rudimentary knowledge of bulb biology.

## UNDERSTANDING BULBS

Before going any further, I need to clarify that I’m using the term “bulbs” loosely here to include corms, rhizomes, tubers, and other geophytes that store water and nutrients in swollen underground organs that allow them to go dormant during

adverse seasons of either drought or cold, then re-grow when favorable conditions return. Some are widely adaptable, others have very specific requirements.

All bulbs must replenish food stores via photosynthesis, so it’s important to leave their foliage in place until it dies back naturally. So repress the neatness gene; no trimming foliage, tying it in knots, or braiding it before it withers. Later-emerg-





Siberian squill, top, and *Crocus tommasinianus*, above, naturalize well in lawns.

ing plants can help conceal the unsightly dying-back process, but too much surrounding foliage can inhibit the process of replenishing bulb food reserves.

Bulbs also have different mechanisms for reproducing. Brent Heath of Brent and Becky's Bulbs in Gloucester, Virginia, points out the difference between naturalizers—bulbs that reproduce by seed—and perennializers—those that persist and spread, like perennials, but don't set seed. "Many small bulbs such as *Chionodoxa*, Siberian squill (*Scilla siberica*), *Scilla bifolia*, and *Crocus tommasinianus* do wonderfully in lawns," says Heath, "but you have to allow the foliage and seeds to mature." This means cutting the grass no less than three to three-and-a-half inches tall for six weeks or so, or letting it grow and then using a trimmer or mulch mower later. "And, of course, you can't apply herbicides or other chemical treatments to the grass," reminds Heath. (For a list of naturalizers and perennializers, see page 21).

The terms "naturalize" and "perennialize" are commonly used interchangeably, and in some cases, bulbs use both mechanisms to spread. The experience of one of my neighbors with Siberian squill helped me understand the difference. For many years, the neighbor divided and replanted clumps of the tiny bulbs in the lawn, trying to create a blooming blue spring carpet. They spread slowly, producing a mass more akin to a bath mat than a carpet, despite having everything they needed—winter cold, good drainage, and dry conditions during dormancy. It turns out that what they lacked in order to naturalize was enough time for the seed to ripen. Once the family began mowing the lawn later in the season, they seeded abundantly.

Of course, there's a fine line between naturalizing and invasiveness. Bulbs such as star of Bethlehem (*Ornithogalum umbellatum*), which spread rampantly and can escape into natural areas, should be avoided. Before purchasing bulbs, check state and national weed lists.

### MATCHING ORIGIN AND SITE

When selecting bulbs, it's important to pay attention to where they originate. "Americans still have a one-size-fits-all approach to plants," says Russell Stafford, owner of Odyssey Bulbs in South Lancaster, Massachusetts. "But plants have to match with garden conditions, so habitat has to be considered."

Stafford specializes in uncommon cold-hardy bulbs that he mostly propagates himself. “Bulbs are adapted to the climactic patterns (particularly of temperature and precipitation) that prevail in their native range. A montane bulb requires winter cold as much as a tropical native detests it.” (See below for a chart matching climatic zones with U.S. regions.)

Stafford advises gardeners in areas with summer rainfall who attempt to grow bulbs from dry-summer areas to provide very well-drained soil; bulbs from summer-rainfall areas favor soils that remain moist in summer, so humus, mulch, compost, and summer watering are in order. In areas that face intense heat or cold, planting bulbs deeper than recommended and adding mulch helps insulate them from the extremes.

Clearly, the selection of bulbs that last varies depending on where you live. The following sections offer suggestions for different regions based on my own experience and that of experts in other parts of the country.

### CHOICES FOR THE NORTHEAST

Of course, the classic perennial bulb in most temperate regions is the daffodil. In my primarily woodland garden, I’ve had success with ‘Van Sion’ as well as smallish but sturdy daffodil cultivars such as ‘Jetfire’, ‘Thalia’, and ‘Tête-à-Tête’. A season-spanning mix of daffodil cultivars such as ‘Ice Follies’, ‘Spellbinder’, ‘February Gold’, and ‘Mount Hood’ toughs it out in a wild area.

Other stalwarts include a variety of small bulbs with foliage that ripens before trees leaf out. These have persisted and in-



In the author’s garden, ‘Blue Danube’ camassia thrives in soggy areas where other bulbs won’t.

creased over the years without protection from deer or drastic measures involving hardware cloth or tilling sharp-edged rock products into the soil to deter rodents.

For instance, diminutive grape hyacinths (*Muscari armeniacum*) and “tom-

mies” (*Crocus tommasinianus* ‘Barr’s Purple’) planted 20 years ago pop up delightfully early in the lawn and perennial beds, where their grasslike foliage dries up and disappears without a fuss. Species and close-to-wild tulips (*Tulipa tarda*, *T. clusii*-

## MATCHING GARDEN SITE WITH NATIVE HABITAT

Climatic Zones	Temperature		Precipitation		U.S. Range
	Summer	Winter	Summer	Winter	
Montane	mild	frigid	varies	snowy	western mountains
Maritime	mild	cool/cold	rainy	rainy/snowy	coastal Northeast, Northwest coast
Continental	hot	cold	dry spells	snowy	eastern Midwest, mid-Atlantic, interior Northeast, upper South
Continental	hot	frigid	droughty	dryish	western Midwest, Plains
Steppe	hot	cold	dry	snowy	interior Northwest, Great Basin
Mediterranean	hot/mild	mild/cool	dry	rainy	western California, interior Pacific Northwest coast
Subtropical	hot/mild	mild	rainy	rainy/dry	lower South
Tropical	hot/warm	warm	rainy	rainy/dry	southern Florida

Chart courtesy of Odyssey Bulbs

ana ‘Cynthia’) nestle among deer-resistant herbs in a sunny bed, while *Camassia leichtlinii* ‘Blue Danube’ revels in a soggy spot where other bulbs won’t grow.

Some of the most resilient came from generous fellow Connecticut gardeners who have conditions similar to my woodland garden. A shovelful of *Allium zebdanense*, a small graceful white-flowering ornamental onion, along with a handful of winter aconite (*Eranthis hyemalis*) and spring snowflakes (*Leucojum vernum*) have turned into thriving colonies. A few snowdrops (*Galanthus nivalis*) are now plentiful enough to share.

## WEST COAST

The longevity of daffodils and the small bulbs was a recurring theme with the experts I spoke with across the nation. Greg Graves, co-owner of Old Goat Farm and Nursery in Graham, Washington, recommends daffodils ‘February Gold’, ‘Mount Hood’, ‘Thalia’, and *Narcissus poeticus* var. *recurvus*.

Many bulbs originated in climates similar to the wet winter/dry summer of the Pacific coast, so Graves’s list of great performers also includes *Crocus tommasinianus*, snowdrops (*Galanthus nivalis* and *G. elwesii*), grape hyacinths (*Muscari armeniacum* and *M. latifolium*), fritillarias (*Fritillaria meleagris* and *F. michailovskyi*), and species tulips (*T. humilis* and *T. chusiana*). Many of these spread readily in full sun or part shade. In deeper shade, he recommends dogtooth violets or trout lilies such as *Erythronium dens-canis* and the hybrid ‘Pagoda’.

In the Pacific Northwest, hardiness seems to be less an issue for bulbs than free-draining soil. “It isn’t cold that will kill them but rot from all the rain,” says Graves. Thus exotic bulbs like the South African fall-blooming *Nerine bowdenii* ‘Marny Rogerson’ also do well in the right site.

In San Francisco, a perhaps surprising place to view hardy bulbs is Alcatraz Island, site of the notorious prison. Gardens cultivated on this rocky windswept island for 150 years were abandoned for 40 years until 2003, when the Garden Conservancy began restoring them. Project manager Shelagh Fritz recalls that as soon as the winter rains began, bulbs started popping up—leaves of “naked ladies” (*Amaryllis belladonna*) and South African cornflag (*Chasmanthe floribun-*



Native to South Africa, watsonias thrive in regions with hot, dry summers.

da), then Cape tulip (*Homeria collina*). Squills (*Scilla* spp.), *Iris reticulata*, grape hyacinths (*Muscari* spp.), daffodils, snowdrops (*Leucojum aestivum*), and gladioli all appeared.

Southern California’s hot dry summers nurture more exotic fare with a different schedule. In her Encinitas garden, dry-climate gardening expert Nan Sterman relies

on slim, elegant species gladiolus—fragrant pale yellow *Gladiolus tristis* and spectacular magenta *G. communis* ssp. *byzantinus*. Watsonias (*Watsonia pyramidata* cultivars) easily increase, along with purple and magenta baboon flower (*Babiana stricta*) and spice-hued harlequin flower (*Sparaxis tricolor*). South African bulbs are planted in mid- to late summer, grow foliage in fall and winter, and bloom in spring. They don’t need fertilizer but do require good drainage.

## SOUTH AND SOUTHWEST

Scott Ogden, author of the definitive *Garden Bulbs for the South*, says, “Any bulb you plant will either get stronger each year or be wasting away.” In the humid Gulf South, he reports, those that do well are either cool-season bulbs such as *Freesia laxa*, *Gladiolus communis* ssp. *byzantinus* ‘Cruentus’, and *Ipheion uniflorum*, that take advantage of the South’s relatively mild winters or, more commonly, warm-season growers from similar climates. Both groups have to tolerate the prevailing sandy or sticky clay soils.

“The wild narcissus such as *N. jonquilla* from southern France and Spain have naturalized in roadside ditches, and Lent lilies (*N. pseudonarcissus*) are taking over old pastures on acid soils,” says Ogden, who splits time between homes in Austin, Texas, and Fort Collins, Colorado. “Paperwhites (*N. papyraceus*), Chinese sacred lilies (*N. tazetta* ssp. *lacticolor*) and their hybrids persist everywhere.”



St. Joseph’s lily proliferates in the heat and humidity of southern gardens.

Flamboyant, nearly pest-free *Amaryllis* family bulbs rule in the South: Prolific St. Joseph's lily (*Hippeastrum ×johnsonii*) unfurls its crimson trumpets in mid-spring, heat-loving subtropical spider lilies (*Hy-menocallis* spp.) and crinums in summer. "Crinums are indestructible," says Odgen. "Plunk them in the lawn, even mow them down, and when it rains they still pop up and bloom—then maybe get mowed down again. They often outlive the house they're planted by."

After summer or early fall thunderstorms, rain lilies (hybrids and forms derived from *Zephyranthes candida*, *Z. grandiflora* and *Z. citrina* and others) make "starry bouquets of pink, gold, copper, and cream that dance along the edges of paths and borders," says Odgen. Tenacious oxblood lilies (*Rhodophi-ala bifida*) and graceful red spider lilies (*Lycoris radiata*) paint landscapes scarlet in fall.

In the desert Southwest, 100-degree days and late-summer monsoons rot bulbs requiring dry conditions, and winter freezes kill tender ones, reports landscape designer and garden writer Scott Calhoun, who lives in Tucson, Arizona. Worth trying are early, cold-hardy *Iris reticulata*, which have proven themselves from Tucson to Santa Fe to Denver, and species tulips like *Tulipa clusiana*. Summer-blooming native Texas rain lilies (*Zephyranthes chlorosolen*) and South American *Z. candida* take advantage of the water offered by low-desert monsoons.

## THE INTEMPERATE INTERIOR

Without the tempering effect of oceans, inland areas of the United States face greater extremes. Xeriscape pioneer Lauren Springer Odgen, gardening in dry Fort Collins, Colorado, is perched between mountains and semi-desert, a climate much like the cold winter/dry summer grasslands of the Eurasian steppes, where foxtail lilies (*Eremurus* spp.) and tulips originated. Other than hard-to-tame native bulbs, she's seen only grape hyacinths and foxtail lilies survive for more than a year or two without irrigation.

With the protective enclosure of a tall deer fence, she and her husband, Scott Odgen, have planted some 30,000 bulbs in their garden. Low-water successes receiving an inch of moisture per month from occasional summer rains and/or irrigation include irises (*Iris reticulata* and *I. histrioides*), crocuses (*Crocus sieberi*, *C. chrysanthus*, *C. speciosus*, and *C. tommasinianus*), *Diche-*



Dramatic displays of red spider lily (*Lycoris radiata*) are a common autumn sight in the south.

*lostemma* 'Pink Diamond', and gladiolus (*G. communis* and *G. communis* ssp. *byzantinus*).

Species tulips are the toughest, thriving if watered once a month in summer, twice a month in spring. *Tulipa batalinii* is super-strong, along with other small varieties like *T. bakeri*, *T. clusiana*, and *T. humilis*. Short, large-flowered, and early

tulips such as *T. greigii* and *T. kaufman-nia* lasted 15 years in Odgen's former "hellstrip" garden, watered only three or four times a year. *Tulipa tarda*, a modest self-sower elsewhere, is so weedy here it will choke out even tough buffalo grass.

Most alliums, except the giant ones, are champs, but Odgen warns, "You need to

## Sources

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[www.brentandbeckybulbs.com](http://www.brentandbeckybulbs.com).

**John Scheepers, Inc.**, Bantam, CT. (800) 567-0838. [www.johnscheepers.com](http://www.johnscheepers.com).

**Odyssey Bulbs**, South Lancaster, MA. (508) 335-8106. [www.odysseybulbs.com](http://www.odysseybulbs.com).

**Old House Gardens**, Ann Arbor, MI. (734) 995-1486. [www.oldhousegardens.com](http://www.oldhousegardens.com).

**The Southern Bulb Company**, Golden, TX. (888) 285-24867.

[www.southernbulbs.com](http://www.southernbulbs.com).

**Telos Bulbs**, Ferndale, CA. (707) 786-4985. [www.telosrarebulbs.com](http://www.telosrarebulbs.com).

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**The Pacific Bulb Society (PBS)**, [www.pacificbulbsociety.org](http://www.pacificbulbsociety.org). PBS maintains a useful Wiki and online forum on bulbs.



deadhead or they come up like dog hair all over the place.” She loves the silvery amethyst globes of *Allium christophii*, tall purple *A. aflatumense*, and broad-leafed low *A. karataviense*, which seeds nicely and lasts a long time.

Bulbs that persist with an inch of water every seven to 10 days from spring through fall include snowdrops, squill, *Puschkinia scilloides*, *Anemone blanda* (especially blue forms), *Iris bucharica*, *Hyacinthus amethystina*, and Martagon lilies. Daffodils, Ogden explains, can’t be used in true xeriscapes, because you need to water them once a

Species tulips, such as *Tulip batalinii*, above in Lauren Springer Ogden’s garden, and alliums like *Allium karataviense*, left, at Denver Botanic Gardens, do well in xeriscapes.

week. With regular water, her favorites for getting better over time include ‘February Gold’, ‘Jetfire’, ‘Segovia’, ‘Sweetness’, ‘Kokopelli’, ‘Actaea’, and ‘Sundisc’.

Jill Selinger teaches the hardy bulbs certificate course at the Chicago Botanic Garden in Glencoe, Illinois, where the challenge for plants is wide temperature swings. “Almost all narcissus will perennialize beautifully here,” she says. *Scilla siberica* will “spit themselves around.” Milk squill (*Scilla mischtschenkoana*), along with Spanish bluebells (*Hyacinthoides hispanica*), are “almost too aggressive in a small city garden, but they will fill in a big area and make a good show pretty quickly.”

Less-rampant reliables include glory of the snow (*Chionodoxa luciliae*), *Puschkinia scilloides*, and *Muscari armeniacum*. Ornamental onions, especially diminutive *Allium moly*, “are great with grasses—planted in a sunny prairie, you don’t notice as their foliage fades away,” says Selinger. Western native camassias, such as *Camassia leichtlinii* and *C. cusickii*, bloom “after the onslaught of spring bulbs.” Species tulips like *Tulipa tarda* and *T. turkestanica* naturalize and are less likely to be dug by squirrels once they’re established.

## SUITING THE LOCATION

The following naturalizers and perennials are recommended by Brent Heath to suit various growing conditions.

### ESPECIALLY FOR THE SOUTHEAST

Grape hyacinths (*Muscari armeniacum*, *M. neglectum*)

Star flowers (*Ipheon uniflorum*)

Winter aconites (*Eranthis hyemalis*)

### FOR WET AREAS

Guinea hen flower (*Fritillaria meleagris*)

Summer snowflake

(*Leucojum aestivum*)

### MOIST SHADE

*Allium triquetrum*

English bluebells (*Hyacinthoides*

*non-scripta*) prefers cooler

summers; Spanish bluebells

(*H. hispanica*) are better in

the Southeast

Snowdrops (*Galanthus nivalis*)

### DRY SHADE

*Cyclamen hederifolium*

Squill (*Scilla siberica*, *S. bifolia*,

*S. mischtschenkoana*) are best

in cold climates

### DRY SUN

*Allium flavum*

*Allium moly*

Species tulips (*T. tarda*, *T. sylvestris*,

*T. batalinii*)

### RELIABLE PERENNIALIZERS

Daffodils (*Narcissus* cultivars)

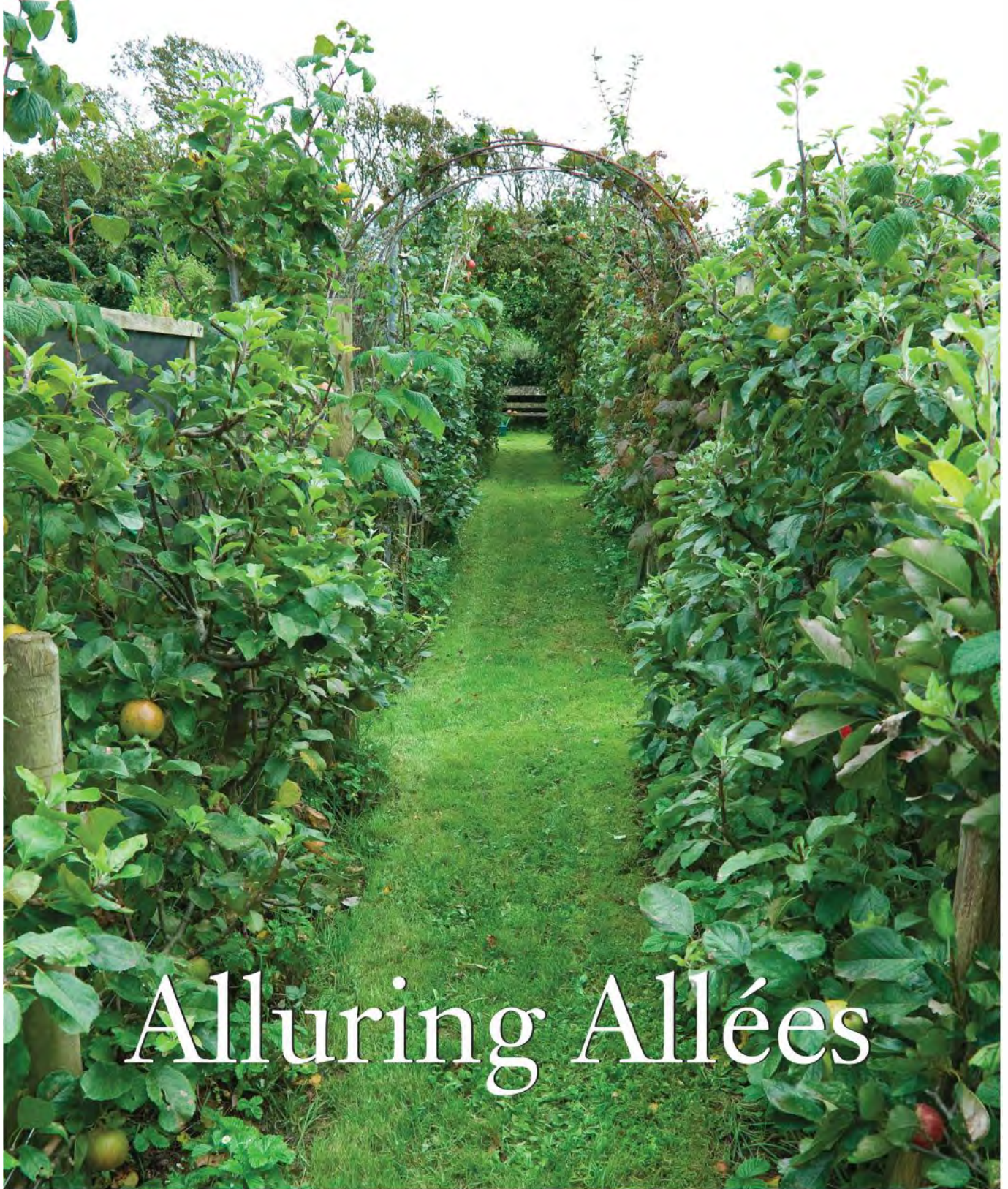
*Ipheon uniflorum* ‘Rolf Fiedler’

*Leucojum aestivum* ‘Gravetye Giant’

## OBSERVATION, ADVICE, AND EXPERIENCE

As the recommendations of these gardeners from different regions show, there are countless garden-worthy, long-lasting bulbs out there. Every garden has niches for carefree colorful bulbs that bloom and disappear, but happily reappear year after year. In addition to trying some of the bulbs covered in this article, take note of what succeeds for your neighbors and in local botanical gardens and go from there. Fall is the perfect time to plant some new bulbs that will yield a huge payoff for many years to come.

*Karen Bussolini is a garden speaker, photographer, writer, and eco-friendly garden coach based in Connecticut.*



# Alluring Allées

Modern interpretations of a traditional design concept enable gardeners to incorporate allées into smaller or more informal settings.

BY PAUL LEE CANNON



**Opposite:** This allée of apple trees in the garden of Joy Larkcom, a well-known garden writer in the United Kingdom, offers an unconventional approach to the edible landscaping trend.

**This page, above:** Fastigiata Irish yews (*Taxus baccata* 'Fastigiata') flank a meandering stone path nearly obscured by various ground-covering perennials and bulbs in Barbara Flynn's Washington garden. **Left:** At Michael and Julie Safley's Oakwood Gardens, part of their 70-acre Oregon home and ranch, a more traditional allée of Himalayan birch trees (*Betula utilis* var. *jacquemontii*) provides a fittingly grand welcome in early spring.



I HAD OFTEN HEARD people use the term allée, but it wasn't until recently that I understood exactly what it meant. A friend who was visiting my home in Oakland, California, pointed out that I'd created an allée with the six young hopseed shrubs (*Dodonaea viscosa* var. *atropurpurea*) I'd planted at equal intervals along both sides of the walkway to my front door. This insight got me interested in the origin and use of the term, so I did some research.

By traditional definition, an *allée*—the translation of the French word is an “alley”

or “avenue”—is a walkway or path lined with straight rows of the same variety of trees or large shrubs on each side, sometimes forming a canopy or tunnel effect, depending on the plants used. A hallmark of the French formal garden style, the allée was usually quite grand in scale such as those at the famous park at the Palace of Versailles.

#### UPDATING THE DEFINITION

Nowadays, grandiose allées exist mainly in botanical gardens and arboreta. The good news is that you don't have to be royalty or have acres of space to create an allée, partic-

ularly if you stretch the traditional criteria a little bit. Modern allées can run the gamut from rows of clipped rosemary in pots to mature oaks majestically flanking both sides of a public sidewalk. And the walkway you create doesn't have to be meticulously symmetrical or only include multiples of the same plant.

“You can have a very small property and still have an allée,” says Julie Moir Messervy, a New England-based landscape designer and author of *Landscaping Ideas That Work* (Taunton Press, 2013). “It depends on the size of the plants you're using

and the amount of lightness or darkness within the allée that you want to enjoy.”

“An allée is a bold move to make, and yet once you make it, it’s the perfect way to walk from Point A to Point B,” says Messervy, who’s designed several residential as well as public allées. “It can connect spaces in your garden that you might never have thought of as being linked to each other.”

## DO YOUR HOMEWORK

As with designing any major landscape feature, there are a lot of elements to consider when planning an allée. For starters, keep in mind the rate of growth, mature height, and maintenance requirements of the trees or shrubs you’re thinking of using.

“It’s important to look at scale,” says Texas-based landscape designer and writer Cherie Foster Colburn, who’s designed allées for both commercial and residential projects. What’s tiny today can ultimately reach monstrous proportions and become

**Top right:** This shady canopy of this allée creates a haven for an assortment of hostas. **Below right:** At the American Horticultural Society’s headquarters in Alexandria, Virginia, a decorative stone statue draws visitors down this allée lined with boxwoods and panicked hydrangeas (*Hydrangea paniculata* ‘Tardiva’) pruned as standards.

more difficult and costly to control. “What homeowners need to recognize is that if they’re into immediate gratification, someone’s gonna need to pay for it eventually,” warns Colburn.

She adds that it’s equally important to consider the underground growth of plants. For instance, installing plants with wide spreading or aggressive root systems next to hardscapes or buildings can be a recipe for disaster. “A pond cypress performs beautifully in San Antonio along the riverwalk, but put one next to a driveway or foundation and it’ll tear it up.”

Another critical factor to consider is light exposure. Colburn recommends making sure the level of sun or shade is consistent along the entire route of the allée. She recalls one design in which a portion of a bottlebrush (*Callistemon* sp.) allée had to be swapped out for cherry laurels (*Prunus laurocerasus*) because the site received too much shade. As for spacing, “it’s no dif-







Climbing 'New Dawn' roses create a splash of summer color in this fragrant allée, which offers tantalizing glimpses of another garden area at the end of it.

ferent than spacing trees in general," says Colburn, who's been hired countless times to correct situations in which trees were planted too close together.

### ALLÉES IN THE LANDSCAPE

An allée naturally guides the eye toward its far end, so thoughtful placement is key. Colburn once visited a garden center where an allée provided a perfect frame for the porto-potties. "I always caution clients to be careful where they are leading eyes in their landscapes," she says. "It might not be the view they want remembered." Colburn recommends using an allée to highlight a piece of art or a destination such as a pergola.

"An allée can divide sections of the garden with a secret experience in between,"

says Jimmy Turner, senior director of gardens at the Dallas Arboretum & Botanical Society in Texas. "It can be used to enclose a space, as a quiet, shady spot to rest, or as a cool hallway from one area to the next."

Designers also use allées to manipulate visitors' sense of space and heighten anticipation for what awaits at the end. "You compress the space, it gets a little darker as you move through it, then at the very end it pops back out into this huge space again," says Messervy. Peeking through an allée for glimpses of what lies on the other side can be gratifying for visitors. "It's a fun way to look at space as you're moving through it as well as having that destination of light at the end of the tunnel," she adds.

## RECOMMENDED PLANTS

Here are some trees and shrubs that the garden designers consulted for this article recommend as particularly suitable for allées. Before considering them, be sure to check whether they are adaptable for growth in your climate zone.

- Maple Autumn Blaze®  
(*Acer × freemanii* 'Jeffersred')
- Serviceberry (*Amelanchier × grandiflora*) 'Autumn Brilliance'
- Arborvitae (*Arborvitae* spp.)
- River birch (*Betula nigra*) 'Heritage'
- Birch (*Betula platyphyla*) 'Whitespire'
- Bottlebrush (*Callistemon* spp.)
- Blue beech/American hornbeam  
(*Carpinus caroliniana*)
- Redbud (*Cercis* spp.)
- Meyer lemon (*Citrus × meyeri*)
- Kousa dogwood (*Cornus kousa*)
- Hazelnut (*Corylus* spp.)
- Fig (*Ficus carica*)
- Crape myrtle (*Lagerstroemia*)  
'Natchez'
- Southern magnolia (*Magnolia grandiflora*) 'Little Gem'
- Crabapples (*Malus* spp.)
- Cherry (*Prunus* spp.)
- Cherry laurel (*Prunus laurocerasus*)
- Pomegranate (*Punica granatum*)
- Lilac (*Syringa* spp.)
- Cedar (*Thuja* spp.)
- Linden (*Tilia cordata*) 'Greenspire'

In some cases, an allée can be used to form a natural extension of a house. "Allées bring the architecture out into the landscape in a very simple and clean way," says Messervy.

If space is really limited for an allée, Messervy suggests starting with two trees to frame a view in the foreground and then repeating with two more in the background. "That way you can mentally link all four together," she says.

### NATURALISTIC DESIGN

While traditional allées are generally very formal, some designers are mixing different species of trees and shrubs, and planting in curved lines to create a more naturalistic look. One example is on the grounds of the American Swedish In-



'Whitespire' Japanese birches, underplanted with dwarf bush honeysuckle, are used in this naturalistic allée at the American Swedish Institute in Minneapolis, Minnesota. The focal point is a statue of Selma Lagerlöf, a Swedish children's book author.

stitute (ASI) in Minneapolis, where an allée of clumping 'Whitespire' Japanese birch (*Betula populifolia*), underplanted with dwarf bush honeysuckle (*Diervilla lonicera*), beckons visitors down a grassy path toward a statue of beloved Swedish children's book author Selma Lagerlöf.

"I'm sensitive to combining plants that would be found together in nature," says landscape architect Regina Flanagan, who designed the space in association with Jim G. Hagstrom and Savanna Designs of Afton, Minnesota. The plant selection, she explains, is a mix of Old and New World plantings: the new being the bush honeysuckle, native to the area; the old being the birch, a nod to Old World Sweden. Birches are susceptible to borers in the Minneapolis area so the more resistant 'Whitespire' selection of Japanese birch was ultimately chosen over the varieties that would typically have been used in a Swedish landscape.

According to Flanagan, the allée has thrived remarkably over the years. It was planted in fall 2002, along with the rest of the gardens that surround the ASI. At the time of planting, the birches were 10 feet tall and spaced 11 to 15 feet apart. Today, they are approximately 25 feet tall. "These birches generally grow to 30 to 40 feet high and 20 to 25 feet wide, but planting them close together as I did constrains their height and spread," she

says. As for the dwarf bush honeysuckles, "they're now three to four feet high and have filled the entire area under the birches," says Flanagan.

In autumn, the foliage of the bush honeysuckles turns a dramatic rust color, which combined with the yellow autumn leaves of the birches, is a lovely sight. "There's also something interesting about the space created between the birch canopy and the *Diervilla*," Flanagan says. Someone taking a stroll and peering through this space can catch glimpses of what lies on the other side of the allée, further evidence of this garden feature's element of surprise and otherworldly charm.

Creating an allée is certainly an investment in your landscape. It's a garden feature that, if well cared for, can bring years, if not generations, of great pleasure. 🌿

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

## Resources

**Chicago Botanic Garden Encyclopedia of Gardens: History and Design** (Volume 1) edited by Candice A. Shoemaker. Fitzroy-Dearborn Publishers, Chicago, Illinois, 2001.

**The Oxford Companion to the Garden** edited by Patrick Taylor. Oxford University Press, Oxford, England, 2006.

# All-Season Stewartias

If you're looking for a perfect small specimen tree, there's a lot to love in the genus *Stewartia*.



BY CAROLE OTTESEN

**M**Y GRANDFATHER used to say, “Too soon old; too late wise.” That adage certainly applies to my Maryland garden, where 40 years of enthusiastic collecting has resulted in it being crowded with thousands of plants. Yet the shortlist—the ones I could not garden without—is only a baker’s dozen. Among those are the silky stewartia (*Stewartia malacodendron*) and the mountain stewartia (*S. ovata*)—two American members of a lovely genus of small to medium-size, primarily deciduous trees that deserve to be better known in American gardening.

“I think all of the stewartias are under-used and under-appreciated in home gardens,” says George Weigel, a garden columnist for the *Patriot-News* in Harrisburg, Pennsylvania, and garden designer, “primarily because most people have never heard of the genus.”

While a few stewartias have specialized site requirements, many species are quite adaptable to gardens on the East Coast, parts of the Midwest, and the Pacific Northwest and northern California.

## TEA FAMILY MEMBERS

Members of the tea family (Theaceae), stewartias are small trees or large shrubs closely related to camellias. With the exception of the two American natives I mentioned above, stewartias are native to eastern Asia, primarily Japan, the Korean peninsula, and eastern China. Of the 15 to 20 taxa in the genus, only six or seven deciduous species are commonly cultivated.

All stewartias have camellialike summer-blooming flowers that feature five

**Flaming fall color is one of several attractive features of Japanese stewartias.**

scallop-shaped, white or cream-colored petals around an attractive central cluster of stamens. In southern regions, the flowers tend to open in late May or early June, while in more temperate regions blooming may occur in mid-June to July.

The prominently veined leaves of *Stewartia* are medium to dark green and alternate on the stem. Woody seed capsules form in early autumn, gradually turning brown and splitting into five pointed sections. Other ornamental features on some species include fragrant flowers, showy fall color, and exfoliating bark.

## AMERICAN STEWARTIAS

**Silky Stewartia** My introduction to silky stewartia (*Stewartia malacodendron*, Zones 7–9, 9–6) came by accident while I was in Memphis, Tennessee, attending a native plant conference. After hearing a rumor about a terrific local nursery that stocked an outstanding selection of natives, a bunch of us piled into a car and were off.

Dabney Nursery did not disappoint. Among the many treasures was a group of little shrubby plants labeled *Stewartia malacodendron*. I was intrigued—a native tree and only five dollars! I picked up three, but when I got back to the conference, I was browbeaten into giving up two of them, a weak moment I have regretted ever since.

Back in my USDA Zone 7 garden, after all of the other new purchases had been planted and watered in, the little silky stewartia was still in its gallon pot as I considered where to put it. Ultimately, I planted it in the shade of a big maple, where I fervently hoped it would receive enough morning sun to thrive. Fortunately, it did thrive, and not too many seasons later, in late May, buds like little eggs appeared. They opened to amazing white flowers with purple stamens so dark they were almost black. That early-summer flower show was followed in fall by the foliage turning a rich banana-yellow.

Twenty years and only one seedling later, I understand why silky stewartia is rare in the nursery trade; it is fiendishly difficult to grow from seed. (However, early on, when the wide-spreading branches were low to the ground, it would have been possible to root plants by layering.)

In the wild, silky stewartia is found on the southeastern coastal plain from eastern



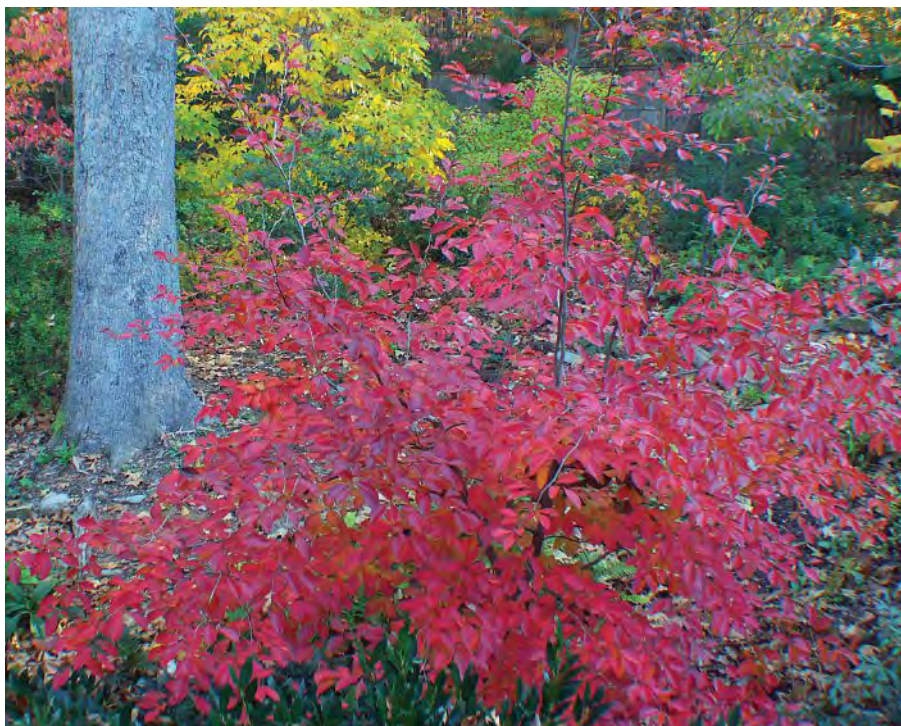
Silky stewartia's large white flowers with striking dark purple stamens bloom in spring.

Texas to Florida and Virginia. Given a site in part or dappled shade with moist, acidic soil, it will reach about 15 feet tall with a broad, spreading habit at maturity.

There is a selection called 'Delmarva', named after the mid-Atlantic peninsula from which the late, great plantswoman Polly Hill received seed. It took nearly three decades to bloom, but when it did, the flowers were worth the wait, featuring rosy striations around their rich purple

stamens. The best place to see it is at the Polly Hill Arboretum on Martha's Vineyard, Massachusetts, which, jointly with Harvard University's Arnold Arboretum just outside Boston, holds the national collection of stewartias.

**Mountain Stewartia** An elegant large shrub or small tree, the mountain stewartia (*S. ovata*, Zones 3–9, 8–1) is native primarily to high elevations in the Caro-



The author's mountain stewartia produces a brilliant display in her fall garden.

linas, Kentucky, Tennessee, Georgia, and Alabama, with an isolated population in southern Virginia.

Sometimes called the “summer dogwood,” this species can be hard to track down. I bought mine from a nursery vendor at another native plant conference. In my garden, it has grown to about 12 feet tall in 15 years. Like the silky stewartia, it develops a broad, spreading habit, as wide as it is tall. And like the silky stewartia, it is difficult to propagate from seed.

In my garden, mountain stewartia’s pure white flowers with prominent, frilly golden anthers open in mid-June. In fall,



Japanese stewartia’s flowers closely resemble those of mountain stewartia.

its foliage positively dominates the garden with a showy passage from golden orange to a final flaming orange-red.

If the mountain stewartia has a downside, it’s that it can be fussy about its site. By sheer dumb luck, I plunked mine into the perfect place: on a gentle hill in part shade with evenly moist, acidic soil.

For Northeastern gardeners, a good option is a botanical variety, *S. ovata* var. *grandiflora*. “I have found that, though a bit tricky to get established, this stewartia grows extremely well in Maine,” says William Cul-

lina, executive director of the Coastal Maine Botanical Gardens in Boothbay. “In fact, I have a tree in my own garden grown from cuttings provided by the Arnold Arboretum that is growing two to three feet a year. Though the flowers are smaller than the closely related silky stewartia, they possess the same remarkable blue-violet anthers that are so appealing to me. Typically, *S. ovata* grows into a small, rounded tree perhaps 15 feet high in our climate.”

## ASIAN SPECIES

**Japanese Stewartia** Writing in *Arnoldia*, the publication of the Arnold

Arboretum, Peter Del Tredici described Japanese stewartia (*S. pseudocamellia*, Zones 5–8, 8–4) as “the quintessence of the horticultural Holy Grail, with multi-season interest and stately elegance rolled into one.”

Like its relatives, Japanese stewartia bears white flowers—very like those of the mountain stewartia and blooming at the same time. Unlike its North American relatives, it is rather columnar in habit and, although slow-growing, will eventually reach 30 feet or more and spread to roughly half

## Sources

**Camellia Forest Farm**, Chapel Hill, NC. (919) 968-0504.

[www.camforest.com](http://www.camforest.com).

**Forestfarm at Pacifica**, Williams, OR. (541) 846-7269. [www.forestfarm.com](http://www.forestfarm.com).

**Gossler Farms Nursery**, Springfield, OR. (541) 746-6611.

[www.gosslerfarms.com](http://www.gosslerfarms.com).

**Rare Find Nursery, Inc.**, Jackson, NJ. (732) 833-0613.

[www.rarefindnursery.com](http://www.rarefindnursery.com).

## Resources

**Camellias, The Gardener’s Encyclopedia** by Jennifer Trehane. Timber Press, Portland, Oregon, 2007.

**Manual of Woody Landscape Plants** (6th ed.) by Michael A. Dirr. Stipes Publishing, Champaign, Illinois, 2009.

its height. It’s also one of the most widely adaptable stewartias, thriving in much of the East Coast as well as in the Pacific Northwest and northern California.

“Among the stewartias we have tried, *S. pseudocamellia* has proven to be the easiest and most robust, flowering heavily in July and treating us to a jaw-dropping fall color display in October,” notes Cullina. “It is by far the best represented stewartia species in New England gardens.”

Jamie Blackburn, a consulting arborist with Arboguard Tree Specialists in the Atlanta, Georgia, area, says Japanese stewartia is “the most bullet-proof *Stewartia* species, which is probably why it is the most common one in the trade in this region.”

Japanese stewartia is one of two species—along with tall stewartia (*S. monodelpha*)—included on the Great Plant Picks list coordinated by the Elisabeth C. Miller Botanical Garden in Seattle, Washington. “Seattle is exceptional for growing most stewartias,” says the garden’s curator, Richie Steffen. “We can grow them in nearly full sun to partial shade, avoiding hot locations and watering regularly during our dry summers. They will also grow well in the Portland, Oregon, area, but there they must be planted in part shade with regular summer watering or they will burn.”

A number of selections are worth consideration. ‘Milk & Honey’, a Polly Hill introduction, noted for profuse, large flowers and outstanding fall foliage and bark color, is especially hardy. ‘Ballet’ is another Polly Hill selection that has a more spreading habit and four-inch-wide flowers. ‘Cascade’ is a semi-weeping form that has reddish purple fall color.

‘Scarlet Sentinel’, a seedling discovered at the Arnold Arboretum, has showy scarlet anther filaments, rather than the more usual golden ones. It has an upright habit and exfoliating bark.

**Korean Stewartia** Although the nomenclature is muddled, Korean stewartia (*S. pseudocamellia* var. *koreana*, Zones 5–9, 8–4) is generally considered to be a variety of Japanese stewartia native to the Korean peninsula. In some references, it is listed as *S. pseudocamellia* Korean Group or as *S. koreana*. It has slightly different attributes from Japanese stewartia, including a more densely pyramidal habit, greater heat tolerance, greater cold tolerance, slightly smaller size, and more

open flowers. It will grow rather slowly to about 20 feet tall and almost as wide. It has the exfoliating grayish brown bark typical of Japanese stewartia.

By all accounts, Korean stewartia has fantastic fall color. George Weigel says the autumn color on his tree in central Pennsylvania “seems to change daily in a blend of gold, orange, and scarlet.” My own specimen, a seedling from the U.S. National Arboretum in Washington, D.C., turns a pretty, pale golden-orange, but it’s no match for the color provided by my mountain stewartia.

**Tall Stewartia** The stunning cinnamon-colored bark of tall stewartia (*S. monadelphica*, Zones 5–8, 8–5) and its height—around 25 to 30 feet in a garden setting but reportedly much taller in its native habitat in Japan and South Korea—would make it spectacular in a woodland planting.

In addition to being taller than its relatives, tall stewartia’s leaves are larger and glossy rather than matte green. Smallish white flowers with frilly golden centers bloom in midsummer, followed by red-

dish-brown fruits. In fall, the leaves turn red to maroon and persist on the branches until very late in the season. The reddish brown bark flakes off in small pieces, becoming more attractive with age.

Extremely heat tolerant, tall stewartia is considered the best of the genus for the Southeast, where it should be grown in part shade. “Several Georgia growers have tried *S. pseudocamellia*, *S. koreana*, and *S. monadelphica* with only the last growing to a degree it was salable,” notes horticulturist Michael Dirr in his *Manual of Woody Landscape Plants*.

A compact selection called ‘Nana Compacta’ grows to 10 feet tall by eight feet wide.

**Chinese Stewartia** Dirr describes Chinese stewartia (*S. sinensis*, Zones 5–7, 7–4) as “a delightful small landscape plant that should be more widely used.” Growing 15 to 25 feet tall over time, it has much to offer gardeners, starting with its bark, which is reddish brown, exfoliating to reveal the smooth, tan trunk. It has small but fragrant white flowers



Left: In autumn, Korean stewartia’s leaves turn various shades of red, orange, and yellow. Above: Tall stewartia has year-round appeal with its summer-blooming flowers, fall color, and striking bark.

LEFT: ALEKSANDRA SZYWAŁA. RIGHT: MARK TURNER



## MAINTENANCE AND CULTURE

Selecting the right site for a Stewartia is probably the most significant decision in its care and maintenance. In the wild, Stewartias are understory trees, so most species will do best in a partly shaded site where they receive morning sun or dappled shade from a high canopy. Moist but free draining, slightly acidic soil containing ample organic matter is also key. Most references indicate they resent root disturbance once established, so that's another reason to pick the right site in the beginning.

Once planted, the second important decision hinges on what shape you would like your plant to assume as it matures. In his book, *Native Trees, Shrubs & Vines* (Houghton Mifflin, 2002), William Cullina advises spending time shaping Stewartias when they are young, "to encourage a strong, single trunk and even branching." Left to their own devices, they are likely to develop multiple stems and a mounded habit.

After plants are established, they should need water only during droughty periods. Mulch annually with composted leaves or shredded bark. Stewartias, fortunately, are generally free from major pest and disease problems. —C.O.

After its flowers finish blooming, beaked Stewartia produces ornamental red seed capsules.

with golden centers. Fall foliage color is somewhat variable, ranging from reddish to crimson or orange.

The resemblance between Chinese Stewartia and tall Stewartia—and possible hybridization between the species—may have led to some mislabeling of plants in the trade. A dense coating of hair on the stems and undersides of the leaves may be one good indicator of Chinese Stewartia, according to Dirr.

**Beaked Stewartia** Although it is a relative newcomer, the beaked Stewartia (*S. rostrata*, Zones 6–8, 8–6) is more available than most in the trade. One reason is that its summer-long red seed capsules add an even more decorative aspect to

an already splendid tree. Introduced to the United States in 1936 from Lushan Botanic Garden in China, it was initially listed as Chinese Stewartia (*S. sinensis*). It wasn't until 1974 that beaked Stewartia was described as a new species.

Chinese Stewartia grows to around 16 feet in 20 years. Its flowers, blooming in late May, are characteristic of the genus, but the species tends to start blooming at a younger age than other Stewartias. While the bark is a dark gray, in fall the glossy leaves are a mix of reds and purples.

### SITE TO ENJOY

Stewartias are truly fine specimen trees, ideal for positioning against a backdrop of darker foliage that will showcase their

summer flowers, fall foliage, and winter bark. Had I known the full splendor of this genus years ago, there would be a beaked Stewartia outside my kitchen window, gracefully interpreting the passing seasons. There would also be a forest of tall Stewartias with cinnamon trunks to walk among. And, above all, there would be two more silky Stewartias keeping company with the one that came from Dabney Nursery those many years ago.

*A contributing writer for The American Gardener, Carole Ottesen gardens in Maryland and Cape Breton, Nova Scotia. Her second garden mystery novel, Murder House, will be available soon.*

# seize the Winter Season

BY KRIS WETHERBEE

**T**HERE WAS a time when I bemoaned the coming of winter, mostly because it meant that the season for enjoying fresh vegetables from our garden was ending. But things changed about 20 years ago when my husband and I started an organic market garden in western Oregon. Our local farmers market was active well into December, so we planned and planted a winter garden, growing cabbage, Brussels sprouts, broccoli, beets, leeks, and an assortment of leafy greens.

Enjoying garden-fresh produce through the winter months is possible with advance planning and a few season-extending techniques.

I learned early on that a winter garden comes with its own set of challenges, but they are more easily managed compared to the summer garden with its onslaught of hot weather, pests, diseases, and the continual battle with weeds. I also discovered that some vegetables such as broccoli, Brussels sprouts, parsnips, and carrots taste best when they can mature during the cooler weather, and many other vegetables can last well into winter in the garden.

You can grow a winter vegetable garden almost anywhere. It's all a matter of proper planning, good timing, knowing what to grow, and how to modify the growing climate when necessary.

## REGIONAL DIFFERENCES

"The climate you live in dictates how you can grow edibles in the winter," says Jane C. Gates, owner and main designer for



Many crops, including root vegetables such as parsnips, can be grown well into winter.

Gates & Croft Horticultural Design in Santa Clarita, California. Gates grows a variety of cool-weather vegetables—cabbage, cauliflower, broccoli, Brussels sprouts, kale, peas, chard, lettuce, beets, and carrots, to name a few. These hardy veggies shun the heat of summer in her USDA Hardiness Zone 9b garden, but thrive in winter. (For more about growing winter vegetables in Hardiness Zones 9 to 11, see "Winter Veggies in Warm Climates," page 37).

Winters in my garden in Oregon (Zone 7b) and most of the Pacific Northwest are relatively mild. While winter temperatures are not so much an issue for hardy vegetables, consistently high levels of moisture creates a haven for molds and fungi. The solution? Raised beds.

Winters in the Midwest can vary from state to state and even within a state. "We seldom have snow cover or ice, and when we do, it only lasts a short time," says Jim



Long of Long Creek Herbs and author of two dozen books on herbs and gardening. Although Long lives in southern Missouri (Zone 7a), he says that winters in northern Missouri (Zone 5b) can get down to 10 or 15 below zero and the ground may stay frozen for weeks.

## ZONE IN ON TIMING

As winter approaches, temperatures drop and daylight hours shorten, slowing plant growth. Fall and winter vegetables need to be planted at the right time to reach sufficient maturity before ceasing to grow completely.

Knowing the average date of your first fall frost is the first step to proper planning. In Springfield, Illinois, for example, the average first frost date is October 13, but in Savannah, Georgia, it's November 25. Consult your local Extension service or nursery for information about average frost dates for your area; the National Climatic Data Center offers an online resource for finding your frost dates (see "Resources," page 31).

Once you know the average date of your first frost, you can time your plantings accordingly. "You need to plant your winter crops early enough to let them reach their full maturity before that killing frost," says Pacific Northwest gardener Ed Hume, host of the TV program *Gardening in America* and CEO of Hume Seeds. It's helpful to use the days to maturity listed on your seed packages; for transplanted crops such as broccoli and cabbage, days to maturity are usually counted from the date the seedling is transplanted to the garden. Since growth rates are slower in the fall, increase the days to maturity by 10 to 14 days, then calculate backward from that average frost date to determine when to plant.

For example, 'Tyee' spinach, which is a good variety for winter gardens, needs 40 days to reach maturity, but in fall, it's best to give it at least 50 days. So count back 50 days from the date of your average first frost, and you'll know when to sow your spinach seed.

## EXTENDING THE SEASON

When temperatures dip below 30 degrees Fahrenheit at night, cold-hardy plants such as beets, Brussels sprouts, carrots, kale, leeks, parsnips, rutabagas, and



**For best results, sow or transplant cool-season crops early enough for them to be well established before winter sets in.**

most greens usually survive in Zones 7 and above. But in Zones 5 and 6, where winters are cold and long, you'll need to employ some season-extending strategies to grow these vegetables in winter.

Individual plant protectors and row covers will add from five to 15 degrees of

warmth to plants. Horticulturist Walter Nelson, agriculture issue leader for Cooperative Extension of Monroe County in New York (Zone 6b), seeds in late August through early September. "I use fabric covers, and some years I add Wall O' Water plant protection for lettuce," he says.

When a cold front is creeping in, it's time to cover up with cloches, hoop houses, and cold frames. "Cold frames are wonderful, but they are tough to utilize in the community garden where I do most of my vegetable gardening," says Jessie Keith, a horticulturist and garden writer who resides in Delaware (Zone 7a). "Straw bales and frost cloths can do wonders if you lack a cold frame."

In northern South Carolina (Zone 7b), Julie Thompson-Adolf, author and owner of the edible heirloom nursery Garden Delights, grows vegetables year-round with the help of a simple and cost-effective low-tunnel system installed over raised beds. For each four-by-10-foot bed, Thompson-Adolf uses two 10-foot masonry ladders (also known as steel remesh) that are cut in half to a length of five feet. Each section is bent to form an arch with the ends inserted into the soil on opposite ends of the bed's width. She then spreads



**Cold frames can help extend the growing season by protecting plants from freezing.**

## WHAT TO GROW IN THE WINTER VEGETABLE GARDEN

There are lots of crops that you can grow in winter. Vegetables especially well suited to colder regions include beets, Brussels sprouts, cabbage (hardest varieties), chives, carrots, kale, garlic, leeks, mustard greens, parsnips, and turnips.

If timing is an issue, grow veggies that mature in 30 to 40 days, such as arugula, chives, radishes, leaf lettuce, and spinach. If you have 60 days, you can add kale, mustard, kohlrabi, Swiss chard, turnips, early cabbage, and carrots to the mix. If your climate allows, or your season extenders can provide, at least 90 days of growth for your crops, you can expand your plantings to include beets, Brussels sprouts, cauliflower, and rutabagas. Some vegetable varieties are able to overwinter in many gardens for harvesting in late winter or the following spring.



'Winterkeeper' beet

### BEETS

Beet roots tolerate temperatures into the low 20s (the leaves, however, will freeze). 'Red Ace', 'Flat of Egypt', and 'Winterkeeper' are especially suited to the winter garden.

In his Zone 7a garden, Jim Long seeds his beets in mid-August. In my Zone 7b region, seeds are typically sown in September. In colder regions, seeds are best planted in early to mid-August, but you can extend the sowing season into September by protecting seeded beds with a floating row cover or with a low hoop house or tunnel covered in clear plastic.



'Purple Sprouting' broccoli

### BROCCOLI, CABBAGE, AND BRUSSELS SPROUTS

Most cabbage family members will easily survive temperatures down to 26 degrees Fahrenheit, but certain varieties in this trio are especially hardy.

One of the most cold-hardy of the cabbage family is Brussels sprouts, with winter varieties that can handle temperatures down to zero degrees. The secret to success is to grow plants to near maturity before the first hard frost. For best flavor, wait until after mature plants have endured a couple of frosts before harvesting. 'Diablo', 'Roodnerf', and 'Nautic' are quite tolerant of cold.

Broccoli is ideal for winter production, but most heading varieties are not very winter hardy. Heading varieties that do well in the fall and winter garden include 'Arcadia' and 'Marathon'. The sprouting types—which produce small loose clusters of florets that sprout from a slender stem—are also good winter

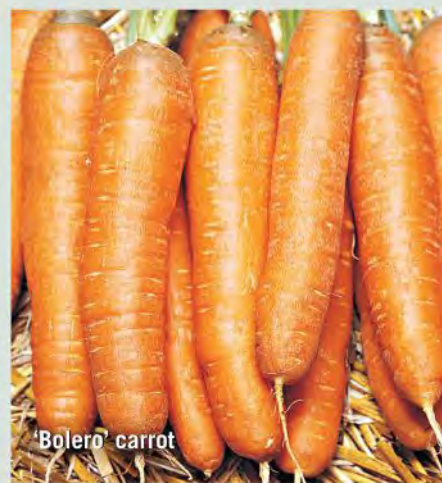
choices, particularly in Zones 6b and warmer. Good varieties include 'Purple Sprouting' and 'Santee'.

Jessie Keith especially loves broccoli raab, because it is so easy to grow. "Mine will even self-sow if I let them bolt and release the seeds," she adds. "I generally plant them in September for a fall and winter harvest."

Cabbage can be quite hardy to about 10 to 15 degrees, depending on the variety. Look for late-season, round-headed varieties that hold well into December or January, such as 'Deacon', 'Danish Ballhead', 'Tundra', or 'January King'.

### CARROTS AND PARSNIPS

Neither carrots nor parsnips transplant well, so direct seeding is best. Most varieties of carrots should be seeded about three months before your first hard frost. However, you can often extend the sowing season two to four weeks by protecting beds with floating row covers or hoops covered with plastic when temperatures begin to drop. A layer of straw mulch also helps moderate soil temperatures and



'Bolero' carrot

LEFT TO RIGHT: MICHAEL S. THOMPSON, MARK TURNER, COURTESY OF JOHNNY'S SELECTED SEEDS

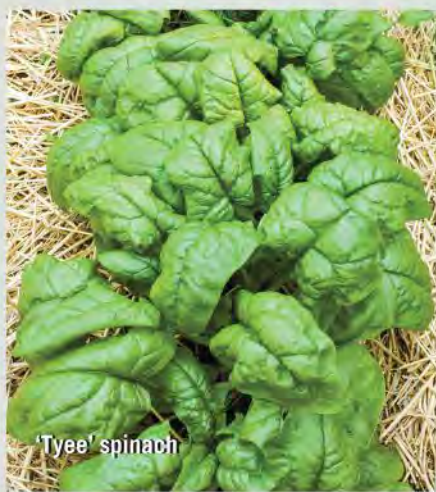
makes it easier to dig roots. “Baby carrots will remain crisp and harvestable even when their tops get hit with frost,” says Keith. “They can be easily dug for harvest at a later date if you keep them protected with a layer of straw.” Choice carrots for winter include ‘Bolero’ and ‘Yellow Sun’. Varieties like ‘Merida’ and ‘Napoli’ are good for overwintering.

Parsnips are especially winter hardy and the cold weather really increases the flavor and sweetness of the roots. Parsnips typically need about four months from seed to harvestable root, so plan accordingly. ‘Cobham Improved Marrow’, ‘Albion’, and ‘Gladiator’ are good winter varieties; ‘Javelin’ is choice for overwintering for a spring harvest.

## LEAFY GREENS

Fall and winter leafy greens withstand temperatures to 20 degrees. “Cold-tolerant lettuces like ‘Arctic King’ and ‘Brun d’Hiver’ live through many winters in my garden without cover, but always successfully in a cold frame,” Long says. “It’s planted in late August to mid-September and the cold frame goes over the bed in early to mid-October.”

Walter Nelson sows his winter lettuce, which he grows under row covers, by early September in his Zone 6 garden in New York, with harvests lasting sometimes until Christmas. He sows spinach in late August for a fall and spring harvest.



‘Tye’ spinach



‘Winterbor’ and ‘Redbor’ kale

In Zones 7 and warmer, spinach can be sown from September through December, depending on the region. You can plant until the first freeze for an early harvest the following spring if you have snow cover or winter protection. Good spinach varieties for the winter garden include ‘Space’, ‘Olympia’, ‘Bloomsdale Savoy’, and my personal favorite—‘Tye’.

Kale can be harvested in many regions through most of the winter. Row covers can extend harvest into the following spring. A few notable cold-tolerant varieties that are exceptionally slow to bolt include ‘Redbor’, ‘Winterbor’, ‘Toscano’, ‘Starbor’, and ‘Improved Dwarf Siberian’. “Winter kale is much sweeter-tasting than summer kale, and there are no insect pests in winter,” adds Long.

Mustard is another hardy green, and the red varieties are particularly nice for adding fresh color and flavor to winter meals. Good varieties include ‘Red Giant’, ‘Ruby Streaks’, and ‘Golden Frills’. Mustard matures in about 45 days, and depending on the variety, kale matures in 50 to 65 days; both can be harvested as baby leaves, which are great in salads, after only 30 days.



‘Lancelot’ leek

## LEEKs

Transplants or “sets” can be planted in Zones 7 and warmer from midsummer through fall. A cold frame will allow you to grow leeks in colder regions. Most leeks are hardy to about 10 degrees, though some varieties are more cold tolerant and bolt resistant than others, including ‘Lancelot’, ‘Lexton’, and ‘Giant Musselburgh’, one of the most winter hardy of all.

—K.W.



**Above:** A cloche and straw mulch help keep these vegetables going through light frosts. **Right:** Wire hoops draped with spun fabric provide an inexpensive way to protect crops in raised beds.

a two-millimeter-thick plastic drop cloth over the bed, and clips the plastic in place with large binder clips. “The beauty of the system is its ease of installation and cost,” says Thompson-Adolf. “It takes five minutes to install and costs about 10 dollars.”

To protect plantings in his Missouri garden, Jim Long uses low hoop frames made of PVC pipe covered with plastic sheets, as well as double-walled commercial portable cold frames, and straw bales set around vulnerable plants and covered with glass panes or plastic. “Using these methods I can harvest through Christmas, often into January, with crops such as spinach, lettuce, carrots, beets, and kale. Some years I will have these crops right up to the next spring planting season,” says Long.

Eliot Coleman and his wife, Barbara Damrosch, know a thing or two about season-extending techniques—they grow



vegetables for year-round harvest on their Zone 5 farm in Harborside, Maine. Coleman is the author of several books on vegetable gardening including *The Winter Harvest Handbook* and *Four-Season Harvest*, and Damrosch writes “A Cook’s Garden,” a weekly column for the *Washington Post*. “We use greenhouses, most-

ly unheated mobile ones,” says Damrosch. Days grow short and cold early in Maine, so they start planting their crops for winter harvest in mid- to late summer. “When they reach the point where they need winter protection (in early to mid-October), we slide our moveable greenhouses over them,” says Damrosch.

## WINTER VEGGIES IN WARM CLIMATES

Gardeners in USDA Zones 8 and cooler may be limited as to what they can grow in their winter gardens. But in Zones 9, 10, and 11, where summer heat and pests may limit summer vegetable production—and where freezes and frosts are infrequent—winter can be the most productive time of year.

Gardens in Zone 9 may be touched by frosts or experience occasional freezes from November through February; Zone 10 may experience a few light frosts from



In very warm regions such as southern Florida, strawberries can be planted as early as mid-December for spring harvest.

December through February; and gardeners in Zone 11 never get frost, with low temperatures typically dipping to only 40 degrees F. California landscape designer Jane C. Gates says that frosts in her Zone 9b garden can sneak in anytime in November. However, she still can grow cool-season veggies with no protection.

For Zones 10 and 11, there are even more crops that can be planted during fall and winter including pole and bush beans, sweet corn, potatoes, vine-ripened tomatoes (planted in late summer and grown through winter).

In southern Florida (primarily Zone 10), for example, the season for planting cabbage family crops, lettuce, onions, peas, most leafy greens, summer squash, and potatoes is August or September through January or February. Sweet corn, tomatoes, peppers, and eggplant are planted from August through March, and winter squash seeds are sown in January and February. Even strawberries can be planted mid-December to mid-February for spring harvests. Consult your local Extension office for recommended vegetable planting dates for your specific area.

—K.W.

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## HOW TO SUCCEED

Winning winter strategies go beyond knowing when, where, and what to grow. For example, using transplants rather than direct seeding will give you a head start of four to eight weeks. And when time is of the essence, that advantage can give you a needed boost towards a successful winter garden.

It's important to remember that a plant's hardiness is based on its mature size and not the seedling size. Once plants go in the ground, they need to do most of their growing before lower light levels set in. This is especially important for gardeners in northern regions as

plants often go dormant during the three darkest months of November, December, and January.

Get your winter garden off to a great start with fertile and friable soil by adding well-rotted manure or compost. A winter mulch of straw will help moderate moisture and temperature changes and shield the soil from freezing so it's easier to dig root vegetables.

Plants may also need a nitrogen boost to ensure vigorous growth before frost. Because the biological activity in soil is much lower in late fall and winter, applications of slow-release fertilizers may not be fully utilized by plants during that

time frame. If you find that your plants need a boost, it is much more effective to water with manure tea or apply liquid seaweed or fish fertilizer as a foliar spray.

Our organic market garden has long since retired, but we still rely on a few favorites for a great harvest of fresh winter fare. And I no longer dread the winter season because when I crave fresh homegrown veggies to brighten up my winter days, I know I won't be left out in the cold.

*A regular contributor to The American Gardener, Kris Wetherbee grows vegetables in Oakland, Oregon.*

## Choosing and Using Organic Mulch

by Scott Aker

**A** FRESH LAYER of mulch on a garden bed always helps it look neat and tidy. But of course, there are many more benefits to mulch than improving a garden's aesthetics. When properly used, it helps conserve soil moisture, reduce runoff and erosion, control weeds, and support beneficial soil organisms. And as organic material breaks down, it becomes a source of nutrients for the plants around it. Mulch is available either bagged or in bulk, but buyer beware—not all mulch is created equal.

### MULCH PRODUCTION

About 50 years ago, the first commercially available mulch was made from waste bark produced by sawmills. Piled in windrows and composted for a short time, the bark turned into a soft, fibrous material with a wonderful woody aroma. As demand began to outstrip supply, manufacturers began using other products to make mulch, particularly wooden shipping pallets and waste wood from home construction and demolition. Although these products couldn't produce the earthy, long-fibered mulch that came from tree bark, they were generally acceptable as long as they were properly composted.

As the demand continued to grow, the quality suffered because mulch dealers attempted to produce mulch in ever higher piles. Massive mulch piles favor anaerobic decomposers, which often produce alcohol, acetic acid (the main component in vinegar), and volatile sulfides. Mulch produced this way can cause yellowing, burning, and death of plants. This is why it pays to inspect mulch before you buy it.

### WHAT TO LOOK FOR

If you are buying in bulk, ask to see the mulch pile from which your mulch will be



A thick layer of straw mulch helps conserve moisture in this bed of strawberries.

delivered. If the pile is much higher than 12 feet or has any kind of unpleasant odor, you may want to go elsewhere. Another warning sign is if the mulch in the center of the pile is hotter than 120 degrees Fahrenheit. This means it is still actively composting and isn't safe to use yet.

For bagged mulch, you will need to rely on other cues to judge quality. Steer clear of any bags that feel overly heavy because this mulch is probably water-

logged, indicating that anaerobic decay was taking place in its manufacture. If you can find a bag that has a small hole in it, take a sniff. No strong odor is a good sign, but an earthy aroma is better; avoid mulch that smells of alcohol, sulfur, ammonia, or vinegar.

Some materials, such as pine needles, cypress bark, pine bark, cocoa hulls, and shredded leaves, offer more consistent quality when compared to mulch made

## Gardening Q&A with Scott Aker

### BEARS AND COMPOST

Are bears attracted to compost? I am interested in getting a compost barrel for the garden and we live in black bear territory, so I just want to be safe!



Black bears inhabit many parts of North America.

It depends on what you put in your compost. Bears are scavengers, so scraps from the kitchen may attract them. But if you plan to use your barrel just for leaves, weeds, grass clippings, or other non-food items, you should have no problem. To further discourage bear foraging in your garden, occasionally sprinkle limestone on the compost to reduce odors that might lure bears.

### DISINFECTANTS FOR GARDEN TOOLS AND POTS

Bleach is always recommended for disinfecting tools and washing pots for reuse. I'm concerned about the impact of bleach on the environment. Would hydrogen peroxide be equally effective and a more eco-friendly alternative?

Household bleach—a solution of sodium hypochlorite—is not significantly harmful to the environment when used appropriately. Dilute it to a five to 10 percent solution with water, which is a sufficient concentration for cleaning garden pots and tools.

I prefer to use isopropyl alcohol to wipe off tools because, unlike bleach, it won't damage clothing if some accidentally spills. As for hydrogen peroxide, it degrades rapidly and is more expensive, so I don't recommend using it. —S.A.

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



Shredded bark provides a layer of winter insulation for the roots of a blackberry bush.

from sawmill waste or wood pallets. Some, like cypress bark and pine bark, are decay-resistant and will last longer than other mulches in warm, humid locations.

Then there are the mulches that have been treated with a substance akin to the stain used on decks to impart a permanent color. While colored mulch decays more slowly, it can look unnatural, and even clash with some foliage or flowers.

### BEST PRACTICES

Apply your mulch no more than two or three inches deep, and make sure it does not touch tree trunks or cover the crown of perennials or shrubs. For trees in par-

ticular, the practice of mounding mulch into “volcanoes” around trees refuses to die, even though it has clearly been shown to be detrimental. Bark at the base of the tree often rots under all the mulch, and such a thick pile of mulch can actually repel water, resulting in drought stress. Instead of volcano, think donut when placing mulch around trees, extending the layer out to the drip line.

Don't use a barrier under organic mulches. As the mulch breaks down, it will create a loose, nutrient-rich layer on top of



Mounding mulch around a tree's trunk can cause bark rot and other injuries.

the soil. If this layer is separated from your soil by synthetic fabric or plastic, it will only serve as a home for shallow-rooted weeds instead of your garden plants.

You may have heard warnings about some mulches robbing the soil of nitrogen, but this, again, depends on the quality of the product. If mulch has been well composted before it reaches you, it shouldn't cause problems. The material's surface area-to-volume ratio also is a factor. Shredded leaves, for example, have a lot of surface area and they decay rapidly, which does tie up soil nitrogen temporarily. Contrast this with wood chips, which have a much lower surface area per unit volume and decay slowly. If you are concerned, you can topdress mulch used in annual and perennial beds with a bit of granular fertilizer.

Mulch can be applied any time of year, but if you want to use it to protect your plants from freezing winter temperatures, wait until after a hard frost in the fall to spread it. By the same token, if you will be applying mulch in spring, wait until the last frost. Depending on how quickly the material decomposes, you can expect to replenish your mulch layer every year or so. If the remaining mulch has matted down, first loosen it with a rake before applying fresh mulch.

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

# The All-American Pumpkin

by *Karan Davis Cutler*

**T**HE ADAGE should really be “as American as pumpkin pie,” for pumpkins are mostly native to the Americas, whereas apples tagged along with 17th-century European immigrants. Pumpkins belong to the immense Cucurbitaceae, a family of mostly vining plants that includes winter and summer squashes, gourds, melons, and cucumbers. While most people are familiar with the large, round, orange pumpkins ubiquitous around Halloween, pumpkins come in a variety of colors, shapes, sizes, and flavors.

## GROWING GUIDELINES

Pumpkins love heat. Seeds won't germinate in soil colder than 60 degrees Fahrenheit, and seedlings won't tolerate frost. Since many varieties require more than 100 days from germination to harvest, cold-climate gardeners may need to start seeds indoors and use floating row covers and other techniques to maximize warmth. It's also helpful to choose varieties that ripen more quickly, such as 'Orange Smoothie', a 2002 All-America Selections winner that matures in 90 days, and 'Racer', which matures in 85 days.

Choose a spot that gets a minimum of six hours full sun daily and where the vines will have plenty of elbow room. One vine, which usually produces about three fruits,



Quick-maturing 'Racer' produces large, orange fruits that are a perfect shape for carving.

## PLANTING BASICS

**Getting Started** Sow seeds one inch deep when night temperatures are above 50 degrees. Or start indoors three to four weeks before transplanting outdoors.

**Spacing** Five to six seeds per hill, hills six to eight feet apart; thin to one to two plants. Or plant in rows with three seeds every three feet, thinning to a single plant every three feet.

**Days to maturity** 85 to 120, depending on variety.

can travel 30 feet and sends out secondary shoots along its way. There are “semi-bush” varieties, such as ‘Chucky’ and ‘Neon’, with vines four to six feet long, but no true “bush” plants. Generally, the larger the pumpkin, the longer the vine.

Before planting, lavishly amend the soil with compost, manure, and other organic matter. Then continue feeding plants with a balanced organic fertilizer every few weeks.

Although not compulsory, pumpkins are traditionally planted in “hills,” flat-topped mounds of soil six to eight inches high and two to three feet across.

Plants need good drainage, which hilling promotes, and prefer slightly acidic soil. Sow four or five seeds one inch deep in each hill, spacing hills about eight feet apart, a little closer for semi-bush varieties. Once the seeds germinate, thin to one or two plants and mulch after the soil warms to 70 degrees.

Pumpkins are about 85 percent water. Plants need a slow, steady source of moisture, one to two inches of water per week; more in sweltering conditions or if you're trying to grow a behemoth.

To help your pumpkins develop a uniform color and round shape, gently turn



the fruits every few days once they begin to swell. Slipping a board under the fruits prevents rot on the side resting on the soil.

## PESTS AND DISEASES

Two of the most common diseases of pumpkins are powdery mildew—a fungal disease that makes leaves look as if you’ve dusted them with flour—and bacterial wilt, which is spread by cucumber beetles. Once these diseases take hold, the only remedy is to remove the plants and put them in the trash (not the compost bin). Squash bugs and vine borers also may plague your vines.

Rotating the location of your pumpkins, selecting resistant varieties, avoiding watering from above, removing spent vines at season’s end, and using floating row covers in spring can help curb some of these problems. Because pumpkins produce separate male and female flowers—with bees being the link between the sexes—remove row covers or other barriers once flowers appear to ensure pollination.

## RECOMMENDED VARIETIES

For eating, try either of these old-timers: ‘New England Pie’ (five-pound, stringless fruits) or ‘Winter Luxury’ (six- to eight-pound fruits with sweet, smooth flesh).

Good cultivars for Jack-o’-lanterns include long-time, widely cultivated favorites ‘Howden’ (20 pounds) and ‘Connecticut Field’ (20 pounds). Another excellent and iconic heirloom is the reddish, flattened, deeply-ribbed ‘Rouge Vif D’Etampes’ (15 pounds), also known as the “Cinderella” pumpkin because the princess’s carriage in

## SEED SAVERS BEWARE

If you are growing several cultivars together, the seeds may not come true because pumpkins in the same species can cross-pollinate with each other, or with squash and other fruits in that species. For example, the white ‘Snowball’ pumpkin may cross with the orange mini-pumpkin ‘Munchkin’ because they are both *Cucurbita pepo* species, but they also can cross with acorn, pattypan, crookneck, and summer squash, to name just a few *C. pepo* cousins. Cross-pollination won’t affect the current season’s fruits, but if you save seeds from fruits that may have been cross-pollinated, next year’s ‘Snowball’ pumpkin is unlikely to be white. —K.D.C.



Pumpkins come in many sizes and colors, such as reddish-orange ‘Rouge Vif D’Etampes’ and white ‘Valenciano’, shown here with assorted pie pumpkins and gourds.

the 1950 Disney animated film was modeled after it. In humid areas where powdery mildew is a problem, choose resistant hybrids such as ‘Charisma’ (15 pounds) and ‘Warlock’ (25 pounds).

Want to try your hand at contest-worthy pumpkins? Consider ‘Big Max’ (100 pounds), ‘Big Moon’ (150 pounds), ‘Prizewinner’ (300 pounds), or ‘Atlantic Giant’ (1,000+ pounds). At the other end of the scale, are mini-pumpkins such as eight-ounce, orange-skinned ‘Jack Be Little’ and six-ounce, white-skinned ‘Baby Boo’. The slightly larger ‘Baby Bear’ (two pounds) is good for decoration or eating.

## ENJOYING THE HARVEST

Leave the fruits on the vine until it shrivels. Uniform color, hard skin, and a hollow sound when you thump them with your knuckles are signs of ripeness. Harvest by

cutting the stem (leave at least three inches on the fruit) with pruners or a knife.

If you plan to store the fruits, wipe them with a 10:1 water to bleach solution before curing them for about 10 days in a frost-free garage, shed, or other place out of direct sun. Store in a single layer with space between fruits in a cool (55 degrees F is ideal), dry place for up to three months.

Edible pumpkins can be enjoyed in pies and other baked goods as well as soups and stews. Plus, the roasted seeds of just about any variety make a nutritious snack. And, of course, pumpkins are essential for festive fall displays. 🍂

*Karan Davis Cutler is a freelance writer based in Bridport, Vermont. She is the author of Burpee—The Complete Vegetable & Herb Gardener (Macmillan, 1997).*

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## Garvan Woodland Gardens

by Missy Katner

**L**OCATED IN THE heart of Arkansas near Hot Springs, Garvan Woodland Gardens (GWG) is a relatively new public garden, opened in 2002. However, the 210-acre property has already earned a reputation as a world-class botanical garden, and it is easy to see why. Set on a peninsula in the foothills of the Ouachita Mountains, GWG encompasses a landscape of valleys and rocky inclines that slope down to the shores of Lake Hamilton. Intriguing architectural elements and colorful plantings complement the spectacular natural landscape, offering visitors of all ages a variety of experiences.

### GARVAN'S ROOTS

"Most of Garvan Woodland Gardens was built in the last 10 years," says Associate Executive Director Bob Byers, but he notes that the garden's history traces back much further to the garden's namesake, Verna Cook Garvan, who inherited the woodland property along with the family lumber company after her father's death in 1934. A self-taught gardener, Garvan began to develop the site in 1956 with an eye toward someday building an estate home there with her husband. She planted thousands of native and exotic trees and shrubs over the next several decades, many of which still grow in the gardens today.

To ensure the garden would continue to develop beyond her lifetime, Garvan signed a trust agreement in 1985 to allow the University of Arkansas's Department of Landscape Architecture to operate the garden after her death. When she died in 1993, the property began its transformation into a public garden, which entailed creating a master plan, fundraising, and constructing needed facilities.

### ASIAN INSPIRATION

One must-see feature of GWG, according to Byers, is the Asian-inspired **Garden of**



The serene Garden of the Pine Wind features a waterfall, springs, pools, and a koi pond, as well as many varieties of ornamental plants native to Asia.

**the Pine Wind.** The four-acre area contains an exceptional collection of Asian ornamentals such as Japanese maples and tree peonies. It also features three impressive bridges and a half-acre koi pond. "The landscape includes lots of water features and ravines, so for practical reasons we needed the bridges," says Byers, "but we decided to make them unique."

The Japanese-style **Sunrise Bridge**, made from wood and stone, blends har-

moniously with the gardens. The **Bridge of the Full Moon** provides a striking focal point with its "full moon" arch and rustic stone patterns. The **Floating Cloud Bridge** evokes a sensation of being high in the mountains.

### ATTRACTING YOUNG VISITORS

The **Evans Children's Adventure Garden** is another of GWG's attractions. "Hot Springs draws a lot of young fami-



Inspired by ancient stone bridges in western China, the Bridge of the Full Moon—shown here with a glass sculpture by artist James Hayes—is one of Garvan’s most iconic features.

lies, but they weren’t coming to visit the gardens,” explains Byers. “We knew we needed an area to interest kids and encourage exploration.”

This interactive space does just that, featuring rock structures for climbing and a maze that leads to wading pools. A waterfall cascades over the entryway to a manmade cave, beckoning children to venture in. Still a work in progress, this

garden also will include tree houses and several other structures conducive to nature play and learning.

#### OTHER NOTABLE FEATURES

Standing nearly six stories tall with floor-to-ceiling windows and huge wooden trusses, the architecturally stunning **Anthony Chapel** has become a favorite venue for wedding ceremonies.



During Fall Flower Days, thousands of colorful blooming mums edge Garvan’s pathways.

### Additional Information

**Garvan Woodland Gardens**, 550 Arkridge Road, Hot Springs National Park, AR 71913. (501) 262-9300.  
[www.garvangardens.org](http://www.garvangardens.org).

- Open daily except during January and on major holidays. February through mid-November 9 a.m. to 6 p.m.; mid-November through December 12 p.m. to 9 p.m.
- Admission: Adults \$10, children (ages six to 12) \$5, children under five free. As a participant in the AHS’s Reciprocal Admissions Program, GWG offers free admission to AHS members. Contact GWG for details.

Other nearby sites to explore:

**Hot Springs National Park**, [www.nps.gov/hosp](http://www.nps.gov/hosp).

**Lake Catherine State Park**, [www.arkansasstateparks.com/lakecatherine](http://www.arkansasstateparks.com/lakecatherine).

**Ouachita National Forest**, [www.fs.usda.gov/ouachita](http://www.fs.usda.gov/ouachita).

The elevated **Millsap Canopy Bridge** curves over a ravine filled with cinnamon ferns, dogwoods, hydrangeas, and rhododendrons. It affords picturesque views of Lake Hamilton through the towering trees. More lake views can be enjoyed from the trails in the 45-acre **Hixson Family Nature Preserve**, a haven for native plants and wildlife, particularly birds.

#### COLORFUL DISPLAYS

One of the most colorful times of the year to visit is during Fall Flower Days, when thousands of chrysanthemums put on quite a show. Their blooms last from the beginning of October to Thanksgiving. This is followed by an exceptional holiday lights display in December. The gardens light up again with flowers in the spring for events such as Daffodil Days and the Tulip Extravaganza.

Before Garvan Woodland Gardens opened, Byers says, “We didn’t have anything like it in this part of the country. The gardens help fill in that gap and give people a cultural and educational experience in a top-quality garden.”

*Missy Katner is an editorial intern for The American Gardener.*

## Horticultural News and Research Important to American Gardeners

### NEW STRAWBERRY SPECIES DISCOVERED

A recent plant collecting expedition in Oregon's Cascade Mountains yielded a new species of wild strawberry. Found by Kim Hummer, lead researcher and curator of the National Clonal Germplasm Repository in Corvallis, Oregon, this plant has several subtle yet unique



**A new wild strawberry species was discovered in the Cascade Mountains in Oregon.**

characteristics that set it apart from other strawberry species. These include hairs on the upper side of its leaves, small comma-shaped brown fruits (technically, achenes) on the surface of its berries, and 10 sets of chromosomes rather than the eight sets typical of other strawberry species. Dubbed *Fragaria cascadiensis*, the newly discovered plant will provide new genetic material for plant research and breeding. One day we could be biting into a strawberry containing genes from this new species!

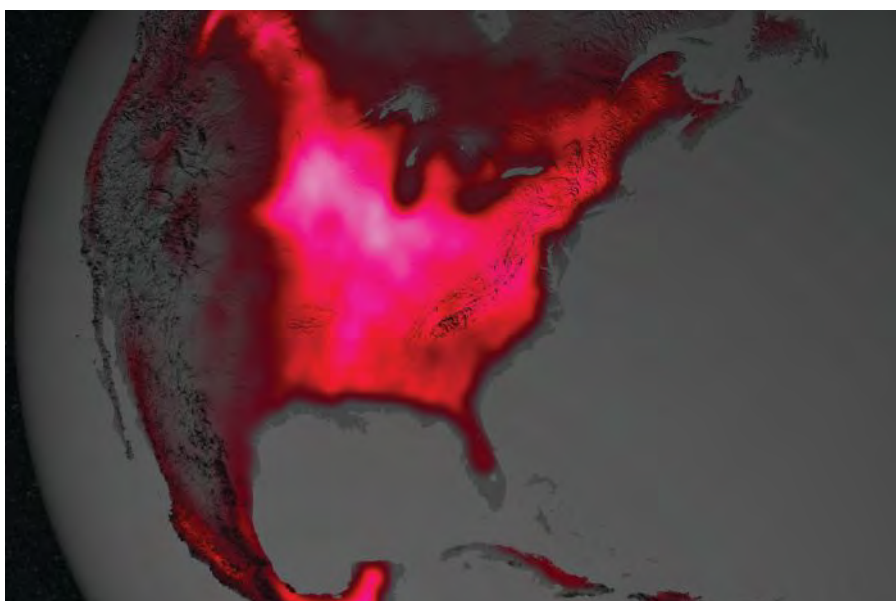
### MONITORING PLANT HEALTH FROM SPACE

During photosynthesis, plants convert sunlight into energy, but as part of the process they also emit about two percent of the light back as fluorescence. Though invisible to the naked eye, the reddish glow of this fluorescent light can be detected and mapped by satellites hundreds of miles above Earth. Just a few years ago, NASA scientists discovered that fluorescence intensity could indicate how well plants are functioning because healthy plants have enough en-

ergy to both perform photosynthesis and re-emit some of the light.

Thanks to a new way of extracting the fluorescence data from all the light reflected back into space, NASA researchers recently have been able to gain unprecedented insight into global plant health. They now can map changes in global fluorescence over the course of a single month rather than a season. According to Joanna Joiner of NASA's Goddard Space Flight Center in Greenbelt, Maryland, this level of detail allows scientists "to observe, for example, variation in the length of the growing season."

More precise measurements could provide early signs of crop stress before plants outwardly show damage. The information could help ecologists monitor vegetation dynamics on a global scale as Earth's climate changes. The research also establishes a foundation for future fluorescence studies including the European Space Agency's Fluorescence Explorer mission, which aims to launch at the end of the decade. For more information, visit [www.nasa.gov](http://www.nasa.gov).



**Monitoring plant health on a global scale—North America is shown here—is possible by measuring fluorescent light plants emit as a byproduct of photosynthesis.**

### NEW BOXWOOD BLIGHT INSIGHTS

Boxwood blight is a relatively new problem in the United States, with the first confirmed case in 2011. Since then, it has quickly spread to 12 states and three Canadian provinces. The fungal disease spreads by spores, primarily distributed by wind-driven rain. It causes significant leaf drop and stem lesions, resulting in unsightly bare and brown patches in boxwood. Repeated infection and defoliation eventually kills boxwood, especially young plants.

While blight-resistant boxwood varieties exist, it turns out they may be part of the problem. In a recent North Carolina State University (NCSU) study, researchers found that resistant boxwood cultivars that had been sprayed with the fungus showed only minimal symptoms of the disease, but were still capable of spreading the fungus to more vulnerable varieties placed nearby.

According to Miranda Ganci, a NCSU graduate student who participated in this research, these results indicate how complicated it will be to eradicate boxwood blight since breeding a completely immune variety that will not spread the disease is years

down the line. It can be difficult to detect the subtle symptoms of the disease on resistant plants, and once a boxwood is infected, options are limited. “The most important thing gardeners can do is to use sanitary practices,” says Ganci. “When you get new boxwood, keep the plants in isolation first, then watch for signs of infection. Sanitizing tools after pruning is also important.”

### FIRE ANTS PRODUCE NATURAL FUNGICIDE

Sometimes you have to fight fire with fire. Or perhaps a fungus with a fire ant. Scientists at the USDA Agricultural Research Service (ARS) unit in Stoneville, Mississippi, have discovered that venom from this pest insect can hinder the growth of *Pythium ultimum*, a fungal disease better known as “damping off” that kills seedling plants.

The researchers found two alkaloid compounds—piperidine and piperidine—in the venom to be equally effective at significantly reducing the pathogen’s



In Stoneville, Mississippi, entomologist Jian Chen studies imported red fire ants.

growth and its spore germination. The alkaloids appeared to curb *Pythium* both in the laboratory and on plants.

Another ARS research team has succeeded in creating synthetic versions of piperidine that mimic its effects as an antifungal agent. Two of these synthetics have even been found to be effective against several fungal pathogens that plague humans.

For more information about this research, visit [www.ars.usda.gov](http://www.ars.usda.gov).

### GRANT PROGRAM FOR NATIVE PLANT CONSERVATION TERMINATED

The National Fish and Wildlife Foundation (NFWF) recently announced it has discontinued the Native Plant Conservation Initiative (NCPI) grant program, which for 17 years has been helping support conservation projects ranging from research on and propagation of native plants to habitat restoration efforts. The NFWF cites a lack of funds as the reason, but will “continue and strengthen its investments in native plants and their habitats through other Foundation conservation initiatives,” according to a press release.

The initiative formed in 1995 when the Plant Conservation Alliance joined forces with NFWF to bolster and coordinate funding for plant conservation efforts. Since then, NPCI provided more than 300 native plant projects with \$7.2 million in Federal investment funding and \$11.9 million in matching funds from private entities. These projects ranged in location from continental United States to Alaska to American Samoa. Recipients of the funding included public gardens, universities, small private nurseries, and seed companies.

Some of the projects funded by the NPCI were profiled in an article that was published in the September/October 2012 issue of *The American Gardener*.

For more information, visit [www.nps.gov/plants/nfwf](http://www.nps.gov/plants/nfwf).

### TWO PHARMACY SCHOOLS REVAMP MEDICINAL PLANT GARDENS

This past spring, the University of Mississippi (UM) and the University of Rhode Island (URI) opened new spaces for both students and the public to study plant sources of pharmaceuticals.

Originally created in 1965, the Maynard W. Quimby Medicinal Plant Garden was relocated to become part of a new complex of energy-efficient horticultural facilities at UM. Reopened in April, the garden’s living collection includes 1,500 species of medicinal plants from around the world. It also features a seed bank and herbarium for storing and cataloging plants. While its primary role is to support drug discovery efforts, the garden is open to the public and offers guided tours.

The Heber W. Youngken, Jr. Medicinal Plant Garden at URI also has a long history, dating back to 1958. Prior to its rededi-

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## PEOPLE and PLACES in the NEWS

### Public Garden Leaders Recognized

The American Public Gardens Association (APGA) based in Kennett Square, Pennsylvania, recently presented its annual awards



**Gerard Donnelly**

to distinguished individuals who have furthered the mission of public gardens. Its most prestigious honor, the Honorary Life Member Award, went to Gerard Donnelly, president and CEO of the Morton Arboretum in Lisle, Illinois. Under his direction, Morton has been accredited as both an arboretum and museum and has become one of the leading tree-focused public gardens in the world. Donnelly has advanced programs in collections, education, science, and conservation and has overseen major site redevelopments, all aimed at furthering Morton's mission to save and plant trees.

The Award of Merit, which is given to an APGA member who has excelled in the public garden profession, went to Paul W. Meyer, executive director of Morris Arboretum of the University of Pennsylvania. For 37 years, Meyer has provided leadership to the arboretum, first as curator of living collections and currently as executive director. He is credited with leading the



**Paul Meyer, center, accepts the APGA Award of Merit from (left) David Price, chair of the APGA Awards Committee and (right) Bill LeFevre, executive director of Sarah P. Duke Gardens at Duke University.**

Morris Arboretum out of a difficult period in its history and transforming it into a top-notch public garden. Meyer also is an accomplished plant hunter and an early leader of APGA's North American Plant Collections Consortium. His numerous awards and honors include the American Horticultural Society's Professional Award received in 2002.

For more information about the APGA awards program, visit [www.publicgardens.org/content/awards](http://www.publicgardens.org/content/awards).

### Mt. Cuba Welcomes New Director of Horticulture

In July, Travis Beck became director of horticulture at Mt. Cuba Center in Hockessin, Delaware. Previously, he was the landscape and gardens project manager at New York Bo-

tanical Garden (NYBG) where he worked closely with many elite landscape architects focused on native plant and environmental aspects.



**Travis Beck**

Two of the major projects he undertook at NYBG were designing and installing a woodland azalea garden, and most recently, a native plant garden. He is also the author of *Principles of Ecological Landscape Design*, published earlier this year.

At Mt. Cuba, Beck will lead a team of horticulturists and arborists in the design, plant selection, and maintenance of the organization's renowned native plant gardens and 500 acres of natural lands. For more information, visit [www.mtcubacenter.org](http://www.mtcubacenter.org).

### Daffodil Named in Honor of Elvin McDonald

A new daffodil cultivar has been named in honor of Elvin McDonald, who retired in June from the Greater Des Moines Botanical Garden in Iowa where he was an educator and ambassador for many years. Bred by Brent and Becky's Bulbs in



**The new 'Elvin's Voice' daffodil, left, honors Elvin McDonald, above.**

Gloucester, Virginia, 'Elvin's Voice' produces large white flowers with a hint of yellow in their centers. It will be available at the botanical garden's upcoming Fall Bulb Mart.

McDonald, a well-known garden book author and magazine editor, became the director of the Friends of the Des Moines Botanical Center in 2008. He was instrumental in increasing the visibility of the garden—locally and nationally—and creating many of its popular programs, including the Gardeners Show House.

"Without Elvin, we wouldn't be here," says Tom Urban, chairman of the botanical garden's board of directors. "Connecting projects to the community is what Elvin has been all about." McDonald's passion for the Des Moines garden will continue in retirement, as he plans to volunteer as well as provide support for educational programming and the expansion of plant collections.

cation as part of the College of Pharmacy Courtyard, the garden was hidden from the campus community and primarily used by only pharmacy students, researchers, and faculty. Now, the expanded garden and courtyard feature more than 200 medicinal plant species as well as art installations and benches, making the area more inviting to interdisciplinary students and the public. The medicinal plant garden will continue to serve as an important educational tool, emphasizing the importance of plant-based remedies over the centuries and their roles in contemporary medicine.

### DIVIDING TO CONQUER STARVATION

Talk about your square roots! Turns out plants can do math, at least on a molecular level, which helps them avoid starvation during dark periods. A team of researchers with the John Innes Centre in the United Kingdom discovered that overnight, plant cells use up starch reserves manufactured during the day at such a rate that they last almost precisely until dawn. To accomplish this, plants must have the capacity to measure the amount of available starch and divide it by the amount of time till



The Heber W. Youngken, Jr. Medicinal Plant Garden at the University of Rhode Island

the sun comes up to allow them to photosynthesize more starch.

When the scientists experimented with altering starch levels and periods of light and dark, they found that plants could recalculate the rate of starch metabolism so that reserves still lasted almost exactly till dawn. How this mechanism works is still

under investigation, but according to the study published in the open-access journal, *eLIFE*, this discovery “constitutes the first concrete realization of such arithmetic operations in biology.”

*News written by Editorial Intern Missy Katterner with Associate Editor Viveka Neveln.*

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### SUPPORTING YOUR GARDENING EFFORTS

This year's record-breaking summer rains in the eastern United States resulted in a reciprocal abundance of plant growth in my North Carolina garden. A variety of products helped me keep things in shape.

The crocosmia that lines the walk from the driveway to my back door grew with great gusto this season, leaning well beyond its intended space to encroach upon the walk. I contained its exuberance with **Jardin Half Round Supports**. These simple, powder-coated steel supports are very strong, discreetly corralling that excessive growth to keep my pathway clear. The supports come in sets of two, in four sizes ranging from small (12 inches wide by 19 inches high) to large (18 inches wide by 35 inches tall). They virtually disappear among the foliage of the plant that they support, doing their job without a lot of fanfare.



Other plant supports are meant to be seen. The **Jardin Bird-cage Trellis** adds an architectural element to your garden with



its attractive domed shape that permits plants to grow up and through its powder-coated steel wires. The trellis is available in three sizes—26, 36, and 48 inches tall—assembles easily, and folds flat for storage. It worked well for my *Aster oblongifolius* 'Fanny'. From spring through summer, when the plant wasn't much to look at, the trellis was an attractive presence; as fall approaches, the aster's foliage hides most of the cage, which will soon support masses of purple flowers.

Out in the vegetable garden, my cucumbers did great on a **Kitchen Garden Trellis**, a simple wooden A-frame structure



that allows vining crops to grow vertically, saving space for other veggies. The 58-inch-tall trellis treated with an eco-friendly preservative has six-inch square openings that make for easy harvesting, and it folds flat for storage. The trellis is attractive enough to use for vining flowers—perhaps a mandevilla or black-eyed Susan vine (*Thunbergia alata*)—to grace an ornamental bed. All three of the afore-

mentioned plant supports are available from Gardener's Supply ([www.gardeners.com](http://www.gardeners.com)).

Vines are a big part of my summer garden, so I tried out a spiral support called the **Veggie Cage Plant Support** from



Gardener's Edge ([www.gardenersedge.com](http://www.gardenersedge.com)). It's recommended for tomatoes, but my indeterminate heirloom varieties are probably too vigorous for it. Cucumbers or peas—and any other plant that produces grasping tendrils—would work well. I used it to grow a passionflower vine. The black plastic spiral unwinds to your desired height, up to seven feet, supported by a garden stake that you supply; I used a bamboo pole. While my passionflower is growing directly in the ground, this support would also work well for vines

grown in large containers. It has a pointed base that you insert into the soil to hold it in place. It provides efficient low-profile support and it collapses flat for storage.



## CLOTH CONTAINERS

My vegetable garden is pretty large, but it never seems to have enough space for the several varieties of winter squash I



like to grow. So this year I decided to grow spaghetti squash, a vigorous vining plant, in a **Smart Pot** ([www.smartpots.com](http://www.smartpots.com)), a soft-sided fabric container. Once filled with soil, the container holds its shape, and the black fabric allows the soil to warm quickly, getting heat-loving plants such as squash off to a quick start. I used

a 15-gallon Smart Pot and placed it behind a fence, allowing the vines to trail up and over the fence, producing a good crop of squash. The Smart Pot comes in several sizes to suit different crops, from one gallon to the 70-by-24-inch, 400-gallon size suitable for a large raised bed.

## HARNESSING THE SUN

This summer I employed a couple of solar-powered fountains from Solarific (<http://market.solarrific.com>) to add the sound of trickling water to my gardens. The beauty of these fountains is that you don't need any special wiring. The **Floating Solar Fountain** is about as simple a water feature as there is. All you need is a water-tight container—a birdbath, a large pot, or a pond—and a sunny spot. The fountain and solar collector comprise a single unit that floats on the water's surface and can spray to a maximum height of 18 inches, or a more subtle surface bubble, depending on which of the heads you attach. Occasional cleaning is required to keep the bubbles coming.



The **Solar Pump Kit** can be used on its own or paired with a fountain fixture. The pump and solar collector are separate, connected by eight feet of wire, so you have some leeway in placing your pump; only the collector



needs to be in full sun. I constructed a small garden pool using the pump and a large plastic container. I buried the container in a bed and placed the pump inside, supporting it with small stones and surrounding the outside edge with larger stones. Then I connected the solar collector and added water. The resulting pool provides a gentle bubbling that attracts birds and a pleasing feature visible from the porch, and it only took a couple of hours to complete.

## WATERING MADE EASIER

Despite all the rain, seed beds and container gardens still need watering and birdbaths need filling, which means dragging hoses around the yard. Hose guides help direct hoses and protect plants that could be damaged if the hose is dragged over them. Valley Oak Tool Company ([www.valleyoaktool.com](http://www.valleyoaktool.com)) offers the sturdiest **Hose Guides** I've come across. The 10-inch steel spikes, easily installed with a rubber mallet, keep the guides well anchored in the ground while a three-inch, spinning spool directs your hose with minimal friction. The dark bronze finish blends with any style garden. Available in sets of two or six, these workhorses are built to last.



When rain doesn't fall at the precise intervals you prefer, rain barrels can meet the water needs of nearby garden areas. While the rain barrels near my berry beds have a solar pump to boost pressure, the one next to my kitchen garden relies on gravity, and although slightly elevated, its pressure was always less than I wanted. The **RTS Environmental Systems Rain Barrel Stand** offers a simple solution. Made of recycled plastic, this pedestal raises the barrel nearly a foot. For each foot of elevation, water pressure increases by about .433 pounds per square inch, and while that may not sound like a lot, it makes a big difference to the pressure of the water flowing from the barrel. It also creates extra clearance for filling watering cans from the barrel's spigot. Available from Plow and Hearth ([www.plowhearth.com](http://www.plowhearth.com)).



A contributing editor for *The American Gardener*, Rita Pelczar lives in North Carolina.

## Recommendations for Your Gardening Library

### Yards: The Search for Order in the World of Plants

Billy Goodnick. St. Lynn's Press, Pittsburgh, Pennsylvania, 2013. 142 pages. Publisher's price, hardcover: \$17.95.

MYSTIFIED BY the landscape design process? *Yards* will empower you to tackle your own property with confidence and purpose. In his colloquial, humorous style, author Billy Goodnick walks readers through the steps and thought that go into creating an outdoor space “that serves your family’s lifestyle year-round.”



“Like a teenager, a good yard needs to do more than just sit there looking cool,” Goodnick writes. “I expect a

good yard to be an extension of the home, providing places for connecting with family and friends, star gazing, growing good grub (not grubs), and playing fetch with your pet iguana.”

To that end, Goodnick first explains how the experts start by assessing the site, brainstorming the wish list of all the people who will be using the garden, and then winnowing that list to reflect budget and space realities. He shows readers how to make rough plans using “bubble diagrams,” a particularly useful tool for those of us who lack drafting skills.

The section on color—a complex topic—is excellent. The book concisely explains the basic theories, and illustrates how a gardener can employ these principles to best effect. I particularly enjoyed how Goodnick uses powerful imagery to make important design considerations easier to grasp. For example, when discussing the concept of balance, he employs a delightful analogy of identical twins balancing a teeter-totter to represent formal balance, and then a heavy father on one end and a pile of kids on the other for asymmetrical balance.

The chapter on the often daunting task of choosing plants also is well done. Goodnick provides plenty of helpful hints for selecting just the right plants that will not only do the job required of them—for example, screening, shade, erosion control, focal point—but also will thrive where you plan to put them.

Goodnick has a gift for an economy of words without short-changing the reader on crucial information. *Yards* will give you as much or more solid garden design information as you’re likely to find in much larger tomes on the topic—and you’ll have an enjoyable time reading it, too.

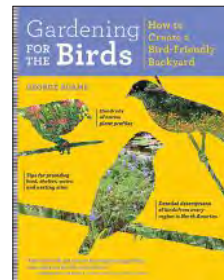
—Catriona Tudor Erler

*Catriona Tudor Erler is the author of eight garden books, including Poolscaping: Gardening and Landscaping Around Your Swimming Pool and Spa (Storey Publishing, 2003).*

### Gardening For The Birds

George Adams. Timber Press, Portland, Oregon, 2013. 444 pages. Publisher's price, softcover: \$24.95.

I FIRST BECAME familiar with landscape designer and wildlife artist George Adams in 1994 when he wrote *Birdscaping Your Garden* (Rodale Press). In the years since then, Adams has revised and updated this groundbreaking work several times, but this newest version is the culmination of a lifetime of study into what makes a successful bird garden, presented in a contemporary, user-friendly format.



No matter where you live in the United States, this book will help you attract lots of beautiful birds to

your garden and provide them with appropriate food, shelter, and nesting space. One of the most useful features is the plant charts, divided by region. At a glance, you can find the best bird-attracting plants for your area. The charts show which months a particular plant blooms or has fruit, its sunlight needs, USDA Hardiness Zones, mature height, and wildlife value.

Adams describes many of these plants in greater detail in the book’s plant directory. This section organizes plants alphabetically by botanical name, giving a general description of the genus and a list of bird species it attracts. Then suitable species in the genus are briefly described, noting native distribution, cultivation tips, and bird-attracting features. For example, the entry for the genus *Prunus* (cherries and plums) states there are 30 North American native species, and 84 species of birds that feed on their fruits. Three *Prunus* species particularly good for attracting birds are then described in more detail, with five more listed for consideration.

The final section of the book is a bird directory, where you will find in-depth information about each family of birds commonly found throughout North America and what you can do to attract these birds to your garden. Shaded maps show their seasonal or year-round ranges. Both the plant and bird directories include clear color photographs to help with identification, and the latter also features the author’s black-and-white drawings of each bird.

If you’d like to create welcoming habitat for the birds most likely to occur in your area, this is the ultimate guide to help you make the best plant selections for doing so.

—Carole Sevilla Brown

*Carole Sevilla Brown is a conservation biologist who teaches about conserving natural resources, gardening sustainably, and creating wildlife habitats. Find her at [www.ecosystemgardening.com](http://www.ecosystemgardening.com).*

## Backyard Foraging

Ellen Zachos. Storey Publishing, North Adams, Massachusetts, 2013. 240 pages. Publisher's price, softcover: \$16.95.

## The Quick Guide to Wild Edible Plants

Lytton John Musselman and Harold J. Wiggins. Johns Hopkins University Press, Baltimore, Maryland, 2013. 144 pages. Publisher's price, hardcover: \$24.95.

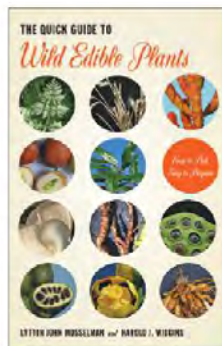
AS A FORAGING teacher always on the lookout for new information, I found both *Backyard Foraging* and *A Quick Guide to Wild Edible Plants* exciting to read.

The former focuses on food uses for "ornamental" plants grown in gardens. For example, I learned that young hosta shoots are tasty, as are rose of Sharon flowers. Familiar wild plants that appear in gardens (you may call them weeds) are also covered, plus ways to prepare them. For these, however, I suggest using a good field guide to identify each with certainty, because descriptions of them are sketchy. There are also no warnings of the dangerous parts of the common elderberry, or about how closely poisonous dogbane shoots resemble edible young common milkweed.



The latter takes a different approach, reporting on the au-

thors' experiences with a number of common edible plants commonly found in wild areas of the Northeast. Again, I discovered information new to me, such as the fact that kudzu leaves and roasted stinging nettle seeds are good to eat. And I found discussions of wild grains, plus aquatic plants for which you need a boat to harvest, quite enlightening.



On the other hand, some warnings are exaggerated—for example, certain edible plants aren't included because they can pick up harmful levels of nitrates from contaminated soil. If you don't pick near farm fields, you can avoid this problem.

In my experience, the large quantities of sugar and white flour in the majority of the book's recipes are of greater concern, given their well-established links to obesity, diabetes, and other diseases. Nevertheless, the book contains a variety of interesting, original recipes. Chips made from dehydrated wild greens coated with pureed black walnuts is a must-try for me.

The color photographs in both books are excellent, although more of them would have been better. I benefited from these books, and recommend them to anyone interested in foraging.

—Steve Brill

"Wildman" Steve Brill has been leading foraging tours throughout Greater New York since 1982 and is the author of three books about foraging. Learn more at [www.wildmanstevebrill.com](http://www.wildmanstevebrill.com).

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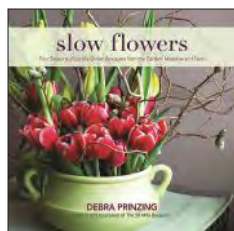
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## Flower Power

WATCHING MY toddler experimenting with different colors of crayons one day, I realized that in the garden, I do something similar with flowering plants. I particularly love to “scribble” with annuals to brighten up my beds. After winter erases them, I can create new combinations on a clean slate year after year. The compositions are even easier to play with when arranging cut flowers. Here are a few new books that offer ideas for your own flowery fun or give you new appreciation for the allure of all things floral.



One of the easiest ways to add a splash of color to the garden is with containers. *Container Gardening for All Seasons* (Cool Springs Press, 2012, \$21.99) by Barbara Wise offers up scads of proven “recipes,” complete with shopping list, planting diagram, and color photographs of the finished product. Wise also provides general guidelines for designing your own masterpieces and helpful hints for best results.



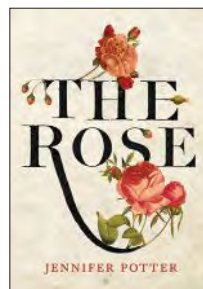
In *Slow Flowers* (St. Lynn’s Press, 2013, \$16.95), Debra Prinzing writes that “a vase can be a little garden, its contents gathered and arranged to please the eye.” The book chronicles her year-long challenge of creating a bouquet a week from plants in her garden, sometimes supplemented by locally produced flowers. Along with color photographs of the arrangements, Prinzing briefly describes each one and lists every component used to create it.



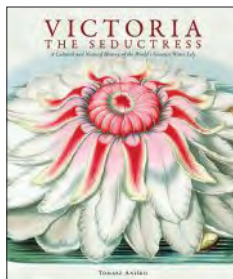
Orchids, bromeliads, and other exotic flowers from the world’s tropical regions feature in *Tropical Flowers* (Gibbs Smith, 2012, \$24.99) by Eileen W. Johnson. Along with historical tidbits about these plants, the book includes step-by-step instructions for creating various arrangements with them. Sumptuous color photographs show off the most captivating qualities of these flowers: their vibrant hues and unusual but graceful forms.



*Flowers in the World’s Most Beautiful Gardens* (Abrams, 2012, \$45) by Alain Le Toquin and Yves-Marie Allain showcases the art of flower gardening on a decidedly grand scale. The photographs in this coffee-table book depict the breathtaking riots of color that some of Europe’s finest public and private gardens boast. Notes about garden history, design principles, and popular plant groups make for interesting reading, too.



In the introduction of *The Rose* (Atlantic Books, 2013, \$27.95), horticultural historian Jennifer Potter observes that “no other flower has insinuated itself quite so tenaciously into the consciousness—and the gardens—of so many ages and so many cultures” as the beguiling “queen of flowers.” The rest of the hefty, 544-page tome unravels how and why roses have achieved this impressive feat.



*Victoria: the Seductress* (Longwood Gardens, 2013, \$69.99) by Tomasz Anisko pays homage to some of the world’s largest flowers—the giant *Victoria* water lilies. “Our cultural obsession with all things colossal, things beyond the constraints of everyday experience,” writes Anisko, “has made the South American nymph a perfect object of adoration.” This book provides a meticulously researched account of that continent- and century-spanning adoration.

—Viveka Neveln, Associate Editor

# A Step-By-Step Guide to Basic Skills Every Gardener Needs



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## REGIONAL HAPPENINGS

# Horticultural Events from Around the Country

### NORTHEAST

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

SEPT. 20–NOV. 22. **16th Annual Exhibition.** American Society of Botanical Artists at the Horticultural Society of New York. New York, New York. (866) 691-9080. [www.asba-art.org/exhibitions](http://www.asba-art.org/exhibitions).

**RAP** SEPT. 29. **Shrubs Across the Seasons.** Class. Arnold Arboretum of Harvard University. Boston, Massachusetts. (617) 524-1718. [www.arboretum.harvard.edu](http://www.arboretum.harvard.edu).

**RAP** OCT. 4 & 5. **Invasive Plants: Issues, Identification, and Ecology.** Class. Coastal Maine Botanical Gardens. Boothbay, Maine. (207) 633-4333. [www.mainebotanicalgardens.org](http://www.mainebotanicalgardens.org).

OCT. 9. **Native Nut Workshop.** UVM Horticultural Research Center. Burlington, Vermont. (802) 864-3073. [www.friendsofthehortfarm.org](http://www.friendsofthehortfarm.org).

**RAP** OCT. 12. **Fall Foliage Walk.** Landis Arboretum. Esperance, New York. (518) 875-6935. [www.landisarboretum.org](http://www.landisarboretum.org).

**RAP** OCT. 12–14. **Harvestival.** Tower Hill Botanic Garden. Boylston, Massachusetts. (508) 869-6111. [www.towerhillbg.org](http://www.towerhillbg.org).

**RAP** OCT. 19–NOV. 10. **Mum Show.** Buffalo and Erie County Botanical Gardens. Buffalo, New York. (716) 827-1584. [www.buffalogardens.com](http://www.buffalogardens.com).

#### Looking ahead

**RAP** NOV. 2. **Create a Garden Inside Your Apartment.** Workshop. Brooklyn Botanical Garden. Brooklyn, New York. (607) 724-5461. [www.bbgb.org](http://www.bbgb.org).

### MID-ATLANTIC

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

**RAP** SEPT. 21. **Fall Garden Festival.** Pennsylvania Horticultural Society. The Navy Yard. Philadelphia, Pennsylvania. (215) 988-8800. [www.phsonline.org](http://www.phsonline.org).

**RAP** SEPT. 21. **Lilac Care Workshop.** New Jersey Botanical Garden. Ringwood, New Jersey. (973) 962-9534. [www.njbg.org](http://www.njbg.org).

SEPT. 24. **Ecological Landscape Design for a Changing World.** Lecture. United States Botanic Garden. Washington, D.C. (202) 225-8333. [www.usbg.org](http://www.usbg.org).

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

SEPT. 27–DEC. 19. **International Exhibition of Botanical Art & Illustration.** Hunt Institute for Botanical Documentation at Carnegie Mellon University. Pittsburgh, Pennsylvania. (412) 268-2434. [huntbot.andrew.cmu.edu](http://huntbot.andrew.cmu.edu).

**RAP** SEPT. 28. **Cider Making & Fall Garden Tour.** Bartram's Garden. Philadelphia, Pennsylvania. (215) 729-5281. [www.bartramsgarden.org](http://www.bartramsgarden.org).

**RAP** OCT. 5 & 6. **Rose Fest.** Lewis Ginter Botanical Garden. Richmond, Virginia. (804) 262-9887. [www.lewisginter.org](http://www.lewisginter.org).

**RAP** OCT. 12–14. **Orchid Show and Sale.** United States National Arboretum. Washington, D.C. (202) 245-4523. [www.usna.usda.gov](http://www.usna.usda.gov).

**RAP** OCT. 22. **Bare Root Tree Planting & Care.** Workshop. The Delaware Center for Horticulture. Wilmington, Delaware. (302) 658-6262. [www.thedch.org](http://www.thedch.org).

#### Looking ahead

NOV. 16. **Turning a New Leaf Conference.** National Conservation Training Center. Shepherdstown, West Virginia. [www.chesapeakelandscape.org](http://www.chesapeakelandscape.org).

### SOUTHEAST

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

SEPT. 19–21. **The Landscape Show.** Trade show. Orange County Convention Center. Orlando, Florida. (407) 295-7994. [www.fngla.org/thelandscape/show/index.aspx](http://www.fngla.org/thelandscape/show/index.aspx).

SEPT. 19–DEC. 20. **Following in the Bartrams' Footsteps.** Exhibition. American Society of Botanical Artists. South Florida Museum. Bradenton, Florida. [www.asba-art.org/exhibitions/bartram](http://www.asba-art.org/exhibitions/bartram).

**RAP** SEPT. 21 & 22. **The Tennessee Gesneriad Society Flower Show and Sale.** Cheek-

wood Botanical Garden and Museum of Art. Nashville, Tennessee. (615) 293-5470. E-mail: [cabonner@gmail.com](mailto:cabonner@gmail.com).

**RAP** SEPT. 24. **Lessons from an Architect.** Landscape class. Aldridge Gardens. Hoover, Alabama. (205) 682-8019. [www.aldridgegardens.com](http://www.aldridgegardens.com).

SEPT. 27 & 28. **Memphis Garden Show & Fall Plant Sale.** Memphis Botanic Garden. Memphis, Tennessee. (901) 636-4100. [www.memphisbotanicgarden.com](http://www.memphisbotanicgarden.com).

**RAP** OCT. 4 & 5. **Fall Plant Sale.** Hatcher Garden & Woodland Preserve. Spartanburg, South Carolina. (864) 574-7724. [www.hatchergarden.org](http://www.hatchergarden.org).

**RAP** OCT. 17. **Thinking Outside the Box-wood: Creative Landscape Designs.** Class. Birmingham Botanical Gardens. Birmingham, Alabama. (205) 414-3950. [www.bbgbgardens.org](http://www.bbgbgardens.org).

OCT. 23–25. **PLANET 2013 Green Industry Conference.** Louisville Marriott Downtown. Louisville, Kentucky. (703) 736-9666. [www.landcarenetwork.org](http://www.landcarenetwork.org).

### NORTH CENTRAL

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

**RAP** SEPT. 26–29. **Fall Bulb Sale.** Greater Des Moines Botanical Garden. Des Moines, Iowa. (515) 323-6290. [www.dmbotanicalgarden.com](http://www.dmbotanicalgarden.com).

**RAP** SEPT. 28. **Autumn Jewels: The Science Behind the Scenery.** Class. Hidden Lake Gardens. Tipton, Michigan. (517) 431-2060. [www.hiddenlakegardens.msu.edu](http://www.hiddenlakegardens.msu.edu).

**RAP** OCT. 12. **Grow and Maintain Your Own Apple Trees.** Class. Minnesota Landscape Arboretum. Chaska, Minnesota. (952) 443-1400. [www.arboretum.umn.edu](http://www.arboretum.umn.edu).

**RAP** OCT. 12 & 13. **The Wisconsin Council of African Violet Clubs Show and Sale.** Olbrich Botanical Gardens. Madison, Wisconsin. (608) 246-4550. [www.olbrich.org](http://www.olbrich.org).

**RAP** OCT. 18. **Fall Plant Sale.** Nebraska Statewide Arboretum. Lincoln, Nebraska. (402) 472-2971. [www.arboretum.unl.edu](http://www.arboretum.unl.edu).

**RAP** OCT. 19. **Midwest Fruit Explorers**

**Show & Sale.** Chicago Botanic Garden. Glencoe, Illinois. (847) 835-5440. [www.chicagobotanic.org](http://www.chicagobotanic.org).

**RAP** OCT. 20. **Pumpkin Walk at Twilight.** Fellows Riverside Gardens. Youngstown, Ohio. (330) 740-7116. [www.millcreekmetroparks.org](http://www.millcreekmetroparks.org).

#### SOUTH CENTRAL

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

**RAP** SEPT. 27 & 28. **Garden Faire & Fall Festival.** Mercer Arboretum and Botanic Gardens. Humble, Texas. (281) 443-8731. [www.hcp4.net/mercer](http://www.hcp4.net/mercer).

SEPT. 27 & 28. **Heart of America Chapter Flower Show and Sale.** Loose Park Garden Center. Kansas City, Missouri. (816) 784-5300. [www.gesneriadsociety.org](http://www.gesneriadsociety.org).

**RAP** OCT. 5. **Fall Festival and Run.** Clark Gardens Botanical Park. Weatherford, Texas. (940) 682-4856. [www.clarkgardens.com](http://www.clarkgardens.com).

**RAP** OCT. 7. **Preserve the Herbal Harvest: Sachets, Vinegars, and Butters.** Lecture. Burden Horticulture Society at the Burden Center. Baton Rouge, Louisiana. (225) 766-0921. [www.burdenhorticulture.com](http://www.burdenhorticulture.com).

**RAP** OCT. 15. **Growing a Cook's Garden.** Lecture. Tulsa Garden Center. Tulsa, Oklahoma. (918) 746-5125. [www.tulsagardencenter.com](http://www.tulsagardencenter.com).

**RAP** OCT. 23. **Native Plants of Central Texas Walk & Talk.** Lady Bird Johnson Wildflower Center. Austin, Texas. (512) 232-0200. [www.wildflower.org](http://www.wildflower.org).

#### Looking ahead

**RAP** NOV. 2. **Tree Care in the Home Landscape.** Class. Crosby Arboretum. Mississippi State University. Picayune, Mississippi. (601) 799-2311. [www.crosbyarboretum.msstate.edu](http://www.crosbyarboretum.msstate.edu).

#### SOUTHWEST

AZ, CO, NM, UT

SEPT. 16–OCT. 29. **Fall Fiesta of Flowers Show.** Floral display. ABQ BioPark Botanic Garden. Albuquerque, New Mexico. (505) 768-2000. [www.cabq.gov/biopark/garden](http://www.cabq.gov/biopark/garden).

**RAP** SEPT. 28. **Hike to Placer Peak.** Santa Fe Botanical Garden. Santa Fe, New Mexico. (505) 471-9103. [www.santafebotanicalgarden.org](http://www.santafebotanicalgarden.org).

SEPT. 28. **Potted Garden Design for Problem Areas in Your Yard.** Class. Tucson Botanical Gardens. Tucson, Arizona. (520) 326-9686. [www.tucsonbotanical.org](http://www.tucsonbotanical.org).

## Pioneering Female Botanical Artists

BEFORE THE POPULARIZATION of photography in the early 20th century, botanical illustration was the most common method of keeping scientific records of plants. While the illustrations typically were produced by men, women also made important contributions to the field.



An illustration by Lady Harriet Ann Thiselton-Dyer details the anatomy of the tropical grass *Euchlaena luxurians*, also known as *Zea luxurians*.

“The Feminine Perspective: Women Artists and Illustrators,” an exhibit of rare books that contain richly detailed artwork by some of the first female botanical artists and illustrators, will be on display at the Lenhardt Library at the Chicago Botanic Garden in Glencoe, Illinois, until November 10.

One of the women featured in the exhibit is Lady Harriet Ann Thiselton-Dyer who, in 1878, became an illustrator for Curtis’s *Botanical Magazine*, published by the Royal Botanic Gardens, Kew. Also featured is Henriette Antoinette Vincent, a French artist connected to the royal court of Napoleon, and Americans Ellen Robbins and Helen Sharp. Leora Siegel, director of the Lenhardt Library, says their illustrations are special because “they have a very scientific feel and realistic approach.”

On September 29, Siegel will give a talk about the lives of these and other pioneering female illustrators and the significance of their work as a published record of the advancement of women in botany. For more information, visit [www.chicagobotanic.org](http://www.chicagobotanic.org).

## Longue Vue’s Cushaw Festival

ON OCTOBER 20, the first annual Cushaw Festival at Longue Vue House and Gardens in New Orleans, Louisiana, will celebrate a regional culinary favorite—the green-striped heirloom pumpkin called the cushaw. Often used in Cajun and



The gardens at Longue Vue will offer a picturesque setting for the Cushaw Festival.

Creole cooking, the cushaw, explains Hilaire Schackai, director of community initiatives and education at Longue Vue, offers a different spin on “the clichéd harvest icon of the orange pumpkin.”

Preparation for the event began earlier in the year when the staff at Longue Vue shared cushaw seeds with local growers, only asking that they return in the fall to display their harvest at the festival. Though the focus will be on the cushaw, guests may bring any plant or produce to the recipe, seed, and harvest exchange, which will take place on the main lawn of the gardens. “We are counting on people bringing plants and recipes that they are most proud of and hopefully reveal a bit about their heritage,” says Schackai. Longue Vue will offer many plants from its own special collection, too.

The festival also will feature art activities, garden tours, a food bank donation, games, live music, and square dancing lessons. Experienced gardeners will demonstrate horticultural techniques such as seed collecting, harvesting produce, canning, and propagation. For more information, visit [www.longuevue.com](http://www.longuevue.com). ☪

—Missy Katner, Editorial Intern

SEPT. 28 & 29. **Utah Dahlia Society Show.** Salt Lake Garden Center. Salt Lake City, Utah. (801) 486-3074. E-mail: nicholas.spencer@msn.com.

**RAP** OCT. 9. **Putting Your Rose Garden to Bed.** Class. Denver Botanic Gardens. Denver, Colorado. (720) 865-3500. [www.botanicgardens.org](http://www.botanicgardens.org).

**RAP** OCT. 19. **The Fall Garden.** Workshop. Santa Fe Botanical Garden. Santa Fe, New Mexico. (505) 471-9103. [www.santafebotanical.org](http://www.santafebotanical.org).

**RAP** OCT. 19 & 20. **Fall Plant Sale.** Desert Botanical Garden. Phoenix, Arizona. (480) 941-1225. [www.dbg.org](http://www.dbg.org).

OCT. 31. **Underwater Pumpkin Carving in a Shark Tank.** Demonstration. ABQ BioPark Botanic Garden. Albuquerque, New Mexico. (505) 768-2000. [www.cabq.gov/biopark/garden](http://www.cabq.gov/biopark/garden).

#### WEST COAST

CA, HI, NV

SEPT. 26–OCT. 4. **Festival of Fruit.** California Rare Fruit Growers. Honolulu, Hawaii. E-mail: [hawaii@crfg.org](mailto:hawaii@crfg.org). [www.crfg.org](http://www.crfg.org).

**RAP** OCT. 5. **Grapes & Hops Festival.** Las Vegas Botanical Gardens at the Springs Preserve. Las Vegas, Nevada. (702) 822-7700. [www.springpreserve.org](http://www.springpreserve.org).

**RAP** OCT. 12. **Successful Natives Gardening for Beginners.** Lecture. Descanso Gardens. La Cañada Flintridge, California. (818) 949-4200. [www.descansogardens.org](http://www.descansogardens.org).

**RAP** OCT. 19. **Live Long and Landscape.** Seminar. Los Angeles County Arboretum & Botanic Garden. Arcadia, California. (626) 821-3222. [www.arboretum.org](http://www.arboretum.org).

#### Looking ahead

NOV. 1–3. **Sustainable Mini-Farming Workshop.** Ecology Action. Willits, California. (707) 459-0150. [www.growbiointensive.org](http://www.growbiointensive.org).

**RAP** NOV. 9. **End of the Season Plant Sale.** San Francisco Botanical Garden. San Francisco, California. (415) 661-1316. [www.sfbotanicalgarden.org](http://www.sfbotanicalgarden.org).

#### NORTHWEST

AK, ID, MT, OR, WA, WY

SEPT. 20–22. **Great Divide Orchid Society Show & Sale.** American Orchid Society. Capital Hill Mall. Helena, Montana. (406) 449-7085. [www.aos.org](http://www.aos.org).

**RAP** SEPT. 26. **Propagation: Seed Collection and Sowing.** Class. Kruckeberg Botanic Garden. Shoreline, Washington.

## New Chihuly Exhibit at Desert Botanical Garden



Artist Dale Chihuly is known for his glass sculptures, such as this one, titled “Fiori Sun,” shown on exhibit last year at the Dallas Arboretum in Texas.

ON NOVEMBER 10, “Chihuly in the Garden” will open at Desert Botanical Garden in Phoenix, Arizona. The exhibit, which runs until mid-May of 2014, will feature the artwork of Dale Chihuly, the world-renowned artist credited with elevating the handblown glass medium from craft to fine art. His pieces are known for transcending traditional indoor gallery presentations by overflowing onto floors, walls, roofs, and the outdoors.

Three years ago, Desert Botanical Garden hosted “Chihuly: The Nature of Glass,” the first exhibition of the artist’s work in an outdoor setting, which juxtaposed the colorful glass sculptures with the rugged natural beauty of the desert landscape. The upcoming exhibit will feature new glasswork by Chihuly that will be integrated with saguaros, creosote bushes, mesquite trees, barrel cacti, and other desert plants. For more information visit [www.dbg.org](http://www.dbg.org).

—Missy Katner, Editorial Intern

(206) 546-1281. [www.kruckeberg.org](http://www.kruckeberg.org).

**RAP** OCT. 5 & 6. **Fall Harvest Festival.** Idaho Botanical Garden. Boise, Idaho. (208) 343-8674. [www.idahobotanicalgarden.org](http://www.idahobotanicalgarden.org).

OCT. 19. **Putting Your Garden to Bed.** Class. Evergreen Arboretum and Gardens. Everett, Washington. (425) 257-8597. [www.evergreenarboretum.com](http://www.evergreenarboretum.com).

**RAP** OCT. 26. **Rain Garden Workshop.** Leach Botanical Garden. Portland, Oregon. (503) 823-9503. [www.leachgarden.org](http://www.leachgarden.org).

#### CANADA

SEPT. 28. **Soil and Spring Bulb Sale.** VanDusen

Botanical Garden. Vancouver, British Columbia. (604) 257-8666. [www.vandusengarden.org](http://www.vandusengarden.org).

OCT. 23 & 24. **Garden & Floral Expo 2013.** Trade show. Toronto Congress Centre. Toronto, Ontario. (416) 848-4141. [www.loexpo.com](http://www.loexpo.com).

OCT. 23–26. **Communities in Bloom Awards & Symposium 2013.** Fairmont Chateau Laurier. Ottawa, Ontario. (613) 562-7033. [www.communitiesinbloom.ca](http://www.communitiesinbloom.ca).

#### Looking ahead

**RAP** NOV. 14. **RBG’s Living Walls.** Class. Royal Botanical Gardens. Burlington, Ontario. (905) 527-1158. [www.rbg.ca](http://www.rbg.ca).





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## PRONUNCIATIONS AND PLANTING ZONES

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

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

### A–H

**Allium aflatunense** AL-ee-um uh-flat-yew-NEN-see (USDA Plant Hardiness Zones 4–8, AHS Heat Zones 8–1)  
**A. cristophii** A. kris-TOF-ee-eye (3–9, 9–5)  
**A. karataviense** A. kair-a-tah-vee-EN-see (3–9, 9–5)  
**A. moly** A. MAH-lee (5–9, 9–3)  
**A. zebdanense** A. zeb-dah-NEN-see (4–9, 9–3)  
**Amaryllis belladonna** ah-muh-RIL-is bel-luh-DON-uh (7–11, 12–7)  
**Anemone blanda** uh-NEM-o-nee BLAN-duh (4–8, 8–1)  
**Babiana stricta** bab-ee-AY-nuh STRICK-tuh (11–11, 12–9)  
**Betula populifolia** BET-yew-luh pop-yew-lih-FO-lee-uh (3–6, 6–1)  
**Camassia cusickii** kuh-MASS-ee-uh koo-SIK-ee-eye (4–11, 12–1)  
**C. leichtlinii** C. lykt-LIN-ee-eye (4–9, 9–1)  
**Chasmanthe floribunda** chas-MAN-thee flor-ih-BUN-duh (5–9, 9–5)  
**Chionodoxa luciliae** ky-on-o-DOK-suh loo-SIL-ee-ee (3–9, 9–1)  
**Crocus chrysanthus** CRO-kus krih-SAN-thus (3–8, 10–1)  
**C. sieberi** C. SEE-bur-eye (3–8, 8–1)  
**C. speciosus** C. spee-see-O-sus (3–8, 8–1)  
**C. tommasinianus** C. tom-muh-sin-ee-AY-nus (3–8, 8–1)  
**Diervilla lonicera** dy-ur-VILL-uh lah-NISS-er-uh (3–10, 10–3)  
**Dodonaea viscosa var. atropurpurea** doh-doh-NEE-uh viss-KO-suh var. at-ro-pur-PUR-ee-uh (9–11, 12–9)  
**Eranthis hyemalis** ee-RAN-thiss hy-ih-MAL-iss (4–9, 9–1)  
**Erythronium dens-canis** air-ih-THRO-nee-um dens-KAY-nis (3–9, 9–1)  
**Freesia laxa** FREE-zee-uh LAK-suh (10–11, 12–6)  
**Fritillaria meleagris** frit-ih-LAIR-ee-uh mel-ee-AH-gris (4–9, 8–2)  
**F. michailovskyi** F. mih-kile-ov-SKEE-eye (5–8, 8–5)  
**Galanthus elwesii** guh-LAN-thus el-WEEZ-ee-eye (3–9, 9–1)  
**G. nivalis** G. nih-VAL-iss (3–8, 8–1)  
**Gladiolus communis** glad-dee-O-lus com-YEW-niss (7–10, 10–7)  
**G. communis ssp. byzantinus** G. com-YEW-niss ssp. bih-zan-TY-nus (7–10, 10–7)  
**G. tristis** G. TRIS-tis (8–10, 10–8)  
**Gordonia lasianthus** gor-DOH-nee-uh lah-see-AN-thus (8–10, 10–8)  
**Hippeastrum ×johnsonii** hip-ee-ASS-trum jon-so-NEE-eye (7–10, 10–6)  
**Homeria collina** ho-MAIR-ee-uh ko-LEE-nuh (9–10, 10–9)  
**Hyacinthoides hispanica** hy-uh-sin-THOY-deez hiss-PAN-ih-kuh (4–10, 9–1)  
**Hyacinthus amethystina** hy-uh-SIN-thus ah-meh-THIS-tin-uh (5–9, 9–5)

### I–R

**Ipheion uniflorum** ih-FAY-on yew-nih-FLOR-um (5–9, 9–5)  
**Iris bucharica** EYE-riss bew-KAR-ih-kuh (5–9, 9–5)  
**I. histrioides** I. hiss-tree-OY-deez (5–8, 8–4)  
**I. reticulata** I. reh-tik-yew-LAY-tuh (5–8, 8–5)  
**Leucojum aestivum** lew-KO-jum ES-tih-vum (3–9, 9–1)  
**L. vernum** L. VER-num (4–8, 9–3)  
**Lycoris radiata** ly-KOR-iss ray-dee-AY-tuh (7–10, 10–7)  
**Magnolia grandiflora** mag-NOLE-yuh gran-dih-FLOR-uh (7–9, 9–1)  
**Muscari armeniacum** mus-KAR-ee ar-meen-ee-AH-kum (4–8, 8–1)  
**M. latifolium** M. lat-ih-FO-lee-um (4–8, 8–1)

**Narcissus jonquilla** nar-SIS-sus jon-KWIL-uh (3–9, 9–1)  
**N. papyraceus** N. pap-ih-RAY-see-us (9–11, 10–9)  
**N. poeticus var. recurvus** N. po-ET-ih-kus var. ree-KUR-vus (3–7, 7–3)  
**N. pseudonarcissus** N. soo-doh-nar-SIS-sus (3–9, 9–1)  
**N. tazetta ssp. lacticolor** N. tuh-ZET-uh ssp. lak-tih-KUL-ur (3–9, 9–1)  
**Nerine bowdenii** NER-ein bo-DEN-ee-eye (8–10, 10–8)  
**Ornithogalum umbellatum** or-nih-THO-guh-lum um-bel-LAY-tum (6–10, 10–1)  
**Pinus taeda** PY-nus TEE-duh (6–9, 9–6)  
**Prunus laurocerasus** PREW-nus law-ro-SEH-rah-sus (6–9, 9–6)  
**Puschkinia scilloides** push-KIN-ee-uh sil-OY-deez (3–9, 9–1)  
**Rhodophiala bifida** ro-doh-FEE-ah-luh BIF-ih-duh (9–11, 12–9)

### S–Z

**Scilla bifolia** SIL-luh bih-FOH-lee-uh (3–8, 8–1)  
**S. mischtschenkoana** S. misch-chen-ko-AN-uh (4–7, 9–6)  
**S. sibirica** S. sy-BEER-ih-kuh (5–8, 8–5)  
**Sparaxis tricolor** spah-RAK-siss TRY-kul-ur (9–11, 12–1)  
**Stewartia malacodendron** stew-AR-tee-uh mal-ak-o-DEN-dron (7–9, 9–6)  
**S. monadelpha** S. mon-uh-DEL-fuh (5–8, 8–5)  
**S. ovata** S. o-VAY-tuh (3–9, 8–1)  
**S. ovata var. grandiflora** S. o-VAY-tuh var. gran-dih-FLOR-uh (5–8, 8–1)  
**S. pseudocamellia** S. soo-doh-kuh-MEEL-yuh (5–8, 8–4)  
**S. pseudocamellia var. koreana** S. soo-doh-kuh-MEEL-yuh var. kor-ee-AN-uh (5–8, 8–4)  
**S. rostrata** S. ros-TRAY-tuh (6–8, 8–6)  
**S. sinensis** S. sih-NEN-siss (5–7, 7–4)  
**Tulipa bakeri** TOO-lip-uh BAY-ker-eye (4–8, 8–4)  
**T. batalinii** T. bat-uh-LIN-ee-eye (4–9, 9–1)  
**T. clusiana** T. kloo-see-AN-uh (4–8, 8–4)  
**T. greigii** T. GREG-ee-eye (3–8, 8–1)  
**T. humilis** T. HEW-mih-lys (4–8, 8–4)  
**T. kaufmanniana** T. kawf-man-ee-AN-uh (4–8, 8–4)  
**T. tarda** T. TAR-duh (4–8, 8–4)  
**T. turkestanica** T. tur-keh-STAN-ih-kuh (5–8, 8–5)  
**Watsonia pyramidata** wat-so-NEE-uh pih-ruh-mih-DAY-tuh (11–12, 12–6)  
**Zephyranthes candida** zef-ih-RAN-theez KAN-dih-duh (7–9, 9–6)  
**Z. chlorosolen** Z. klor-O-so-len (7–10, 10–7)  
**Z. citrina** Z. sih-TRY-nuh (7–10, 10–7)  
**Z. grandiflora** Z. gran-dih-FLOR-uh (8–11, 12–9)

# GARDEN MARKET

CLASSIFIED AD RATES: All classified advertising must be prepaid. \$2.75 per word; minimum \$66 per insertion. Copy and prepayment must be received by the 20th of the month three months prior to publication date. Display ad space is also available. To place an ad, call (703) 768-5700 ext. 120 or e-mail [advertising@ahs.org](mailto:advertising@ahs.org).

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## Fragrant, Flamboyant Sassafras

by Nan K. Chase

**O**F ALL the trees I've left behind in a lifetime of moving, I most miss the grove of mature sassafras trees my husband and I owned at one time. These trees delighted us in all seasons, even in winter when the furrowed bark glistened silver on clear days. And I treasure teenage memories of tramping through the woods with my father and breaking off a sassafras leaf, as he did, to chew on the tangy stem.

Sassafras (*Sassafras albidum*, USDA Hardiness Zones 4–9, AHS Heat Zones 12–4) is a deciduous member of the laurel family. It is native throughout the eastern United States into Texas, and is adaptable to cultivation in other areas. The trees typically grow 50 to 60 feet tall, and champion specimens may reach 100 feet.

### YEAR-ROUND APPEAL

Among the tree's endearing qualities is its varying shapes. Left to its own devices, sassafras can spread by suckers to form a thicket, but if suckers are removed, it will grow as a lone specimen tree. The leaves come in three different forms: unlobed leaves as well as those divided into two or three rounded lobes. Those leaves, which are bright green with a fine fuzz underneath in summer, put on one of North America's finest foliage displays in autumn. The fall color varies from year to year, sometimes brilliant orange and yellow, sometimes pomegranate red streaked with green.

The trees also produce a lovely flower display in early spring. Male and female flowers are borne on separate trees, blooming in yellow-green clusters usually before leaves appear. Female trees then produce small dark-blue fruits that attract birds and other wildlife.

Another reason to grow sassafras is for the spicy fragrance of its leaves, twigs, and bark. Just brush against it in the garden or crush a leaf between your fingers and you'll detect the characteristic scent. The aromat-



The color of sassafras's autumn foliage varies from year to year but is always eye-catching.

ic roots, redolent of root beer, were once popular for making tea, jelly, and other food and medicinal products. Because some compounds in the roots have been linked with cancer, the commercial use of the root is now banned. Still considered safe are the powdered dried leaves, called filé, used in Cajun dishes as a thickening agent, and other sassafras extracts not derived from the roots.

### Sources

**Burnt Ridge Nursery**, Onalaska, WA. (360) 985-0882. [www.burntridgenursery.com](http://www.burntridgenursery.com).

**Shooting Star Nursery**, Georgetown, KY. (502) 867-7679. [www.shootingstarnursery.com](http://www.shootingstarnursery.com).

### CULTIVATION TIPS

Sassafras can be difficult to transplant because it develops a deep taproot, so it is best planted as a container-grown sapling. It adapts well to most soils. Once established, it grows quickly and spreads naturally, so if a thicket fits into your landscape plan, let it roam. Otherwise, cut away suckers regularly to encourage a single-stemmed tree.

In nature, sassafras colonizes open areas such as abandoned fields, and flourishes at woodland margins. In gardens, it will do best in full sun but will tolerate light shade. Try placing it at the edge of a grove of trees or along a fence where you can enjoy its spring and autumn shows.

*A resident of Asheville, North Carolina, Nan K. Chase is the author of Eat Your Yard! (Gibbs Smith, 2010).*



AMERICAN HORTICULTURAL SOCIETY

# Members-Only SEED EXCHANGE

SEED LIST  
AVAILABLE  
MID-JANUARY!  
VISIT  
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**B** Exchange Program by sharing seeds from your garden with other members of the Society. Those who donate seeds get first pick from the entire list of seeds, which will be available on the AHS's website ([www.ahs.org](http://www.ahs.org)) in mid-January. If you prefer, you may request that the list be mailed to you. For more details, see the reverse of this page.

You must be an AHS member to participate. If you aren't already a member, or need to renew your membership, visit [www.ahs.org/join](http://www.ahs.org/join) or call the membership department at (800) 777-7931 ext. 119.

## TIPS FOR COLLECTING SEEDS TO SHARE

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

- Many seeds, such as those that form in pods, remain on the plant for a long time after maturity. Harvest them after they have dried on the plant, or cut off stalks or stems and bring them in to dry before removing the seeds.
- Seeds of many ornamental annuals, herbaceous perennials, and herbs scatter easily when ripe. They should be watched closely for maturity and picked on a dry day. Separate the seeds from the plant by running them through a screen or shaking them in a paper bag. Another method is to tie a ventilated paper bag around the flower heads to catch seeds as they scatter.
- Seeds encased in a fleshy fruit, like tomatoes, need to be separated from the pulp. In the case of fruit containing a single seed, the pulp can often simply be pulled off. In the case of a fruit with many seeds, you may need to scrape out the fruit's seedy section, add some water, and let the mix sit for a day or two. Then put the mixture in a strainer and run water through it until the seeds are clean. Spread the seeds out on a glass or glazed ceramic plate and let them dry. Large seeds need about a week to dry; smaller seeds are usually dry after four days. Store the seeds in a well-ventilated, cool, dry place.

*Try something new!  
Share your favorite  
varieties!*

*Look what we grew!*

The grandchildren of an AHS member in Oregon show off the Italian zucchini that was grown from seed obtained from the seed exchange.



# AMERICAN HORTICULTURAL SOCIETY

# 2014 SEED EXCHANGE

**Look for the AHS 2014 Seed Exchange List on [www.ahs.org](http://www.ahs.org) in mid-January!**

A list of available seeds will appear in the January/February 2014 issue of *The American Gardener*. The full list of available seeds with descriptions will be posted on the AHS website ([www.ahs.org](http://www.ahs.org)) in mid-January. To be notified when seed ordering opens and stay up to date on other AHS activities, we suggest visiting the AHS website to subscribe to the free AHS e-newsletter.

If you would like to receive a paper copy of the seed exchange list, send a self-addressed, stamped, business-size envelope to 2014 AHS Seed Exchange List Request, 7931 East Boulevard Drive, Alexandria, VA 22308.

**Please note:** *Due to Federal regulations, the AHS can only accept seed donations from, and send seeds to, members living in the United States.*

If you have seeds you would like to donate to the 2014 Seed Exchange Program, here's what to do:

- Seeds must be cleaned and dried as thoroughly as possible before packaging. (See "Tips for Collecting Seeds" on the other side of this page.)
  - Collect enough seeds of each variety to fill a minimum of 75 orders. For very small seeds, one order would be enough to fill the tip of a teaspoon; for large seeds such as beans, it would be five to 10 seeds.
  - Complete a Donor Information Sheet (below) for each type of seed donated. Photocopy as many sheets as needed.
  - To help us with cross-referencing, also label each package of seeds with the common and botanical names of the plant.
  - Mail seeds in a box or padded envelope marked **HAND CANCEL to: 2014 AHS Seed Exchange Program, 7931 East Boulevard Drive, Alexandria, VA 22308.**
  - Seed donations must be postmarked by **November 15, 2013.**
- Note:** AHS members who have donated seeds according to these guidelines will receive first preference in getting their orders filled.

Due to insufficient supply or other reasons, not all donated seeds may appear in the catalog; these seeds are donated to nonprofit organizations and schools, upon request. If you would like to obtain seeds for your local school or organization, please contact us for availability.

## 2014 AHS Seed Exchange Program Donor Information Sheet

**Please complete a sheet for each type of seed donated. Photocopy this sheet as needed.**

**Seed is:**     Annual     Herb     Tree/Shrub     Vine     Perennial     Vegetable/Fruit

Common name: \_\_\_\_\_

Botanical name: \_\_\_\_\_

Mature height: \_\_\_\_\_ Flower color(s): \_\_\_\_\_

Growth habit: \_\_\_\_\_

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

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Submitted by: \_\_\_\_\_

Street address: \_\_\_\_\_

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I appreciate the AHS's efforts to reduce paper usage by making the seed list available online, but I prefer to have a copy mailed to my home. I've enclosed a self-addressed, stamped business-size envelope.

### **Seed donations must be postmarked by November 15, 2013.**

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

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

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