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May / June 2018

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Volume 97, Number 3 · May / June 2018

FEATURES

ON THE COVER: A longtime garden favorite, 'Heavenly Blue' morning glory *(Ipomoea tricolor)* produces four- to five-inch-wide bright blue flowers on vines climbing up to 15 feet.
Photograph by Janet Loughrey

CAROLE OTTESEN, AHS ARCHIVES

DEPARTMENTS

NOTES FROM RIVER FARM

I LOVE TO have my windows open on mild summer days. Here at River Farm, what often wafts in on the soft breezes is the sound of excited children as they wander and play in our gardens. Their delight in exploring our banana tree maze, chasing butterflies through our meadow, or watching our resident bald eagles soar over the Potomac River is a daily reminder of why it's so important to have places like River Farm where people of all ages can interact with gardens and the natural world. It's also a reminder that nurturing a connection with plants at an early age can pay enormous dividends.

A case in point is 18-year-old Katie Stagliano, one of this year's inspiring AHS national award winners. When Katie was in third-grade, she grew a 40-pound cabbage in her home garden as part of a school project. She donated the cabbage to a local soup kitchen, and found purpose and meaning in knowing that she had helped feed more than 275 hungry people in her community. As a nine-year-old, Katie decided to encourage and assist other kids to start vegetable gardens. That initiative morphed into Katie's Krops, a nonprofit organization that has helped launch more than 100 youth-powered gardens across the country to grow food for the needy.

Then there's Alizé Carrère, who I'm excited to say will be one of the keynote speakers at our National Children & Youth Garden Symposium taking place in Ithaca, New York, in July. This Ithaca native spent her childhood steeped in the outdoors, a formative experience she credits with guiding her career as a National Geographic Explorer who conducts field research on climate change adaptations and leads tours around the world. Now in her late 20s, she advocates for hands-on, experiential learning to effectively engage kids in science and the natural world.

Both of these young women fill me with optimism for the future, and the good news is that there are many others like them who discovered the wonder of plants early on in their lives and were moved to use that love to positively influence the world around them. A central component of the AHS's mission is to increase the opportunities for young people to have these kinds of experiences. Our annual symposium provides a forum for teachers and others who work with young people to meet, inspire one another, and share educational resources. As we continue to examine how AHS can have an even greater impact in the future, I hope I can count on you to support expanded youth gardening initiatives by AHS. To learn more about the 2018 symposium, turn to page 12.

This issue of *The American Gardener* also contains lots of ideas and information for your garden. Starting on page 24, Andrew Bunting offers an insider's guide to new magnolia selections that boast richer flower colors, compact habits, and increased hardiness. Our native pawpaw may not be as showy as these magnolias, but this culturally significant plant has its own special beauty and tasty fruit, as Andrew Moore describes in the article on page 35. If you're looking to create some eye-catching containers for your summer patio or porch, Nancy Ondra's piece on page 30 makes the case for giving foliage plants a try. As you read through these and other articles in the following pages, I hope they leave you eager to start digging.

Happy gardening!

Beth Tuttle
President & CEO

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

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MEMBERS' FORUM

THE CASE AGAINST LANDSCAPE FABRIC

I just had to respond to the article on weed control ("Getting a Grip on Weeds") in the March/April issue. Perhaps they don't have quackgrass where author Kris Wetherbee gardens, but it is a major weed for me in Upstate New York.

I tried using weed barrier to control it, but the sharp tips of the quackgrass just grew right up through the fabric. I had also placed woodchips on top of the fabric, but as the chips rotted, they created a perfect bed for germinating weed seeds. So, I had weeds on top, and weeds coming up through it. I pulled up all the fabric and threw it away. In my former position as a New York State cooperative Extension horticulture educator, I always advised people *not* to use landscape fabric for weed control.

Pat Curran
Newfield, NY

I have a few thoughts on the article "Getting a Grip on Weeds" (March/April). As a landscape designer, I know that weeds are problematic for my clients, particularly in newly established gardens. Bringing in amended soil almost guarantees weed seeds.

Some of the weed-preventing tips in the article seemed counter-productive. For example, the author writes: "You can design weeds out of your landscape by growing plants closer together." That on its own is good advice, but the author goes on to recommend using a fabric weed barrier. From my perspective, you can't put plants close together without allowing them the chance to naturally spread and reseed, which won't happen if you also employ a weed barrier. I never use a weed barrier because it eliminates the opportunity for Mother Nature to play a serendipitous role.

Steve Aegerter
Denver, CO

GIVING LAWNS SHORT SHRIFT

In the excerpt ("Lawn or No Lawn?") from landscape architect Susan Morrison's book, published in the March/April

2018 issue, Morrison's sentiments about the value of turfgrass in the landscape are summed up as, "In general, lawns add an aesthetic quality that's perceived as nice to an average-sized backyard, but that's about it." Morrison did concede that in some cases a small swath of turfgrass is beneficial for pets or children, before eventually concluding that parks are probably better.

I suspect that the turfgrass scientists at every land grant university in the United States can offer up a host of additional benefits provided by a healthy lawn, even in an "average-sized backyard." I hope you'll allow equal space for their perspective and research on the value of lawns.

Paul A. Grace
Indianapolis, IN

DOGWOOD DISEASES

I always enjoy Scott Aker's "Garden Solutions" column, and the one about dogwood diseases in the March/April issue was particularly interesting because of his observation that anthracnose does not seem to be as great a threat to flowering dogwoods *(Cornus florida)* as it once was. I have been planting the selection 'Appalachian Spring' for about 10 years or so because of its anthracnose resistance, but that selection is susceptible to powdery mildew. That leaves me in a quandary as to whether I should start planting some of the others in the 'Appalachian' series that apparently are mildew resistant but not anthracnose resistant. In larger groupings, would it make sense to divide the plantings between 'Appalachian Spring' and some of the other selections that have only powdery mildew resistance?

John Totten
Pittsburgh, PA

Scott Aker's response: While it's always wise to be guarded about predictions, I believe it's unlikely that dogwood anthracnose will be a widespread and calamitous disease in the future. You are correct in noting that 'Appalachian Spring' is subject to powdery mildew. Two of the other cultivars in that series—'Jean's Appalachian Snow' and 'Kay's Appalachian Mist'—are reported to be resistant to powdery mildew, so I would suggest you try mixing those in with your plantings. Avoiding monocultures by using more than one cultivar and/or species is always a good practice.

CORRECTIONS

In a profile of Pierre Bennerup, the AHS's 2018 Liberty Hyde Bailey Award winner, published in the March/April issue, we incorrectly identified Bennerup's business partners at Sunny Border Nurseries, who are Susan J. Sawicki and Linda Laviana.

In the same section, the article about Paul Ecke Jr. Commercial Award winner Randy Baldwin misstated the year he was named the Southern California Horticultural Society's Horticulturist of the Year. It was in 2017.

In the article "Fresh Choices for Shade" in the March/April issue, Jenny Rose Carey's name was misspelled. Her book, *Glorious Shade,* was published in 2017.

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News from the AHS

May / June 2018

PROGRAMS • EVENTS • ANNOUNCEMENTS

RIVER FARM BAMBOO FEEDS NATIONAL ZOO PANDAS

THE THREE beloved giant pandas at the Smithsonian's National Zoo in Washington, D.C., have a new supply of bamboo thanks to an abundant grove thriving at the American Horticultural Society's (AHS) headquarters at River Farm in Alexandria, Virginia. According to **Bill Clements**, commissary manager at the zoo, "each panda chews through 30 kilos of bamboo a day," so to keep up with demand, the zoo's staff members harvest from 25 large stands of bamboo located within a 90-minute driving radius of the zoo.

The National Zoo's male giant panda, Tian Tian, enjoys a meal of fresh bamboo, which zoo staff have begun to harvest from River Farm.

Pandas can be picky about their bamboo, but when zookeepers originally sampled River Farm's stand of *Bambusa multiplex* in February, they noted that it had the type of texture and sweet scent that usually appeal to the bears. Sure enough, it passed the taste test with pandas **Mei Xiang**, **Tian Tian**, and **Bei Bei**—who reportedly found the River Farm bamboo so delicious that it will be reserved as a special treat. Subsequently, the zoo will continue to periodically harvest bamboo from River Farm for the pandas as well as several other animals at the National Zoo that eat bamboo, including the Asian elephants, Dama gazelles, and apes.

"We are very pleased to support the work of the Smithsonian's National Zoo," says **Dan Scott**, AHS's Associate Director of Gardens and Facilities. "River Farm's bamboo was planted decades ago, long before this type of bamboo was known to be invasive in our climate," he explains. "It's a challenge to keep this exuberant plant contained, but in addition to providing panda fodder, our bamboo does have its uses for screening and stabilizing the sides of a ravine. We also use the bamboo to stake tall plants and build trellises for vines in our gardens."

Monte Durham

25TH ANNUAL AHS GALA IN SEPTEMBER

JOIN US on Saturday, September 22, to celebrate the silver anniversary of the AHS's annual fall fundraising gala at our River Farm headquarters. Titled "25 Years of Color in the Garden," this year's event features Honorary Chair **Monte Durham**, fashion director and host of TLC's popular reality show *Say Yes to the Dress: Atlanta*. This elegant evening of fine dining under an outdoor tent includes a silent auction of one-of-a-kind items ranging from exclusive travel packages to jewelry and garden-themed items. For tickets, or to learn about sponsorship opportunities, please contact **Susan Klejst**, Director of Development and Engagement, at (703) 768-5700, ext. 127 or at development@ahsgardening.org.

TOP: MEHGAN MURPHY, COURTESY OF SMITHSONIAN NATIONAL ZOO. BOTTOM: ANDREW SAMPLAWSKI, COURTESY OF MONTE DURHAM

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DEVELOPMENT To make a gift to the American Horticultural Society, or for information about a donation you have already made, call (703) 768-5700 ext. 127, or send an e-mail to development@ahsgardening.org.

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

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

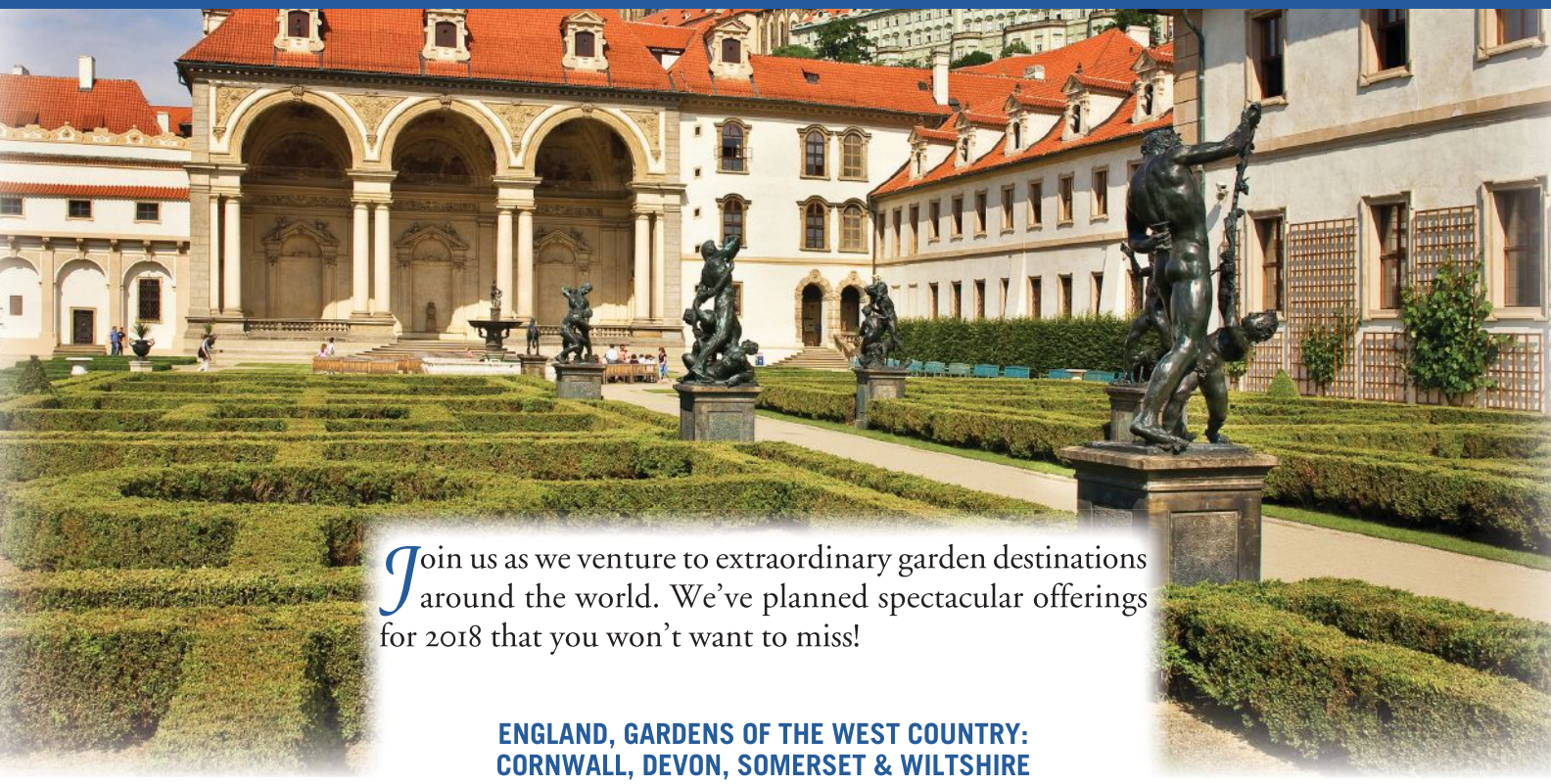
RECIPROCAL ADMISSIONS PROGRAM The AHS Reciprocal Admissions Program offers members free admission and other discounts to 300 botanical gardens and other horticultural destinations throughout North America. A list of participating gardens can be found on *www.ahsgardening.org/rap*. For more information, call (703) 768-5700 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.ahsgardening.org*.

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

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

AMERICAN HORTICULTURAL SOCIETY TRAVEL STUDY PROGRAM UPCOMING TOURS



Join us as we venture to extraordinary garden destinations around the world. We've planned spectacular offerings for 2018 that you won't want to miss!

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June 10–18, 2018 **SOLD OUT**
hosted by Holly and Osamu Shimizu

CASTLES & GARDENS OF THE CZECH REPUBLIC: PRAGUE, BOHEMIA & MORAVIA
September 5–15, 2018
hosted by Shirley and Frank Nicolai

DESTINATIONS IN 2019

MALTA & EASTERN SICILY (March 24–April 4)
BRITISH ISLES, BELGIUM & NORWAY (May 12–22)
DENMARK & SWEDEN (July 15–25)
VANCOUVER, SALT SPRING ISLAND & VICTORIA (September)
More information on these trips coming soon!

For more information about the AHS Travel Study Program
visit www.ahsgardening.org/travel, e-mail development@ahsgardening.org, or contact Susan Klejst at (703) 768-5700 ext. 127.

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

AHS 2018 NATIONAL EVENTS CALENDAR

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

JUNE 10–18. **England, Gardens of the West Country: Cornwall, Devon, Somerset & Wiltshire.** AHS Travel Study Program.
JUNE 21. **Great American Gardeners and AHS Book Awards Ceremony.** River Farm, Alexandria, VA.
JULY 11–14. **AHS National Children & Youth Garden Symposium,** Ithaca, NY.
SEPT. 5–15. **Castles & Gardens of the Czech Republic: Prague, Bohemia & Moravia.** AHS Travel Study Program.
SEPT. 22. **AHS Annual Gala,** River Farm, Alexandria, VA.
SEPT. 27–29. **America in Bloom Symposium and Awards Program.** Lexington, KY. (AHS partner event.)
OCT. 11–25. **AHS Online Auction.** National.
DEC. 3–21. **Indoor Holiday Display.** River Farm, Alexandria, VA.

NATIONAL POLLINATOR WEEK IN JUNE

AS GARDENERS, most of us are frequently reminded of the critical role that pollinators play in our landscapes and in our food supply. But there's still a long way to go in terms of educating the public about why pollinators are important and what we can do to support them. If you are looking for ways to help friends, neighbors, or family members learn more, National Pollinator Week (NPW) is a good time—and place—to start.

During NPW, from June 18 to 24, the AHS will offer free seeds to visitors at our River Farm headquarters. Visitors can also take away plant and design ideas from our Wildlife Garden, a native plant haven for pollinators that has been certified as a Backyard Wildlife Habitat by the National Wildlife Federation. Our website also provides links to articles about pollinators that have been published in this magazine.

Now in its 11th year, NPW was initiated by the Pollinator Partnership as a way to celebrate pollinators and at the same time draw attention to a worrisome decline in pollinator populations and diversity. The organization's website offers plenty of useful resources, including an interactive map listing NPW events around the country, fun projects for kids, and a searchable guide to pollinator-friendly plants that are appropriate for different ecoregions of the United States and Canada.

For more information about National Pollinator Week, visit *www.pollinator.org/pollinator-week*.

IS YOUR MEMBERSHIP CURRENT? CHECK YOUR MAILING LABEL!

IF YOU aren't sure when your AHS membership expires, one easy way to check is to look for the date at the top of this magazine's mailing label [shown, left]. This information is important because we are no longer using reminders on the magazine cover to inform individual members when they need to renew.

As always, you can also check the status of your membership online by logging into your account or by calling our membership department at (703) 768-5700.

READ THIS MAGAZINE ONLINE

WE KNOW from surveys that AHS members love to read their printed copy of *The American Gardener*, but don't forget that you can access the digital version of the magazine online. Just log into the AHS website at *www.ahsgardening.org*, and you can view issues of the magazine on your laptop, tablet, and even your phone. For those who have never tried reading the magazine online, a short tutorial will offer tips on how to make the most of the experience.

News written by AHS Staff.

Gifts of Note

In addition to vital support through membership dues, the American Horticultural Society relies on grants, bequests, and other gifts to support its programs. We would like to thank the following donors for gifts received between March 1 and April 30, 2018.

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If you would like to support the AHS, please call Susan Klejst, Director of Development & Engagement, at (703) 768-5700 ext. 127.

THE AMERICAN HORTICULTURAL SOCIETY'S 26TH ANNUAL

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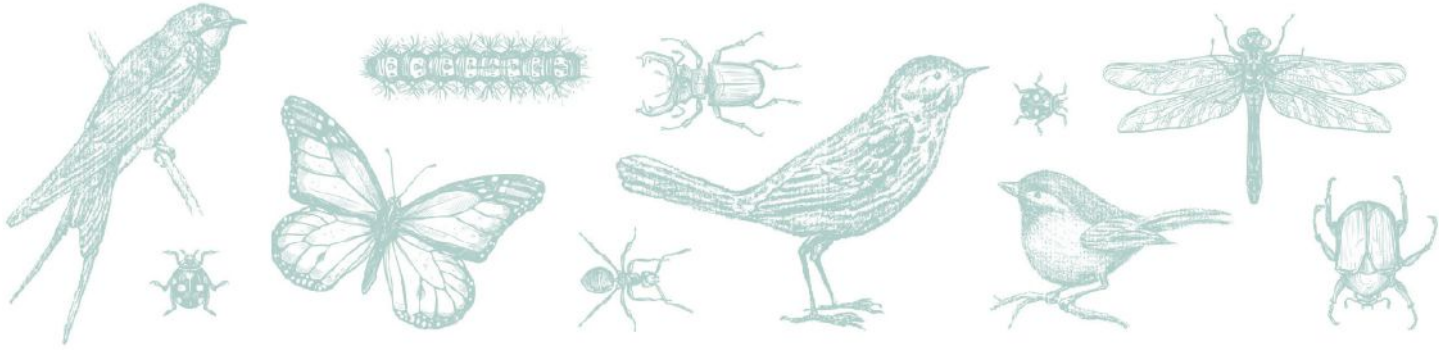

Join us at the only national event of its kind for educators, garden designers, community leaders, program coordinators, and others dedicated to connecting kids to the natural world.

> **The National Children and Youth Garden Symposium reignited my drive and creativity for my job. I do not feel alone in this push to integrate a garden curriculum into a child's everyday life. Our work is incredibly important and this symposium reminded me of that.**
>
> **— JANN KNAPPAGE,**
> ***First-time NCYGS attendee***

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AMERICAN HORTICULTURAL SOCIETY

AHS NEWS SPECIAL:

National Children & Youth Garden Symposium Returns to Ithaca, New York

by Katherine Somerville

In the Finger Lakes region of Upstate New York, the small town of Ithaca draws visitors from all over the world for many reasons. The area's natural beauty and the Ivy League school, Cornell University, are just a couple of attractions that make Ithaca an ideal setting for the American Horticultural Society's 26th annual National Children & Youth Garden Symposium (NCYGS) this summer from July 11 to 14. This professional development event is aimed at engaging those who work with, or are interested in working with young people in garden settings and other outdoor environments.

Local hosts of the symposium, which also took place in Ithaca in 2004, are Cornell Garden-Based Learning and Cornell Cooperative Extension. Cornell University Extension support specialist **Fiona Doherty** and her colleague, **Marcia Eames-Sheavly**, have been working diligently alongside AHS staff to put together a dynamic schedule of events that will give symposium participants an authentic experience. "Ithaca is a special place because of its natural setting and the people who live here," says Doherty. "It seems to attract progressive and motivated people. As a result, our region is abundant in exceptional community-centered organizations, including youth garden programs."

Above: Young participants in a summer camp at the Ithaca Children's Garden. Left: The lush landscape at Cornell Botanic Gardens.

ITHACA EXPLORATIONS

NCYGS takes place in a different location each year in order to provide participants with the chance to explore innovative programs and places. Doherty is particularly excited because this year's itinerary includes a visit to the Ithaca Children's Garden (ICG), which "during the last symposium was still largely a dream," she says. Over the last 14 years, "it has received several awards and grown into a nationally recognized premier grassroots children's garden," she adds. Participants will learn how ICG uses play to accomplish its mission to inspire the next generation of environmental stewards through summer camps, outdoor preschool, teen employment programs, community events, and casual visitation.

Tours of exemplary school and youth garden sites around Ithaca also will be offered. For example, symposium participants will visit New Roots, Ithaca's regional public high school that embraces the green schools movement. Students explore topics such as sustainable agriculture and community gardening through hands-on, community-based curriculum and programs.

Optional tours before and after the symposium will offer a chance for further explorations (see sidebar, opposite page).

TACKLING DIVERSE TOPICS

The peer-led educational sessions that form the core of the symposium are curated with diversity in mind, not only in subject matter, but in target age group, educational setting, and experience level of garden educator. Topics include curriculum development, garden design strategies, building community partnerships, and more. Educators who are just getting started with garden-based learning will find a number

TOP: COURTESY OF ITHACA CHILDREN'S GARDEN. BOTTOM: COURTESY OF CORNELL BOTANIC GARDEN

of sessions that cover the basics—designing and creating a garden, managing student groups outdoors, and reaching out to partners, funders, and volunteers. Those who are more experienced can learn about topics such as incorporating technology into garden lessons and ways to include special needs groups in the garden (children with autism, English Language Learners, and hospital-bound kids, in particular).

Still other sessions will be geared toward encouraging middle- and high-school students to explore potential jobs in horticulture. "A growing issue in the green industry is that even though there's a myriad of rewarding careers involving plants, there are not enough well-trained people to fill them, mostly due to lack of awareness," says **Nora MacDonald**, AHS Associate Director of Membership and Member Programs. To help address this problem, the American Horticultural Society is partnering with the Seed Your Future (SYF) movement, which focuses on encouraging kids to consider plant-based careers.

Symposium keynote speaker Alizé Carrère, a climate researcher, is shown here with a lemur during a visit to Madagascar.

"Because our symposium attendees play integral roles in connecting young people and plants across the country," adds MacDonald, "they are perfectly positioned to spread Seed Your Future's message." Sessions on this topic will include "How to be a Cool Plantologist and Inspire Kids Toward Green Collar Careers," led by SYF Executive Director **Susan Yoder**.

MANY PERSPECTIVES

National Geographic Explorer **Alizé Carrère** will give one of the symposium's keynote presentations. Raised in Ithaca, Carrère now travels the world as a climate researcher, cultural ecologist, and excursion planner. She will speak about inspiring younger generations to connect classroom lessons to the broader world and use creativity to find solutions to environmental challenges.

Symposium attendees also will hear from a panel comprising garden designer **Cindy Tyler**, garden nonprofit founder **Rebecca Lemos-Otero**, and **Duron Chavis**, community engagement coordinator for Lewis Ginter Botanical Garden. Looking at the issue of equitable access to garden spaces, the panelists will discuss strategies to increase access for all audiences and make the garden an inclusive place for meaningful learning.

Panelists Cindy Tyler, above left, Rebecca Lemos-Otera, above right, and Duron Chavis, left, will explore strategies for equitable garden access.

In keeping with Cornell's founding ideology, "Any person, any study," a group of Cornell University-based individuals will join symposium attendees during lunch one day to "talk shop." Topics of discussion range from urban trees to food systems to cultivating resiliency.

"NCYGS is a once-a-year opportunity to network with peers, share and receive knowledge, and be inspired to try new things," says Doherty. "In Ithaca, you can do all this in a beautiful, ecological landscape on a historical university campus."

For additional information about the symposium and to register to attend, visit *www.ahsgardening.org/ncygs* or e-mail education@ahsgardening.org

Katherine Somerville is Member Programs Associate for the American Horticultural Society.

OPTIONAL EXCURSIONS FOR FURTHER EXPLORATION

WEDNESDAY, JULY 11. Cornell's world-renowned **Lab of Ornithology** will host participants for a day-long workshop to learn about citizen science, outdoor teaching, bird migration and reproduction, and gardening for birds. Participants will develop the ideas, skills, and confidence to use citizen science and birds as teaching tools in their own garden spaces and programs.

For something truly unique to Ithaca, participants may take part in a tour and make-and-take workshop at Graham Ottoson's **Gourdlandia** [shown right]. Midwife-turned-artisan Ottoson will show off her vine-filled gardens and then guide participants in transforming a dried gourd into a functional bowl.

SATURDAY, JULY 14. As a last hurrah, participants may conclude their symposium experience with a relaxing dinner at the **Finger Lakes Cider House**. A hub of the hard-cider renaissance in New York's apple country, this establishment will host the group for a tour of its orchards and cider press, then provide a farm-to-table dinner in a pastoral setting. —K.S.

LEFT: COURTESY OF ALIZÉ CARRÈRE; RIGHT: COURTESY OF GOURDLANDIA; BOTTOM: COURTESY OF CINDY TYLER, REBECCA LEMOS-OTERA, DURON CHAVIS

more than *Morning Glories*

BY JESSIE KEITH

From familiar flowering vines to xeriphytic trees, the genus *Ipomoea* has options for everyone's garden.

MORNING GLORIES and their relatives perfectly illustrate the magical qualities of ephemeral flowers. 'Heavenly Blue' morning glories shining in the early sun of a summer's day and giant buds of moonflowers unfurling at dusk soon wither away, but are replaced by new blossoms daily. These old-fashioned flowers have been popular since Victorian times and exemplify what most gardeners envision when they think of *Ipomoea*. But this large and diverse genus offers many more intriguing species beyond the well-known few.

A member of the bindweed family (Convolvulaceae), *Ipomoea* is a primarily pantropic genus, but a few species are indigenous to temperate climate regions. Between 600 and 700 species have been identified, most bearing the familiar funnel-shaped or flared, tubular flowers in various colors that attract a variety of pollinators, particularly bees, hummingbirds, and sphinx or hawk moths.

The most popular garden *Ipomoea* species are ornamental flowering vines and sweet potatoes *(I. batatas)*, but others with garden merit are underused perennials, shrubs, and even trees with fantastic flowers. Additionally, a few unusual succulent *Ipomoea* are prized as indoor plants. Then, there are the all-too-common weedy *Ipomoea* that nearly all gardeners will encounter at some point, whether they want to or not (see sidebar, page 17).

The cerulean blooms of 'Heavenly Blue' morning glory echo the sunny sky above.

JOSH MCCULLOUGH

TWINING VINES

Vining *Ipomoea* are sun lovers that are best distinguished by flower color, shape, and the type of pollinators they attract. Most common are those in shades of violet blue, purple, or pink with lightly fragrant, funnel-shaped flowers; these are pollinated by bees or the occasional butterfly. Red-flowered species typically have flared, tubular flowers that lure hummingbirds. The blossoms of white-flowered species are widely funnel-shaped and fragrant; most open at night for pollinating moths.

One of the most popular species of the bee-pollinated bunch is the classic purple morning glory *(I. purpurea)*, which is a tender perennial, typically grown as an annual. Native to Mexico and Central America, it first gained popularity in the 18th century. The twining vine grows up to 10 feet long, has heart-shaped leaves, and flowers from summer to frost. There are numerous old-fashioned varieties—with white-eyed blooms in shades of purple, lavender, and pink. Two of the best are 'Grandpa Ott's', which has velvety purple flowers each marked with a deep red star, and 'Crimson Rambler', with magenta blooms and scarlet stars. Purple morning glory has a propensity to self-sow, so it's a good idea to remove vines at the end of the season before they release excess seed.

As referenced earlier, 'Heavenly Blue' is the most popular variety of the tender perennial Mexican morning glory *(I. tricolor)*. In one season, it produces a massive twining vine extending to 15 feet, laden with heart-shaped leaves and tricolored flowers that are violet-blue with white interiors and yellow eyes. Flower density and vine size surpass those of purple morning glory, making this the showier vine. Julia Ehrhardt, community outreach director at the Tyler Arboretum in Media, Pennsylvania, uses this dense vine to provide screening to hide the car parts that her husband stores by their sun deck. "All you see is a giant mound of blue flowers—no car parts," says Ehrhardt.

Blooming begins in late summer—each flower opens in the early morning and closes by midday. New flower buds continue to bloom until frost.

Above: Though it bears lovely white flowers with reddish throats, man-of-the-earth can be difficult to contain. Top: Cardinal climber's profusion of small, red flowers attracts hummingbirds and other pollinators.

Native to the eastern United States, man-of-the-earth (*I. pandurata)* is a hardy perennial vine. It bears large, white, funnel-shaped flowers with rosy-red throats, which attract bees. Its common name refers to the starchy, sweet-potatolike roots that some Native American tribes historically used as a purgative. The wide-spreading vine is attractive, but can be aggressive, reaching up to 30 feet, and difficult to remove once established. Reserve it for fence lines and wild plantings where a clambering flowering vine for native bees would be welcome.

Hummingbirds love the flared red flowers of cardinal climber *(I. ×multifida)*, which is a hybrid between the Central

TOP: BILL JOHNSON, BOTTOM: JESSIE KEITH

American red cypress vine *(I. quamoclit)* and South American redstar *(I. coccinea)*. Delicate in appearance, but quite robust in habit, this perennial vine is often grown as an annual, reaching 15 feet tall with the support of a trellis. It has attractive, fernlike green leaves and small, but prolific, scarlet flowers that appear in summer and continue into fall. They provide nectar fir migrating hummingbirds as they head south.

One of the most desirable of the hummingbird-pollinated morning glories is Spanish flag (*I. lobata*, syn. *Mina lobata)*. A perennial in its native Mexico and South America, it is grown as an annual in temperate gardens. With support, this twining vine grows eight to 12 feet tall. "Trellises work better than a single pole or stake, and the plant is ideal for pot culture," says Karan Davis Cutler, editor of *Flowering Vines, Beautiful Climbers* (Brooklyn Botanic Garden, 1999). In late summer, one-sided sprays of tubular flowers explode into bloom, starting off red, and then morphing to yellow then cream. "Spanish flag and firecracker vine are apt names, but *Ipomoea lobata* always makes me think of a shower of candy corn," says Cutler.

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Spanish flag produces an eye-catching display of blooms comprised of several individual flowers that gradually turn from red to yellow and cream so that all three colors are present on each raceme.

BILL JOHNSON

Illuminate your patio garden with moonflower *(I. alba)*, a fragrant, night-flowering vine pollinated by sphinx moths. From midsummer to fall, six-inch, white flowers unfurl in the evening and remain open until morning, emitting a delightfully sweet fragrance. Where native in the American subtropics and tropics, vines can reach 70 feet and are perennial; grown as an annual in temperate gardens, they rarely top 15 feet. It's a good choice for deer-resistant gardens, according to Carole Ottesen, a contributing writer for this magazine. "I'm growing white moonflower this year as part of my garden of 'liver-and-onion' plants for deer—things they'll only eat if they are starving," says Ottesen.

Sweet potatoes *(I. batatas)* are vines of the tropical Americas valued both as ornamentals and vegetables. The rare-to-bloom, ornamental sweet potatoes are effortless heat-loving spreaders grown for their heart-shaped or dissected leaves that range in color from chartreuse to dark purple or variegated. Cultivars may be compact or vining, and look best along sunny borders or as container plantings.

Edible sweet potatoes produce white, yellow, or purple-fleshed tuberous roots that are sweet, starchy, and high in beta-carotene. They are best grown in mounds of fertile soil, for good root development and easy harvest. (For more about growing edible sweet potatoes, see "Sweet Potatoes: Culinary and Nutritious Superstars" in the September/October 2016 issue of this magazine.)

BEWARE WEEDY IPOMOEA

There is a long list of unwanted *Ipomoea*, and the worst offenders require real effort to eradicate, even for specialists.

As its common name suggests, mile-a-minute *(I. cairica)* is a fast-spreading weed. It is particularly problematic in the American South, where its palmate leaves and pink to lavender, funnel-shaped flowers might fool one into growing them. However, this attractive monster will take over a garden space in no time, developing deep underground stems that resist removal. Early detection and eradication is best. Once you identify mile-a-minute, cut back the top and dig out as much of the root system as possible. To keep underground stems from returning, cover the area with landscape cloth and mulch it over. After a season, all parts should be smothered.

***I. cairica* is an aggressive weed.**

Ivy-leaved morning glory *(I. hederacea)* is considered invasive throughout the eastern United States and in much of the lower Midwest. Thankfully, this annual vine is not nearly as aggressive as its perennial counterparts. It has ivy-shaped leaves and bears small, purplish flowers that look almost ornamental. High seed and seedling output is the cause of its unwanted spread. Manage it by pulling vines early, before they flower. The weak-rooted plants don't take much effort to remove.

Though not a true *Ipomoea*, bindweed *(Convolvulus arvensis)* is a closely related morning glory lookalike that deserves mention. This noxious weed from Eurasia has managed to spread throughout North America. The aggressive perennial vine develops spreading systems of impossible-to-reach rooting stems that pop up everywhere, and small, white flowers that resemble morning glory blossoms followed by heavily seeded fruits. Once a bed has bindweed, it is nearly impossible to eradicate, and gardeners are often forced to dig up coveted perennials and shrubs to fully remove it. Manage bindweed as you would mile-a-minute. Weed killers won't touch this one. —J.K.

Like other ornamental sweet potatoes, 'Sweet Caroline Purple' is grown primarily for its striking foliage, but it occasionally produces small, pinkish-purple blooms.

TOP: JOSH MCCULLOUGH. BOTTOM: NANCY J. ONDRA

LESS-COMMON, NON-VINING SPECIES

Not all *Ipomoea* are vines. Native to the arid deciduous forests of Sonora, Mexico, tree morning glory *(I. arborescens,* USDA Hardiness Zones 9–11, AHS Heat Zones 11–8) bears clusters of white flowers in the cool winter months. Though not adaptable to most North American gardens, they thrive in the dry regions of the American Southwest. These fast-growing trees can also be cultivated in large containers as conservatory specimens. Dense, succulent trunks with branches reaching up to 18 feet support deciduous, heart-shaped, deep green leaves during the summer rainy season, falling as the winter dry season approaches. The funnel-shaped flowers appear to glow on the bare branches in winter, attracting long-nosed bats and hummingbirds.

Bush morning glory *(I. leptophylla,* Zones 4–9, 10–4) is a hardy perennial with many laudable traits. "Not only are the luminous lavender-pink flowers five or more inches across—often produced in profusion—they bloom at the very hottest, driest time of the year, sustained even during droughts by the enormous root," says Panayoti Kelaidis, senior curator and director of outreach at the Denver Botanic Gardens in Colorado, who adds, "It's a one-plant entertainment center—just what gardeners love!"

The stems of bush morning glory arch to form one- to three-foot-tall clumps that produce loads of large, lavender-pink flowers in the heat and drought of summer.

Native to the sandy plains and prairies of North America, it sports linear leaves that resist heat and water loss. "Serious xeriscapers in Colorado grow it, but it is probably not a plant for maritime climates—unless grown in a container and protected from excessive moisture in the winter," says Kelaidis.

Africa is home to a few succulent *Ipomoea* oddballs with bulbous caudiciform bases. Among them is *I. bolusiana,* which is distinguished by a bulbous base resembling a husked coconut topped with languorous stems lined with threadlike leaves. Purplish-pink morning glory flowers are produced at the stem tips from spring to fall. It is easy to grow as a potted specimen, if provided with very free-draining potting mix and lots of light. Water it sparingly in winter.

GROWING VINING IPOMOEA

Vining *Ipomoea* thrive in full sun and well-drained fertile soil with a neutral pH. Climbing support—a trellis or fence—is a must, except for ornamental sweet potato, which is usually grown as an annual groundcover or in a container.

Most *Ipomoea* vines are grown as annuals in temperate gardens though they are often perennial in their native tropical environment. In frost-free areas, some species are aggressive to the point of becoming a nuisance, so be forewarned.

If starting vines from seed, keep in mind that most *Ipomoea* seeds are toxic, so they are not a good choice for small kids to plant. Start them just after the last frost date. Seeds germinate better if they are gently scratched with a nail file and wrapped overnight in a damp paper towel. Start them indoors in small pots of fine, moist potting mix, and place them in a sunny window or under grow lights. Once they sprout, plant the seedlings outdoors as soon as possible. Some people are sensitive to the sap of *Ipomoea* plants, so it's a good idea to wear gloves when handling them.

A trellis laden with glorious summer-flowering morning glories is a sight to behold and a boon to visiting pollinators. Plant an *Ipomoea* vine, or a lesser-known relative, to bring old-fashioned charm or new appeal to your garden both day and night!

Jessie Keith is a horticulturist, writer, photographer, and communications specialist based in Wilmington, Delaware.

COURTESY OF PANAYOTI KELAIDIS

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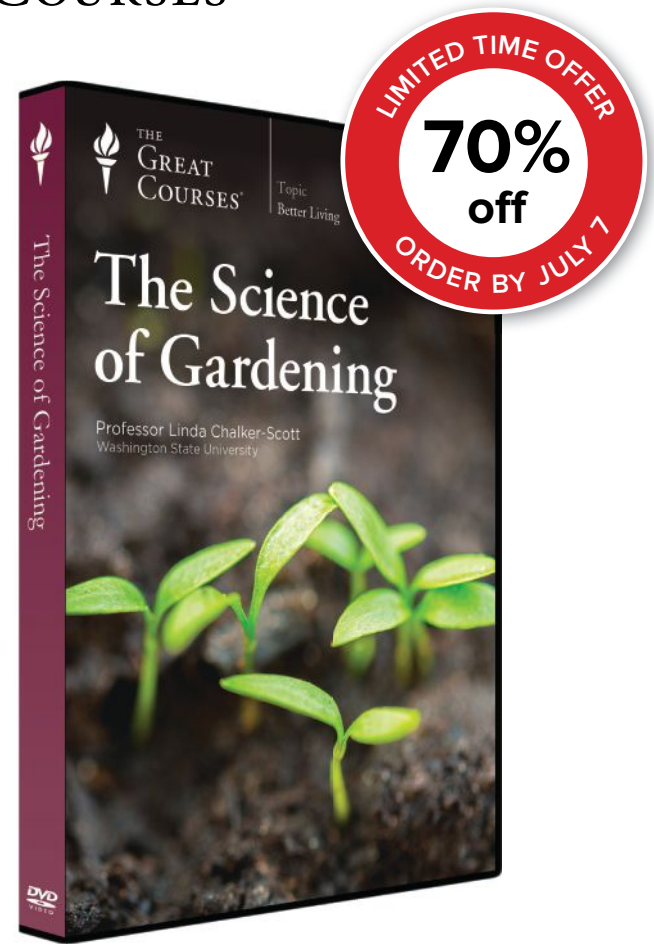

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well seated

Great Reasons to Add a Bench to Your Garden

BY RITA PELCZAR

A COMFORTABLE GARDEN BENCH invites visitors to linger among the plantings and appreciate the scene. Properly sited, it also directs attention to particular aspects of the landscape and becomes an important focal point that pulls together other design elements. Whether constructed of stone, metal, wood, or other materials, there are bench designs to suit any style of garden. There are many reasons to add a bench to your landscape, and the following examples from a variety of gardens demonstrate just a few to consider. They may inspire you to add a bench—or two—to your own outdoor setting.

Rita Pelczar is a contributing editor for The American Gardener *who gardens in North Carolina.*

CREATE A DESTINATION. Accessed through a gate in a tall evergreen hedge and an allée flanked by crabapples, daffodils, and grape hyacinths, this bench in Lynden Miller's northwest Connecticut garden serves as both a focal point and a destination.

KAREN BUSSOLINI

Above: REST ALONG A PATH. A bench is always welcome along a garden path, especially one with steps. It provides a spot to catch your breath, relax, and take in the scenery. This stone bench, designed by Robert Welsh of Westover Landscape Design, is strategically placed along the sloping stone path in this butterfly/meadow garden that occupies an entire front yard in Bronxville, New York. The bench harmonizes with the stone used for the path.

Left: TAKE IN A VIEW. Every garden bench should have a view, whether it is intimate or distant. The wooden bench on this garden terrace on the outskirts of Tucson, Arizona, is well situated to take in both. With the Catalina Mountains providing a magnificent backdrop, this garden designed by Shelly Ann Abbot of Landscape Design West features drought-tolerant plants that attract hummingbirds and butterflies. Abbot says her objective was to "create a dialog between this low-water desert garden and the desert beyond the wall."

TOP: KAREN BUSSOLINI. BOTTOM: MARK TURNER

Above: ENJOY A WATER FEATURE. Bud Dietrich's Portland, Oregon, garden designed by Michael Schultz features a custom-built bench that overlooks a minimalist garden pond filled with water lilies and lotus. Constructed by covering a special mold with colored concrete, the bench is "extremely comfortable," says Dietrich. "It may be the favorite place in the garden for visitors to sit and relax."

Above: ADD A POP OF COLOR. Nestled among a stand of evergreen trees, this painted bench adds year-round pizzazz to Nancy Cutler's Pacific Northwest garden. "I chose that color because it's one of my 'happy colors'," says Cutler. "And the combination of magenta and blue mixes well with the cool color palette in the garden."

Right: PROVIDE A SHADY RESPITE. A spot to rest in the shade is refreshing on a warm, sunny day, and if the scene invites quiet contemplation, all the better. This simple cement bench under a small gazebo in an Asian-inspired backyard garden in Seattle, Washington, does both.

TOP AND BOTTOM LEFT: JANET LOUGHREY. BOTTOM RIGHT: JERRY PAVIA

Above: RELISH THE FRAGRANCE. In this English formal garden, an elegant metal bench in the shade is the perfect place to sit and enjoy the myrrhlike scent of a nearby climbing 'Constance Spry' rose when it blooms in summer. Metal benches, especially dark-colored ones, are best situated away from direct sunlight, which can make them too hot for comfortable use.

Right: SIT AMONG THE PLANTS. Placing a bench within a garden bed's boundaries gets you up close and personal with the plants. It makes lawn maintenance easier since you don't need to move the bench to mow. This slate-and-stone bench is built into a raised bed that runs the length of this fenced yard in Honesdale, Pennsylvania.

TOP: CATRIONA T. ERLER. BOTTOM: JUDYWHITE, GARDENPHOTOS.COM

A hardy choice for cold-region gardeners, 'Blushing Belle' features large, fragrant, deep-pink flowers that bloom in early spring.

COURTESY OF ESTATE OF DENNIS LEDVINA

much ado about New Magnolias

BY ANDREW BUNTING

Advances in magnolia selection and breeding are giving gardeners options such as enhanced shades of near-red flowers, improved hardiness, and more diverse evergreen selections.

GARDENERS ARE already spoiled by the fantastic magnolia choices available for the home landscape, ranging from the well known saucer magnolias *(Magnolia ×soulangiana)* to evergreen species and the popular yellow-flowered magnolias such as 'Elizabeth', 'Lois', and 'Butterflies'.

But there's never too much of a good thing, and the last several years have seen a renaissance of sorts for magnolia lovers, as breeders have combined desirable attributes from current cultivars with the inherent qualities of various species magnolias to develop exciting new introductions. Breeders and plant explorers have tackled goals such as developing new evergreen selections to broaden the options beyond the sweetbay magnolia *(M. virginiana* var. *australis)* and the southern magnolia *(M. grandiflora)*; creating hardier evergreen magnolias to extend their range into colder regions such as the upper Midwest; and producing magnolias with flowers in a range of shades closer to true red.

In my dual roles as assistant director at the Chicago Botanic Garden in Illinois and an officer in the Magnolia Society International, I have been fortunate to see magnolias growing all over the world in the wild, in public gardens, and in nurseries. Based on my observations, here are some of the most interesting new selections available or arriving soon.

Named for its reblooming tendencies, 'March Til Frost' has wine-red flowers with a pink interior.

COURTESY OF LISA STROVINSKY

THE HUNT FOR THE RED MAGNOLIA

At one time, the holy grail of the magnolia world was to find or breed a specimen with truly yellow flowers. It was the work of hybridizers at the Brooklyn Botanic Garden in New York that resulted in the first "yellow" selection, 'Elizabeth', in 1993, and paved the way for subsequent introductions such as 'Butterflies', 'Gold Star', and 'Golden Gift'.

Today, one of the major quests is the development of a red-flowered magnolia. There are many existing magnolia cultivars that have flowers in deep pinkish or cerise-red hues, but none that can be truly called red. For example, 'Burgundy Spire' has upward-facing flowers that are white on the interior with a reddish-burgundy exterior. This relatively small magnolia reaches only eight to 10 feet at maturity.

August Kehr, a well-known magnolia hybridizer from western North Carolina, made a complex hybrid of *Magnolia* 'Ruby' *(M. liliiflora* × *M. cylindrica)* called 'March Til Frost' that bears deep wine-red flowers on a tree that reaches 20 feet tall with an equal spread. As the cultivar name indicates, 'March Til Frost' blooms in March and can rebloom sporadically into fall.

A number of promising red-flowered selections have been produced by New Zealand-based breeders, including Mark

Jury's introduction Black Tulip™, a hybrid between 'Vulcan' and 'Iolanthe' that boasts large, open-faced, wine-red flowers. I've seen this early-flowering magnolia blooming in March in Raleigh, North Carolina. 'Genie' is a diminutive introduction bred by Vance Hooper. Its goblet-shaped flowers are very close to a true red, appearing maroon to magenta when they bloom.

Perhaps the biggest breakthrough in the hunt for a red magnolia, however, has been the relatively recent introduction of the red lotus tree *(M. insignis,* Zones 7–9, 9–7), an evergreen species native to southern China, northern Vietnam, Myanmar, and northeast India west to Nepal. The fragrant, open-faced, pink to scarlet flowers are borne sporadically throughout the canopy of the tree in late spring to mid-summer. Preliminary trials indicate the red lotus tree is an excellent evergreen magnolia for the Pacific Northwest and Southeast. 'Anita Figlar', a selection that noted magnolia expert Dick Figlar named to honor his wife, produces a greater profusion of flowers than the species.

SELECTIONS FOR NORTHERN GARDENS

For gardeners in the colder regions of the world, such as the upper Midwest and northern Europe, one of the most important magnolia breeders was Dennis Ledvina of Wisconsin, who died in 2016. Ledvina tried to merge the attributes found in magnolias that are adapted in warmer climates with those of cold hardy species such as Oyama magnolia *(M. sieboldii)*, cucumber magnolia *(M. acuminata)*, and Loebner magnolia *(M. ×loebneri)*.

Among Ledvina's many fine introductions is 'Blushing Belle', which has large, fragrant, pink flowers and is hardy to USDA Zone 4. A cross between 'Yellow Bird' and the much more tender 'Caerhays Belle', it reaches 15 to 20 feet tall with a spread of eight to 10 feet and is a great addition to the early spring landscape. Another large-flowered selection, 'Roseanne', has lavender-pink flowers that feature a lighter pink inner tepal (magnolia flowers are composed of tepals, which are petallike

Left: Striking, deep maroon flowers are a hallmark of 'Genie', a compact hybrid that grows 10 to 15 feet tall. Above: A selection of the evergreen red lotus tree, 'Anita Figlar', has two-tone flowers that bloom profusely in late spring and rebloom sporadically thereafter.

LEFT: COURTESY OF GARY KNOX. TOP RIGHT: COURTESY OF DICK FIGLAR. BOTTOM RIGHT: COURTESY OF LISA STROVINSKY

MAGNOLIA TERMINOLOGY

Magnolias in full bloom have been known to stop traffic, and the range of flower shapes and colors available is astounding. When admiring magnolia flowers, be aware that what appear to be petals are technically known as **tepals**, because in botanical terms they are actually a combination of petals and sepals. Each flower has six or more tepals clustered around an elongated receptacle bearing spirally arranged stamens that come in various colors. The stamens are sometimes supported by a central boss that in some species is also colorful. Magnolia fruits are aggregates of follicles, each of which produces seeds that are often protected by bright red or pink coats. Some magnolias have elongated fruits that resemble small cucumbers; others are larger, lumpier, and sometimes even conelike. —A.B.

Magnolia flowers are composed of petal-like tepals around a cluster of stamens.

flower parts—see box on opposite page for more details on magnolia flower and fruit terminology). 'Arctic Star' is a smaller Ledvina hybrid that grows only 12 feet tall. The upward facing, tulip-shaped flowers are soft pink and each outer tepal has striking magenta streaking. 'Red Baron' is a hybrid between cucumber magnolia and a cultivar called 'Big Dude'. The slightly fragrant, goblet-shaped flowers are rose-pink on the outer side of each tepal and a contrasting white on the inner side.

Another Ledvina introduction, 'Exotic Star' (Zones 6–8, 8–6), combines the hardiness of the Oyama magnolia with the quintessential glossy evergreen leaves of the southern magnolia. Its flowers are skyward facing, creamy white, and fragrant—like those of southern magnolias—but they also feature a central purple boss of stamens much like the flowers of Oyama magnolias. While not quite a viable evergreen selection for Chicago and more northern regions, it is a major step in that direction. Further breeding efforts with evergreen species and cold-hardy cultivars and species should ultimately result in a truly cold-hardy evergreen magnolia.

An even more recent introduction, 'Melissa Parris', was hybridized by Ledvina, but raised and introduced by Kevin Parris of Spartanburg, South Carolina. The result of a complex breeding project that involved three different species and two selections, it has shiny, strap-shaped foliage that can remain evergreen for most of the winter in USDA Zone 6. It will reach up to 20 feet tall at maturity and has rosy-pink flowers. Parris also introduced 'Sweet Kay', which is a hybrid between a southern-sourced form of sweetbay magnolia *(M. virginiana* var. *australis)* and Parris's diminutive southern magnolia selection 'Kay Parris'. Further evaluation needs to be done, but 'Sweet Kay' may be another selection that will offer evergreen characteristics to gardeners in colder regions.

Hybrids created by the late Dennis Ledvina include 'Melissa Parris,' left, which has rosy-pink flowers and glossy, semi-evergreen foliage, and hardy 'Red Baron', above, which has goblet-shaped, deep rose flowers with pinkish-white interiors.

NEW EVERGREEN SPECIES

Significant advances in magnolia breeding and selection are occurring within the evergreen species. This is largely due to new and interesting species being introduced by botanic gardens and arboreta following plant expeditions to China and Vietnam.

Last summer, I spent 10 days visiting specialty nurseries in Japan. One of our stops was Shibamichi's Nursery in Kawaguchi, Japan, north of Tokyo. The nursery is justly famous for its introduction of *M. foveolata* 'Shibamichi', which has attri-

LEFT: COURTESY OF KEVIN PARRIS. RIGHT: COURTESY OF ESTATE OF DENNIS LEDVINA

Resources

Magnolia Society International, *www.magnoliasociety.org.*
The Plant Lover's Guide to Magnolias by Andrew Bunting, Timber Press, Portland, OR, 2016.

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In addition to its attractive evergreen foliage, *Magnolia foveolata* 'Shibamichi' from Japan has pale yellow flowers that open to reveal a decorative cluster of red stamens.

butes reminiscent of southern magnolias, including strikingly colored fuzz—called indumentum in botanical terms—on the undersides of the leaves. Unlike the brown indumentum typical of the southern magnolias, however, 'Shibamichi' sports amazing golden-colored fuzz.

Another relatively new evergreen Asian magnolia that is being used in hybridizing—and at the same time expanding the choices among evergreen species—is Chinese wood-lotus *(M. yuyuanensis,* Zones 7a–10, 10–7), which is native to China. At maturity, it reaches 30 feet tall with a dense pyramidal habit enhanced by its elongate, glossy green foliage. The upward-facing flowers, which bloom sporadically from late spring to early summer, are white with a boss of purple stamens similar to those of Oyama magnolia and *M. wilsonii.* Chinese wood-lotus can be grown as a single specimen tree or used for screening and hedging.

The wonderfully named smiling monkey forest tree *(M. maudiae,* Zones 7b–11, 10–7), native to several provinces in China, is an evergreen magnolia with a dense habit. Its pure white, strongly fragrant, five- to six-inch flowers bloom profusely. It has proven to be an excellent small flowering ornamental tree on the West Coast from Los Angeles to Vancouver, and has also been used as a street tree in Portland, Oregon. Because of its tolerance to heat and drought, it also seems to be adapted to conditions in many southeastern states. 'Touch of Pink', as you might guess, is a selection with pink-tinged flowers.

Magnolia laevifolia (Zones 7b–10, 10–7) is a great choice for the small garden. Depending on location, flowering can start as early as midwinter and continue into the autumn. The four-inch-wide white flowers have striking yellow stamens and a lemony fragrance. Selections include the shorter 'Strybing Compact'; 'Copperstop', which has furry stems and leaves; and 'Michelle', which is a profuse-flowering cultivar that

Above, left: Chinese wood-lotus *(M. yuyuanensis)* has a pyramidal habit. Above, right: *M. laevifolia* 'Michelle' grows to about 18 feet tall and produces abundant white flowers.

TOP: COURTESY OF DICK FIGLAR. . BOTTOM LEFT: ANDREW BUNTING. BOTTOM RIGHT: COURTESY OF AARON SCHETTLER

reaches 18 feet tall and 10 feet wide and was selected by Tony Avent at Plant Delights Nursery in North Carolina. 'Snowbird' makes a great foundation plant, and newer cultivars include 'Free Spirit' and 'Inspiration'.

'Eternal Spring', the result of a cross between *M. maudiae* and *M. laevifolia,* was introduced by Camellia Forest Nursery in North Carolina. It sports three-inch-wide, fragrant, white flowers that bloom for up to four weeks from early to mid-spring.

Mark Jury has added several new introductions to the Fairy Magnolia series (Zones 7b–11, 10–7), including Fairy Blush™ and Fairy White™. These dense, shrubby cultivars—which reach nine to 12 feet tall and slightly less in diameter over seven years—are becoming popular in New Zealand, Australia, California, and the southeastern United States. The cream colored, sweetly fragrant flowers open from striking brown velvety buds that are borne along the stem, producing a more significant floral show. The primary bloom time is early to mid-spring, but these selections also rebloom sporadically in summer and autumn. In colder climate zones, the leaves may drop during harsh winters.

EVERGREENS IN NEW SHAPES AND SIZES

American gardeners are already growing many of the fine selections and forms of southern magnolia and sweetbay magnolia, but new introductions are expanding the way these evergreens can be used in the landscape. Two compact selections of the southern magnolia have been released in recent years, including Baby Grand™ ('STRgra'), an Australian introduction that is very compact in habit, reaching only 10 feet tall with a spread of seven feet at maturity. Teddy Bear™ ('Southern Charm'), an introduction from Head Lee Nursery in Seneca, South Carolina, is tightly pyramidal, reaching only 20 feet tall at maturity, which makes it a perfect selection for hedging and screening in smaller gardens.

Compact selections of southern magnolia, such as Baby Grand™ ('STRgra'), provide evergreen foliage and fragrant, creamy white flowers on a scale suited for smaller gardens.

Growing to only eight feet tall, Sweet Thing™ ('Perry Paige') has a rounded, shrublike habit.

Sweet Thing™ ('Perry Paige') is an interesting selection of sweetbay magnolia introduced by the Boyd Nursery Company in Morrison, Tennessee. Unlike all other selections, which tend to form a thicket or become treelike, Sweet Thing™ is a perfectly rounded evergreen shrub that reaches eight feet tall and wide at maturity. The long, dark green leaves, which are silvery-white on the underside, are typical of the species. This could prove to be a welcome alternative to rhododendrons, cherry laurels *(Prunus laurocerasus)*, and other overused evergreen shrubs.

MUCH MORE FOR MAGNOLIAS

It is truly an exhilarating time for those of us who love magnolias. Hybridizers around the world are revisiting well-established hybrids and creating scores of new and interesting selections. The most exciting of these offer attributes such as increased hardiness, compact habits for smaller gardens, and intense fragrance. I have no doubt that in the foreseeable future someone will produce a magnolia that has truly red flowers!

The author of The Plant Lover's Guide to Magnolias, *Andrew Bunting is assistant director and plant curator at the Chicago Botanic Garden in Glencoe, Illinois.*

BOTTOM LEFT: GARY KNOX. TOP RIGHT: COURTESY OF BOYD NURSERY COMPANY

Contained Excitement:

Landscape designer Todd Holloway of Pot Incorporated in Vancouver, British Columbia, is known for his creative container plantings. This lively, richly textured, foliage-centric design features black-leaved *Aeonium* 'Zwartkop', variegated alocasia, coppery-red coleus, and peach-and-green-striped *Phormium* 'Sundowner', with 'Wilma's Gold' rosemary *(Rosmarinus officinalis)* draping over the container's edge. Flowering Superbells® Coralberry Punch™ hybrid calibrachoa is tucked into the arrangement as an accent.

JOSH MCCULLOUGH

A mixed container focused on foliage can be as vibrant as one that relies on flowers—without as much maintenance.

BY NANCY J. ONDRA

IF YOU'RE looking to make a big impact in a small space, container plantings should be on your list of must-do garden projects this summer. There's no need for heavy work like digging and mulching; no huge budget for dozens of plants; no worries about getting stuck with design or planting mistakes for years to come. Just add water and a bit of fertilizer and you can enjoy colorful container plantings all season long. If you need help getting started with container gardening, see the sidebar on page 32.

From a design standpoint, flowering plants are an obvious choice for colorful containers. I encourage you to give at least one foliage-focused combination a try, though. These days, it's easy to find lovely leaves in practically any color, and their shapes and sizes are as diverse as those offered by blooming plants. Best of all, unlike those with showy flowers, plants with ornamental foliage tend to look great from the time you plant them until frost calls a halt to the growing season.

PICKING THE PLANTS

In a garden, it's important to match the plants you choose with your climate and site, and to a certain extent, that's true for containers, too. Plants that need shade and those that demand lots of sun probably won't do well in the same planter, for instance. But if you pair plants that can take full sun to part shade, or combine those that like part to full shade, you can

Luscious, Lovely Leaves

Top left: Coleus comes in so many guises that a container of it alone creates a dramatic effect. Bottom left: A more sophisticated color scheme is represented by this mix of *Carex buchananii*, *Haloragis erecta* 'Wellington Bronze', and *Ipomoea batatas* 'Sweet Caroline Bronze'. Above: When designing with foliage, there is a wealth of colors, textures, and shapes to work with, as shown here with *Hakonechloa macra* 'All Gold', *Heuchera* Dolce 'Blackberry Ice', *Pilea involucrata* 'Norfolk', *Lamium maculatum* 'White Nancy', and *Vinca major* 'Maculata'.

TOP LEFT: JOSH MCCULLOUGH. BOTTOM LEFT AND RIGHT: NANCY J. ONDRA

GETTING STARTED WITH CONTAINER GARDENING

There are many benefits to container gardening. The first is that you don't need a lot of space, and you can grow plants even if all you have is a balcony or window box. Then, just as artwork and knick-knacks give an interior room a finished look, well-chosen container plantings can serve as design accessories around the outside of your home—by your front door, for example, or near a pool. Desperate for privacy on your deck or patio? A collection of pots and planters can block the view of eyesores, screen out nosy neighbors, and give exposed outdoor living spaces a sense of enclosure within just a few weeks.

From a practical standpoint, containers make it much easier to supply the right conditions for the plants you want to grow. Where the weather's too dry for moisture-lovers to thrive, or the soil stays too wet for succulents to survive, pop those plants in a pot and tailor your watering routine to suit their specific needs. Or maybe your yard is too shady for your favorite plants, but you do get sun on your porch steps or by your side door. Find the right site, set a container there, and plant away!

Getting plants up off the ground puts them within easier reach for planting and grooming, too. Containers can also keep your plants safe from voles and other small critters—possibly even deer, if you keep the pots close to your house.

CHOOSING CONTAINERS

An "investment" container—one that makes a statement even without plants in it—can easily cost several hundred dollars, but with care, you can enjoy it for many years to come. If you'd rather put your money into the plants than into the pot, however, go for a less expensive plastic or clay planter from a garden center; you can even repurpose any used item for a container as long as it can hold a fair amount of soil.

If you already know where you want to place the container, look for one with the right proportions for the site. It's best to go big, if you can. A small container is charming next to a bench or on a balcony, but looks insignificant on an expanse of paving, such as a pool deck. Small pots also limit your plant choices, need more careful watering, and are more prone to getting knocked over. Larger pots are more expensive to fill because you need lots of potting soil and plants, but they greatly expand your planting options, and they make a big visual impact. They tend to be more stable in windy sites, too, and need less frequent watering.

Drainage is also something to think about. Unless you're planning on a container water garden, there needs to be some way to keep roots from sitting in constantly soggy soil. Usually, that's accomplished through holes in the base. Not all containers have pre-cut holes, though, so check the bottom before you buy.

START WITH THE SOIL

Just like garden soil, potting soil needs to strike a good balance of moisture and air for roots to thrive. Most potting soils are based on a combination of peat moss and larger-particled materials, such as pine bark, perlite, and vermiculite. Though you can mix your own potting soil, it's usually more practical to buy a commercially-made blend. Most soilless potting mixes will work fine for container combinations, because you can control the moisture and nutrient levels by adding more or less water and fertilizer. After you've filled your container with the appropriate mix, the fun part starts—figuring out what you want to plant!

—N.J.O.

A sun-dappled location by an entrance is perfect for this collection of plants that prefer part shade, among them *Fatsia japonica* 'Spider's Web', hybrid hellebores, *Hedera helix* 'Gold Child', and *Cephalotaxus harringtonia*.

GRACE HENSLEY

Above left: The striking foliage of *Aeonium* 'Zwartkop' rises tall in this Todd Holloway-designed planter filled with assorted succulents, including *Agave attenuata*, *Euphorbia tirucalli* 'Sticks on Fire', sedum, echeveria, aloe, and sempervivum. Above, right: Although this container features blooming gerbera daisies and calibrachoa, the burgundy and copper-colored leaves of *Heuchera* 'Peach Melba', New Zealand flax *(Phormium* spp.), and coleus clearly take center stage. Gray-leaved dwarf licorice plant *(Helichrysum petiolare* 'Petite Licorice') provides pleasing contrast.

LEFT: JOSH MCCULLOUGH. RIGHT: CATRIONA T. ERLER

move the container if you find that they want more or less light than you were giving them. Hardiness isn't much of an issue with containers, either, especially if you're planting them for just one growing season and discarding the plants in fall. If you do want to include plants that normally don't survive the cold outdoors in your area, you can bring the container (or the individual plants) indoors for the winter.

When you're shopping for foliage prospects, make sure you hit all corners of your favorite garden center, not just the bedding-plant displays. Old standbys such as coleus *(Solenostemon scutellarioides,* syn. *Plectranthus scutellarioides)* are a good start, but also check out the hardy perennials, shrubs, houseplants, and even vegetables. Herbs are wonderful for adding fragrance, and succulents are outstanding for interesting shapes and colors. The photographs on the pages of this article are sure to provide ideas for your own creative combinations.

CARING FOR YOUR CONTAINER GARDEN

Keeping any potted combination looking its best takes just a few minutes every day or two for watering, fertilizing, and grooming, depending on the weather.

Watering wisely. Smart watering starts even before you put the plants in place. Peat- or coir-based potting mixes, in particular, can be hard to moisten thoroughly, so it's wise to do so before you add plants. Next, make sure the root balls of the plants are thoroughly moistened by watering until the excess runs out of the bottom of their pots. Once all the plants are in place, fill in around their root balls with moistened potting soil, leaving some space between the rim of the pot and the top of the potting soil, so water or rain won't just run off the top. Then, water the whole collection thoroughly to settle the potting soil around the roots and remove any large air pockets. Add more potting soil, if needed, to re-level the surface.

Horticulturist Paul Zammit of the Toronto Botanical Garden designed this light-and-dark foliage composition with *Cordyline australis* 'Red Star', *Canna* 'Pretoria', yellow lacy-leaved *Sambucus racemosa* 'Sutherland Gold', and *Ipomoea batatas* 'Illusion Emerald Lace' and 'Blackie'.

JANET DAVIS

After that, water just enough to keep the potting soil from drying out. In general, containers dry out less quickly when the weather is cool, cloudy, or rainy; when they are made out of non-porous materials, such as plastic or resin; when the plants are small; and when you use a potting mix with "moisture control" ingredients, such as water-holding gels. Conversely, you'll need to water more often when the plants are growing vigorously; when the weather's hot, sunny, and/or windy; and when they're growing in porous clay or wood containers.

Fertilizing. While frequent fertilizing is a must for flowering pots, foliage-based containers are much more forgiving. Commercial potting soils that include slow-release fertilizer provide a small, steady supply of nutrients that can be enough to keep leafy plants looking lovely for the entire season. If you didn't use such a mix, or if your want your containers to look especially lush, consider applying a liquid fertilizer. Check the label of the product you choose for specific instructions.

Grooming your container garden. Foliage-focused planters need a lot less grooming than flower-filled ones, because you don't need to regularly remove faded blooms. Once a week or so, pinch or snip off dead or damaged leaves, including those around the base of the plants, where crowding and moisture can lead to rotting and provide great hiding places for insect pests. If one or more of the plants are crowding out the others, trim out some of the biggest leaves or most vigorous stems to keep all of the plants in proportion to each other, and in scale with the container, too.

Once you see how beautiful a container of foliage can be, and how easy it is to maintain, you'll never limit yourself to flowers.

Nancy J. Ondra is the author of Container Theme Gardens *(Storey Publishing, 2016). She gardens in Bucks County, Pennsylvania.*

Pawpaw Revival

America's largest native fruit is making a comeback with gardeners and gourmets.

BY ANDREW MOORE

In the fall of last year, I had the opportunity to bicycle across America with a friend. But there was just one problem: Our scheduled departure date—September 1—interfered with pawpaw season. And this particular year was special. My backyard trees, some of which I'd started from seed seven years ago, were set to produce their first crop. I couldn't imagine being absent.

"It is said that no habit gets a stronger hold on a man than the pawpaw habit," wrote L.C. Breed for *The Seed World* in 1921. Almost a century later, and here I was, another in a long line of gardeners entranced by the pawpaw. I decided to sacrifice the first two weeks of the trip in order to tend to my first backyard-grown fruit.

So what is this fruit that casts such a spell on devotees? Pawpaw *(Asimina triloba)* is the largest edible fruit native to North America—including 26 eastern states, and into southern Ontario, Canada—though it actually belongs to Annonaceae, a tropical fruit family. Also known as the custard apple family, it includes cherimoya, soursop (guanábana), and sweetsop—fruits of great importance and culinary value in the tropics.

Pawpaw is the sole member of this family that's native to the temperate world. Its flavor, often described as a cross between mango and banana, with a dense, custardy consistency, is truly exceptional. Despite this uniqueness, however, the pawpaw has long been overlooked.

POPULAR FOOD OF THE PAST

Though it has an air of novelty today, pawpaw was a part of the Native American diet for millennia. The Iroquois are reported to have used it in sauces, as well as in corn cakes. Other groups mashed the fruit into beverages, cooked it with meat in stews, or, most likely, enjoyed it fresh from the tree.

There are other clues that speak to the fruit's importance in Native American culture. Around the month of September—when the fruit ripens—the Shawnee of the Ohio River Valley celebrated the Pawpaw Moon. Elsewhere, from

CAROLE OTTESEN, AHS ARCHIVES

Pawpaw fruits tend to develop in small clusters. The pale green fruits are often hidden underneath the exotic-looking, drooping foliage.

Top left: Pawpaw, Illinois, is one of hundreds of towns and geographical features named after pawpaws. Above left: A side-by-side comparison of a wild pawpaw, on the left, and a cultivated variety shows the benefit of breeding for smaller seeds. Above right: An illustration from *The North American Sylva*, published in 1819, shows the pawpaw listed by an earlier botanical name.

Louisiana to Illinois, various Native American place names translate to "The Pawpaw Eaters," "Pawpaw Village," and "Pawpaw Thicket River."

European colonists and settlers also ate pawpaw, and the fruit increased in importance as the frontier moved west. Further testament to its historic appeal can be found in place names throughout Appalachia and the Midwest, where dozens of towns and villages are named Paw Paw, as are creeks, streams, and numerous streets and avenues.

Pawpaws were grown at Thomas Jefferson's Monticello and George Washington's Mount Vernon. Elsewhere, the fruit played a more direct role in important historic events, including the Lewis and Clark expedition. Toward the end of their journey, no food was available except wild-harvested pawpaws: "Our party entirely out of provisions subsisting on poppaws [sic]," the explorers' journal records, "the party appear perfectly contented and tell us they can live very well on the pappaws [sic]."

To supplement meager provisions, pawpaws were also prized by enslaved African Americans. For individuals attempting to escape north to freedom, pawpaws were among the life-sustaining foods they could gather in the wilderness.

MISSING THE MAINSTREAM

For much of its history, pawpaw has been relegated to the role of a wild fruit, something foraged for rather than cultivated. Unfortunately, the quality of wild-gathered pawpaws varies significantly. Some have an overly large proportion of the dark-brown seeds and minimal, stringy flesh, while others have flesh with the pleasing texture of vanilla custard. A fruit's flavor can be mild and melonlike, or it can impart strong notes of coconut, mango, and caramel. Flesh color can range from bright orange and yellow to a pale white.

In 1916, the American Genetics Association attempted to bring the pawpaw out of the woods and into cultivation by holding a contest to determine the best pawpaws in America. It was a time of international plant exploration, and horticulturists were beginning to give serious attention to native plants as well. Even Luther Burbank, the famed California plant breeder, believed in pawpaw, stating that cultivated varieties of pawpaw were, "superior to that of any other fruit, and as they can still be further improved, the Pawpaw will soon become a grand standard fruit in America."

TOP LEFT: ANDREW MOORE. BOTTOM LEFT: COURTESY OF PETERSON PAWPAWS. RIGHT: WIKIMEDIA COMMONS

Entries came from the whole of the pawpaw's range, with many superior fruits identified, including the prize winner, submitted by Estella M. Ketter, of Ironton, Ohio. However, instead of being the pawpaw's breakthrough moment, when it might have joined mainstream agriculture, nothing much happened. As the country became more urban, and our food system and diets more industrial and homogenized, pawpaws fell out of favor, along with a great many other wild and regional foods. Aside from a few hobbyists, the pawpaw would be neglected through much of the 20th century.

1970S REVIVAL

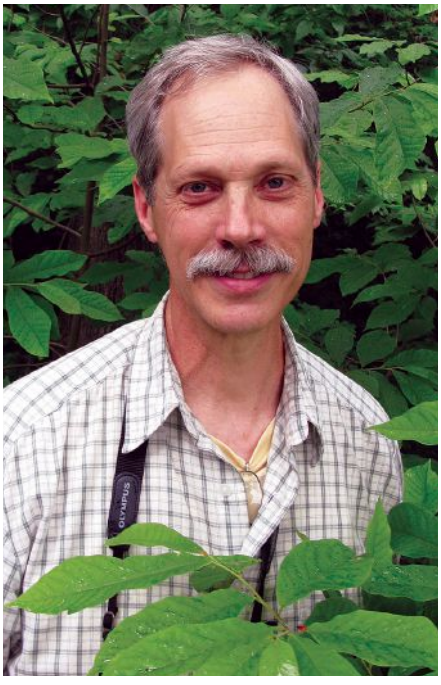
That is until 1975, when a young naturalist named Neal Peterson tasted his first pawpaw in the West Virginia woods. Like many others before him, Peterson was excited. The pawpaw, in its natural state, was already as exceptional as most cultivated fruits, but what greater potential did it have? He was determined to find out.

Over the next several decades, Peterson engaged in a traditional breeding experiment, with two separate trial orchards in Maryland. He gathered seed from wild sources, but most importantly, through extensive research and travel, tracked down lost cultivars and a seedling repository containing material from the 1916 contest.

Peterson evaluated the quality of each seedling tree, and in the early 2000s, sold fruit at a Washington, D.C., farmer's market so he could get a sense of consumer preference. Eventually, he selected the ones with the most outstanding fruit for release to the public. In tribute to the plant's native habitat, and to the fruit's original gatherers, Peterson named his cultivars after American rivers with Indian names—'Shenandoah', 'Susquehanna', 'Potomac', and 'Allegheny'.

The Peterson Pawpaws are now standard bearers of pawpaw quality. 'Susquehanna', for one, is noted for having fewer seeds (approximately four percent of the fruit by weight), being less fragile than most, and averaging eight ounces, with fruit weighing up to a pound. The medium-yellow flesh has a buttery texture and sweet flavor.

Kirk Pomper, shown holding fruits of 'KSU-Benson' pawpaw, leads Kentucky State University's pawpaw research program, the only one in the country dedicated to this crop.



Pawpaw enthusiast Neal Peterson, left, spent years developing cultivars with reliably high-quality fruit, including 'Susquehanna', above.

BREEDING FOR BETTER PAWPAWS

Peterson is not alone in his efforts. Kentucky State University (KSU) in Frankfort is home to the nation's only dedicated pawpaw research program. In 2016, KSU hosted the fourth International Pawpaw Conference, where breeders introduced a new cultivar, 'KSU-Benson'. According to KSU, the fruit has a distinct "mango-, banana-, pineapplelike flavor," and "is unique in that it bears round fruit that is attractive and can also be packed easily."

But the work of selection is ongoing. "We need to be identifying fruit for different purposes," says Ron Powell, president of the North American Pawpaw Growers Association. Powell believes individual fruits should be selected for various qualities, including shipping, brewing, and eating fresh. "We need to be doing more of that for the pawpaw instead of trying to make them one size fits all," he says.

In the spring of this year, KSU completed the planting of an experimental orchard comprising 1,000 trees. University staff will continue to evaluate these trees for future cultivar introductions. According to Peterson, this kind of ongoing evaluation and selection is essential: "It's a vital step

TOP: COURTESY OF KENTUCKY STATE UNIVERSITY. BOTTOM LEFT: COLLEEN ANDERSON, COURTESY OF NEAL PETERSON. BOTTOM RIGHT: ROBBY GLENN, COURTESY OF NEAL PETERSON.

Jim and Donna Davis, above, harvest pawpaws at their Deep Run Orchard in central Maryland that are shipped nationwide.

to the future of pawpaws having a serious place in our diet," he says.

CREATING A MARKET

Developing excellent pawpaws was step one. But it's often said that pawpaws are too fragile and have too short of a shelf-life to be a commercial fruit, so the next phase required reliably growing, marketing, and selling them. For more than a decade, a farm in central Maryland has done just that.

Jim and Donna Davis operate Deep Run Orchard, a commercial pawpaw orchard with over 1,000 trees. Mostly growing Peterson Pawpaws, they've done the unthinkable: In addition to selling at regional farmer's markets, they ship fresh pawpaws around the country. While Deep Run Orchard's product remains decidedly upscale, the Davises have overcome those perceived barriers.

And Deep Run Orchard is no longer alone. Pawpaws have found a place in orchards and diversified farmsteads across the country. Some plant a dozen trees, others plant hundreds; North Carolina grower Wynn Dinnsen is among the latter. Whereas Deep Run seeks national buyers, Dinnsen's pawpaws are sold locally. His largest buyer is a brewery in nearby Durham.

Fullsteam Brewery purchases up to 500 pounds of pawpaws annually and uses them to make beer. Sean Lilly Wilson, the brewery's owner and founder, says Fullsteam often promotes the food and farming traditions of the South. "We get to introduce a lot of people to pawpaw through beer," Wilson says. "Ultimately, the goal is to get people curious about what grows around us and to look up when they're on a walk in midsummer."

Wilson says that his brewery works with pawpaws because the results are always delicious. One of Fullsteam's most recent creations—named Dinnsen's Orchard—is a Belgian-style Tripel with sweet, tropical notes. In January of this year, the brewery won a Good Food Award—one of the highest national honors for craft producers—for its collaboration with Dinnsen.

A growing number of people have fallen in love with the pawpaw, and in recent years a fan-based subculture has emerged. Rooted in permaculture, sustainability, and the local food movement, much of this energy springs from an event in Athens County, Ohio—the pawpaw capital of the world.

This September, the Ohio Pawpaw Festival will celebrate its 20-year anniversary. The brainchild of Chris Chmiel, the event has matured into a three-day extravaganza, with as many as 8,000 visitors. In addition to workshops and lectures, there will be a pawpaw-eating contest, an oversized pawpaw mascot, pawpaw inspired art and music, and all manner of food and beer prepared with the fruit.

Resources

Pawpaw: In Search of America's Forgotten Fruit by Andrew Moore, White River Junction, VT, 2015.
Peterson Pawpaws, *www.petersonpawpaws.com.*

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NATHANIEL ORR, COURTESY OF NEAL PETERSON

GROWING PAWPAWS IN THE GARDEN

In the wild, pawpaws are understory trees. Often found along creeks and streams, they favor the deep, alluvial soil of these bottomland habitats. In the shade, the trees form dense colonies, growing tall and thin with sparse branching. The fruits—kidney shaped or rounded—vary in size from a lime to an oblong grapefruit.

Oddly enough, the pawpaw's natural niche, the forest understory, provides less-than-ideal sunlight for optimal fruit production. Pawpaw pollinators, typically flies and beetles, are also sometimes absent when flowers are in bloom. And because pawpaws need a genetically distinct partner for reproduction, these colonies of wild plants often lack necessary genetic diversity for successful fruiting.

In a landscape setting, pawpaws can be appreciated for their lush, tropical-looking foliage, which can turn a buttery yellow color, as seen above, in fall. Their intriguing maroon flowers, right, bloom directly on the branches in spring.

CULTIVATION

When grown in full sun, as they should be if you are growing them for fruit, pawpaw trees take on a full and stately pyramidal shape, growing up to 30 feet tall. They can be kept at a more manageable height with annual pruning. The trees thrive in moist, slightly acidic soil, but tolerate many soil types. They also produce fruit more reliably when two or more different cultivars are planted together. Hand-pollinate to improve fruit-set when a previous year's crop has been disappointing.

Pawpaw also boasts small, nodding deep maroon-colored flowers that open on the branches in mid-spring. The flower color is believed to resemble putrid flesh, which makes sense when you realize the flower's pollinators are insects that are attracted to dead animals. Don't let this deter you from growing pawpaws. While the flowers do have an odor, it's actually quite faint. Furthermore, Katherine Goodrich, a scent scientist at Widener University in Chester, Pennsylvania, describes the aroma as "similar to red wine or rising bread dough."

WORTHY SELECTIONS

The drooping habit of the tree's foot-long green leaves lends it an eye-catching and undeniably tropical appearance that can be particularly appealing in temperate gardens. A selection called 'NC-1' is often grown for the ornamental quality of its blue-green leaves, and it also has high-quality, early-ripening fruit. Other popular cultivars, grown for fruit size and excellent flavor, include 'Overleese', 'Sunflower', 'KSU-Atwood', and 'Mango'.

—A.M.

Chmiel's pioneering efforts with processing pawpaws into kitchen-ready pulp has been equally important. In 2017, Chmiel's farm—Integration Acres—processed 12,000 pounds of pawpaw pulp. Chmiel's product, which can be shipped anywhere in the nation, has enabled countless chefs, bakers, and brewers to sample the fruit and experiment with recipes.

Of all the products pawpaw gets worked into, ice cream might be the best. As early as 1905, Indiana pawpaw grower James A. Little wrote, "There is no finer dessert than pawpaws eaten with cream and sugar." I, for one, happen to agree. A number of small, independent creameries around the eastern U.S. now include pawpaw ice cream or gelato: Zingerman's Creamery, in Ann Arbor, Michigan; The Bent Spoon, in Princeton, New Jersey; and Ellen's Homemade, in Charleston, West Virginia, to name a few.

END OF THE ROAD

My own backyard harvest did not disappoint. The largest single fruit weighed over 10 ounces, and the flavor was mild and melonlike. After the harvest, I met up with my friend in Montana for the remainder of our cross-country trip. We cycled through the Northern Great Plains, the badlands of North Dakota, and the lake country of Minnesota.

When we arrived in Indiana—more than 1,500 miles and a month later—pawpaw trees were abundant, growing in dense thickets along country roads. Unfortunately, it was the middle of October and we were well past standard fruiting season. Still, passing a particularly large patch, I couldn't resist the urge to take a look. Hanging from a single tree was a pair of pawpaws. I gently shook the tree, and they tumbled down. Biting into one, I thought a pawpaw never tasted so good.

Andrew Moore is the author of Pawpaw: In Search of America's Forgotten Fruit. *He lives in Pittsburgh, Pennsylvania.*

LEFT: MATT MCDERMITT, COURTESY OF THE ARNOLD ARBORETUM OF HARVARD UNIVERSITY. RIGHT: BILL JOHNSON

Sweet Pepper: Summer's Blue-Ribbon Plant

by Margene Hucek

'Sweet Banana', also known as 'Hungarian Sweet Wax', above left, and 'California Wonder', above right, are longtime favorites.

GOING TO the Will County Fair in Peotone, Illinois, was the highlight of my childhood summers. Each year, as a member of the local 4-H Club, I entered a bucket of assorted vegetables into the competition, including the biggest green bell pepper I could find, and an exotic—at least to me—yellow banana pepper. Whenever I came home with a blue ribbon, I assumed it was the banana pepper that made the difference. To this day, it's one of my staples—along with 'California Wonder', my favorite bell pepper. There are so many interesting sweet pepper varieties available, however, that I try to grow at least one new one each year.

Sweet peppers *(Capsicum annuum)* are native to Central and South America, Mexico, and the West Indies. They were introduced to Europe by Christopher Columbus and other early explorers of the New World, and by the 17th century, they were grown throughout Europe and much of Asia and Africa. While rich in antioxidants and vitamins A, C, K, and B6, they produce little of the chemical capsaicin, which is responsible for the heat in hot peppers, so their fruit remains sweet.

GROWING GUIDELINES

Peppers need a long, hot growing season, so unless you live in the Deep South or the Southwest, you will need to start seeds indoors eight to 10 weeks before you plan to plant them in the garden. If you purchase seedlings, look for stout young transplants with shiny leaves.

As with some other members of the nightshade family (Solanaceae)—like tomatoes and eggplant, for instance—sweet peppers grow more vigorously if you wait until the soil is warm to move them outdoors, so make sure soil temperatures are above 65 degrees Fahrenheit before transplanting seedlings. And because nightshade family members are susceptible to many of the same diseases, avoid planting sweet peppers where you have recently grown any of their close relatives.

Plant in full sun, in rich, well-drained soil with a pH of 5.5 to 6.5. Space seedlings 18 to 24 inches apart, in rows 24 to 30

LEFT: BILL JOHNSON, RIGHT: JUDYWHITE, GARDENPHOTOS.COM

Sweet peppers are easy to grow in containers.

inches apart. Water well after planting and during dry periods, and mulch to control weeds and conserve moisture. When the first blossoms open, sidedress the plants with a light application of a balanced fertilizer. Over-fertilizing encourages lush foliage at the expense of fruit production.

Sweet peppers adapt well to containers as long as they receive full sun and adequate irrigation; they may require watering once or twice a day during hot spells.

PESTS AND DISEASES

Sweet peppers are susceptible to a number of viral diseases. To help ensure a healthy crop, be sure to select disease-resistant varieties and avoid working in the patch when leaves are wet. Water early in the morning so plants can dry before dark, and avoid overhead watering.

If you notice mottled yellow leaves and misshapen fruits, it is likely that the plant has been infected by tobacco mosaic virus. Infected plants should be removed and put in the trash before the virus spreads.

Check often for aphids, which tend to cluster on the tips of branches, sucking plant juices and deforming leaves. Knock them off with a hard spray of water.

Cutworms, the larvae of several species of night-flying moths, sever plants at soil level. Control cutworms by placing aluminum foil or cardboard collars around transplants, making sure one end is pushed a few inches into the soil and the other end extends several inches above ground. Cutworms are seldom a problem after spring.

Blossom drop can occur when night temperatures rise above 75 degrees Fahrenheit or when there is a cool spell. Fruit production resumes when temperatures become more suitable.

RECOMMENDED VARIETIES

Sweet peppers are typically categorized by their shape—the blocky bell, banana, bull's horn, and miniatures. Mature fruit colors include green, orange, purple, yellow, red, and chocolate. The days to maturity listed below are from transplants.

'California Wonder' was introduced in 1928 and is still highly rated. Its blocky, four-inch, thick-walled fruits are perfect for stuffing (75 days).

'Costa Rican Sweet' is a hybrid, bullhorn-shaped pepper that turns ruby-red with a fruity sweetness (70 days).

'Gold Standard' bears prolific, blocky, thin-skinned, golden-yellow fruit. This pepper is good for grilling or stuffing (60 to 80 days).

'Sheepnose Pimento' is an heirloom variety with sweet, three- to four-inch-long, thick-walled fruit (70 to 80 days).

'Sweet Banana', also listed as **'Hungarian Wax Sweet'**, matures from pale green to bright yellow to orange-red. Its fruit is six to seven inches long (60 to 70 days).

'Yum Yum Hybrid Mix' bears abundant small fruits that ripen to a mix of gold, tangerine, and red. It is a good snacking pepper because it has few seeds (55 days).

ENJOYING THE HARVEST

It's a good practice to harvest a few sweet peppers while they are immature to lengthen the season and encourage yields; pick those that are crowding each other first. The best flavor, however, occurs when fruit is allowed to ripen fully on the plant. Depending on the variety, peppers may turn red, orange, purple, or yellow at maturity. In addition to being sweeter, mature fruits contain more of the vitamins A and C.

Mature peppers have deep color and feel heavy for their size. Use a sharp knife or pruners to harvest them because the stalks can be tough. Production will continue into fall until a killing frost.

Peppers can be stored for up to two weeks in the crisper of the refrigerator. Use them fresh in salads, stuff them, or add them to stir fries, soups, and sauces. For intense flavor, roast or grill them.

Freezing is an easy way to preserve peppers. After washing them, cut them to the desired size and place them on a tray, uncovered, in the freezer. When frozen, transfer them into zip-top bags.

With their shiny green leaves, small white flowers, and colorful fruit, sweet peppers are as attractive as they are tasty. Insert a few plants into your flower borders; they're sure to please all summer long.

Margene Hucek grows and writes about vegetables from her home in Keswick, Virginia.

PLANTING BASICS

Getting Started Sow seeds indoors eight to 10 weeks before desired transplant date. Wait until the soil temperature is at least 65 degrees Fahrenheit before transplanting to the garden.

Spacing Plant 18 to 24 inches apart, in rows 24 to 30 inches apart.

Days to Maturity Depending on the variety, 55 to 80 days from the date of transplanting.

Sources

Territorial Seed Company,
Cottage Grove, OR.
www.territorialseed.com.
Tomato Growers Supply Company,
Fort Myers, FL.
www.tomatogrowers.com.
W. Atlee Burpee Company,
Warminster, PA. *www.burpee.com.*

TOP LEFT: JUDYWHITE, GARDENPHOTOS.COM. RIGHT: COURTESY OF W. ATLEE BURPEE COMPANY

Roundup of Regional Pests and Diseases

by Scott Aker

MANY OF OUR worst pests and diseases—Japanese beetles and black spot of roses, for example—arrived from other countries as hitchhikers on plants. Foreign diseases and pests spread rapidly because native plants don't have resistance to them. And because trees and shrubs tend to have longer life cycles, they tend to adapt their defenses more slowly than other plants. This often means that threats to them can be especially problematic. A case in point is the infamous Dutch elm disease that nearly wiped out our native elms.

While the Animal and Plant Health Inspection Service (APHIS) within the Department of Agriculture works to curb invading pests and diseases that arrive on plants and other goods imported here, its mission to protect our gardens, crops, and forests becomes more challenging with each passing year.

What can you do to slow down or prevent these invaders from gaining a foothold in your garden? Awareness is the first step, so you can detect them when and if they arrive, but you should also know what to do if they reach your area. Different regions in North America are dealing with different invaders—so here's a roundup of the most challenging ones that particular regions are currently facing or potentially threatened with.

Left unchecked, pests and diseases from other continents have the potential to devastate North American ecosystems. Here, Asian gypsy moth caterpillars have completely defoliated these spruces in a forest in the Pacific Northwest.

PACIFIC NORTHWEST

Unlike the gypsy moth subspecies from Europe, the **Asian gypsy moth** *(Lymantria dispar asiatica)* has females that can fly. This means they are capable of spreading more rapidly than the European gypsy moth *(Lymantria dispar dispar)*. The Asian gypsy moth also has a much broader host range than the European form; it attacks alders, larches, and many conifers. There is potential for invasion from any port, but the risk is highest to the vast conifer forests of the Pacific Northwest.

What to do: Become familiar with what the egg masses look like, and search your property for them each autumn. Notify your state Department of Agriculture if you see the eggs. Traps are used by government agencies to detect male moths. In areas where moths have been detected, aircraft are used to treat them with *Bacillus thuringiensis* var. *kurstaki* just after the hatch of the caterpillars. So far, these measures have been effective in eradicating the pest where it has been found.

Laid in August, Asian gypsy moth egg masses are roughly teardrop-shaped, one to two inches long, tan-colored, and firm to the touch.

BOTTOM LEFT: KARLA SALP, WASHINGTON STATE DEPT. OF AGRICULTURE, BUGWOOD.ORG. TOP RIGHT: JOHN GHENT, USDA FOREST SERVICE, BUGWOOD.ORG. BOTTOM RIGHT: RICHARD GARDNER, UNIVERSITY OF MARYLAND EASTERN SHORE, BUGWOOD.ORG

CALIFORNIA AND SOUTHWEST

California, in particular, has a history with invasions of plant pests and diseases. One of the most recent is **citrus greening**, which has also appeared in southern Texas. Citrus greening is caused by bacteria spread by the Asian citrus psyllid *(Diaphorina citri)*, an insect that sucks sap from leaves and small branches. While feeding, the psyllid spreads the bacteria from tree to tree. The disease causes portions of infected fruit to fail to ripen properly. Control is simple—eliminate the psyllid, and the disease cannot spread. So far, elimination efforts conducted by the commercial citrus industry in Florida have worked.

What to do: If you grow any citrus trees, or even any related plants, such as orange jessamine *(Murraya paniculata)*, check them frequently for the psyllids. Unfortunately, only a systemic pesticide such as imidacloprid will control them. If you don't want to use pesticides, consider removing citrus and related plants from your landscape because they are likely to serve as a reservoir for the disease. Breeders are working to develop resistant varieties.

INTERMOUNTAIN WEST

Two pine species, ponderosa *(Pinus ponderosa)* and lodgepole *(Pinus contorta),* are dominant over the broad expanse of the Rocky Mountains and other western mountain ranges. Both are vulnerable to the **pine shoot beetle** *(Tomicus piniperda)*, a pest from Europe first detected in Ohio in 1992. It burrows into new growth and may kill the central leader at the top of the tree. There is no effective control for this pest, and it is now present in most of the northeastern states. It was detected in eastern Minnesota on its favorite host, Scots pine *(Pinus sylvestris)* in 2004. It has not been a problem there since, but all of Minnesota and Iowa are under quarantine because of the potential impact on Christmas tree growers there. The relatively treeless expanse of the Great Plains may help to stop its westward advance.

What to do: Planting Scots pine in this region would be tempting fate. Purchase locally-grown native pine species if at all possible.

GREAT PLAINS

One of our most drought resistant trees, green ash *(Fraxinus pennsylvanica)*, is threatened by **emerald ash borer**. Prevalent along rivers and streams throughout the region, green ash has been planted extensively in shelterbelts, windbreaks, along streets, and in parks. The adult beetles may fly several miles to find new trees to infest. It has turned up in the Kansas City and Denver areas, most likely carried there on firewood. Infested trees exhibit crown dieback, and their trunks and branches will often have small, D-shaped holes where the adult beetles emerged.

D-shaped holes in trees indicate the presence of tiny but voracious emerald ash borers.

What to do: Remove declining, unhealthy ash trees, because they are more attractive to the emerald ash borer than healthy trees. Do not move firewood out of the area it came from, and choose other species such as hackberry or bur oak when planting new trees. Several species of tiny wasps that serve as natural enemies of this pest have been established in infested areas in the eastern U.S. For already infested trees, the only thing to do is treat with pesticide. The best choice is emamectin benzoate, which must be injected by a trained professional.

TOP LEFT: DAVID HALL, USDA AGRICULTURAL RESEARCH SERVICE; BUGWOOD.ORG. BOTTOM LEFT: STEVE PASSOA, USDA APHIS PPQ; BUGWOOD.ORG. TOP RIGHT: DANIEL HERMS, THE OHIO STATE UNIVERSITY; BUGWOOD.ORG.
BOTTOM RIGHT: DEBBIE MILLER, USDA FOREST SERVICE; BUGWOOD.ORG

MIDWEST

Boxwood blight, caused by the fungus *Calonectria pseudonaviculata*, tends to be a localized problem. The fungus does not spread over long distances by wind—it usually moves with infected plants. Any plant in the boxwood family may serve as a host, including pachysandra and sweet box. Black spots appear on the leaves and black lesions appear on branches. Repeated infections result in defoliation and death. Boxwood blight was recently found in southern Illinois, so diligence is needed in this part of the country. It is already established in East Coast states, but coordinated efforts to contain it seem to be working.

What to do: If you are planting boxwood, monitor it carefully from early spring through fall for signs of boxwood blight. Contact your state department of agriculture if you see it. If boxwood blight is confirmed, you will likely be asked to carefully bag the infected plant in plastic and bury it, or dispose of it by incinerating it. Take the same precautions with sweet box and pachysandra.

SOUTHEAST

Sometimes pests work hand-in-hand with disease organisms. Such is the case with the **red bay ambrosia beetle** *(Xyleborus glabratus)* and **laurel wilt disease** caused by the fungus *Raffaelea lauricola.* Both are from Asia, and first appeared in the Savannah, Georgia, area in 2002. Since then, this tandem has spread westward and southward, and now threatens avocados in Florida along with spicebush *(Lindera benzoin)* and sassafras *(Sassafras albidum)* throughout the region. The beetles bore into the trunks of trees, introducing the fungus, and lay eggs in galleries they create under the bark. The larvae then feed on the fungus, which blocks water movement in the wood. Before long, the foliage turns brown and the tree dies.

Red bay ambrosia beetles create galleries in tree trunks where the laurel wilt disease fungus flourishes.

What to do: Don't move wood of infested plants. Chip it instead, and leave the chips in place because research has shown that neither the beetles nor the fungus can survive for long on the chips. Pesticide treatments are not practical or effective. Avoid planting the known hosts in your landscape.

NORTHEAST

The **spotted lanternfly** arrived in eastern Pennsylvania in 2014 on a shipment of stone from China. It is not a fly, but rather a large planthopper, half an inch long in its adult stage. It feeds on the phloem of plants and produces a lot of honeydew—a sticky, sweet exudate; black sooty mold then grows on the honeydew. Heavily infested plants are stunted and may even die. Spotted lanternfly has a broad host range, including most forest and urban trees. It is particularly devastating to grapes, hops, and fruit trees.

Top: Sooty mold, growing on honeydew exuded by the spotted lanternfly, above, stains the trunk of a tree-of-heaven.

What to do: The adults lay eggs on just about anything, so check items carefully if you are moving from an area that is infested. Look for the egg masses from October through May and scrape them into rubbing alcohol or hand sanitizer to kill them. The adults tend to congregate on weedy tree-of-heaven *(Ailanthus altissima)* in late summer; they need to feed on it before they can lay eggs. Remove all tree-of-heaven in your neighborhood or community to limit their spread.

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

TOP LEFT: YONGHAO LI; THE CONNECTICUT AGRICULTURAL EXPERIMENT STATION; BUGWOOD.ORG. BOTTOM LEFT: (LEFT) JAMES JOHNSON; GEORGIA FORESTRY COMMISSION; BUGWOOD.ORG. (RIGHT) MICHAEL C. THOMAS; FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES; BUGWOOD.ORG. TOP RIGHT: PENNSYLVANIA DEPARTMENT OF AGRICULTURE; BUGWOOD.ORG. BOTTOM RIGHT: LAWRENCE BARRINGER; PENNSYLVANIA DEPARTMENT OF AGRICULTURE; BUGWOOD.ORG






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Nebraska Statewide Arboretum

by Mackenzie Nichols

NEBRASKA IS known as the Cornhusker State, but for those who have never visited it, the nickname may reinforce a stereotypical view of its landscape as flat, predominantly agrarian, and largely treeless. The Nebraska Statewide Arboretum (NSA) works to dispel this image by showcasing and promoting the diversity of trees, shrubs, and other plants that can thrive in the state.

Though the word "arboretum" in its name is singular, the NSA is actually an umbrella organization comprising about 100 affiliated arboreta and public gardens located across the state. Having an arboretum in only one location wouldn't be "representative enough of the state's flora as a whole," says NSA Executive Director Christina Hoyt. Encompassing 77,000 square miles, Nebraska stretches across the Great Plains and the "climate and landscape vary dramatically," she explains. "On the eastern side, there are tallgrass prairies with more moisture, and on the western side it is very dry."

The sites that are currently part of the NSA network range from the largest and most well known **Lauritzen Gardens** in Omaha, which includes a collection of tree peonies and a conservatory filled with tropicals, to the smallest, **Stella Arboretum**, situated on 14 acres featuring wetland and native plants.

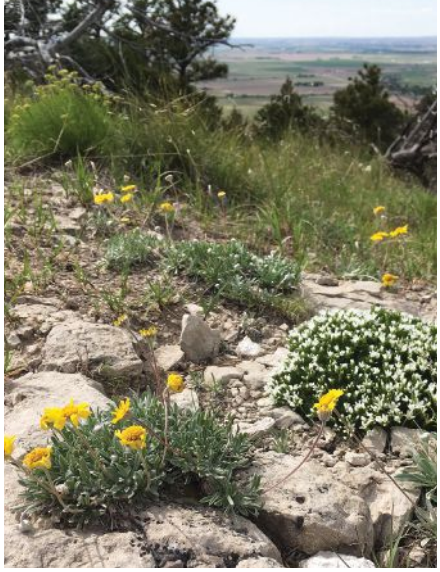
GROWING A GREENER STATE

Headquartered at the University of Nebraska–Lincoln, the NSA has the broad mission to "plant Nebraska for healthy people, vibrant communities, and a resilient environment." In addition to promoting the state's native flora, the NSA "evaluates plants that aren't native but have the potential to grow successfully here," explains Hoyt.

For example, one affiliate, **Gilman Park Arboretum** in Pierce, recently trialed various taxa of viburnums and hydrangeas to determine which could tolerate the area's months of drought, instances of flooding, and long, cold winters. The trials revealed that certain viburnums could survive, but none of the hydrangeas proved hardy. Through these evaluations, which also take place within many other NSA-accredited sites, gardeners across the state can gain valuable insight into which plants will be most successful in their own gardens.

The Nebraska Statewide Arboretum network includes Gilman Park Arboretum in Pierce, above left, and Lauritzen Gardens in Omaha, above right.

ALL PHOTOS ON THIS PAGE AND OPPOSITE COURTESY OF NEBRASKA STATEWIDE ARBORETUM



NSA-planted yellow-flowered bitterweed *(Helenium amarum)* thrives at Scotts Bluff National Monument in western Nebraska.

Another important component of the NSA's mission is to improve ecological sustainability. The organization works closely with local communities and affiliated institutions such as the University of Nebraska in Omaha on issues such as water conservation and creation of wildlife habitat. Hundreds of NSA volunteers collaborate on projects such as tree-planting and stormwater retention across the state.

The NSA also assists with securing funding for gardening projects throughout the state. Hoyt points to one recent beneficiary, Beattie Elementary School in Lincoln, which used NSA grants to transform the area surrounding the school into a public park, complete with a native prairie garden, pollinator garden, and vegetable garden.

As projects like these blossom across Nebraska, they help broaden public awareness of sustainable gardening practices. "The biggest thing I've seen is more of an acceptance of the look of native plants," Hoyt says. "More people are coming to plant sales, and they are more informed than they were in the past. As people see more projects like Beattie Elementary, they learn how native plants are important for pollinators and sustainable landscapes, and as a result, more of these projects are taking place."

CELEBRATING NEBRASKA'S LANDSCAPES

Another way that the NSA spotlights the beauty and importance of native plants is through its annual **Wildflower Week**, held this year from June 1 through 11. "Nebraska's wildflowers are part of its natural heritage," says Hoyt, something this event celebrates through statewide activities such as hikes and garden tours. Some of the most eye-catching species in bloom during this time include penstemons, milkweeds *(Asclepias* spp.), baptisias, wallflowers *(Erysimum* spp.), and scarlet globemallows (*Sphaeralcea coccinea)*.

These and other native plants transform Nebraska's landscape into a tapestry of color year-round with the varied hues of their leaves, stems, and blooms. Thanks to the work of the NSA and its affiliates, more residents and visitors alike are taking notice of the rich palette of resilient, beautiful plants that thrive across the Cornhusker State.

Mackenzie Nichols is an editorial intern for The American Gardener.

Additional Information

Nebraska Statewide Arboretum Headquarters, 102 Keim Hall, Lincoln, NE 68583. (402) 472-2971. *www.plantnebraska.org.*

- Hours: Vary throughout the state.
- Admission: All sites affiliated with the Nebraska Statewide Arboretum participate in the AHS's Reciprocal Admissions Program, which offers current AHS members free or discounted admission, **except** Lauritzen Gardens in Omaha, which charges $10 admission for adults and $5 for children ages 6 to 12.

The Nebraska Statewide Arboretum's Wildflower Week features tours and hikes like this one at the Sandoz Garden in Chadron.

Horticultural News and Research Important to American Gardeners

RARE MINERAL FOUND ON ALPINE PLANTS

A rarely-occurring mineral that has potential pharmaceutical and industrial uses has been found on the leaves of a number of alpine plants in the saxifrage family. Three researchers from Cambridge University in the United Kingdom teamed up to study why vaterite, an unstable form of common calcite, is showing up as a component of a crusty white coating on the leaves of saxifrage plants in the university Botanic Garden's collection of European alpines.

Vaterite, a rare mineral with potential medical applications, was discovered on the leaves of certain alpine plants, such as *Saxifraga sempervivum*, shown above.

Because vaterite tends to quickly revert to calcite when exposed to the elements, naturally occurring vaterite is rare on Earth. Tiny quantities of the mineral have been found in some ocean and freshwater crustaceans, in bird's eggs, and in meteorites. According to Raymond Wightman, who is manager of the microscopy facility at the university's Sainsbury Laboratory, vaterite's instability may be why its presence has gone undetected on plants until now. "The alpine plants that we analyzed are largely protected from the weather, so that might be why the vaterite retains its form," says Wightman, the lead researcher on the project.

Wightman and his colleagues at the university's Botanic Garden identified the vaterite as part of an ongoing research study that involves microscopic analysis of plants. Now, they will focus on why certain alpine plants are making the vaterite, and will try to identify additional species that may be producing the mineral.

"The fact that some plants make vaterite is remarkable in itself," says Wightman, but he went on to note that the discovery has even greater ramifications because vaterite "has been earmarked as a substance with the potential to deliver certain medicines to their sites of action in the human body."

To read more about the study, visit *www.slcu.cam.ac.uk/news/vaterite-found-in-plants-for-first-time*.

LANDSCAPE ARCHITECTS REVEAL MOST POPULAR DESIGN TRENDS

Each year, the American Society of Landscape Architects conducts a survey among its members across the country. This year, for the first time, the survey included questions about landscaping trends at multi-resident facilities such as apartment complexes and nursing homes, in order to gain a more complete perspective on all types of projects. According to the feedback from some 800 practicing landscape architects, open spaces suitable for activities such as yoga and movie nights, along with charging facilities for mobile devices, are increasingly important to clients.

As for single-family residences, landscape architect Brooks Kolb from Seattle, Washington, says "outdoor dining and entertaining seem to be most important to clients," with features such as fire pits and fireplaces topping the list of desired design elements. Outdoor speakers and lighting continue to be popular.

The survey indicated that sustainability remains an important issue, but Kolb says that some of the interest in sustainable gardens "appears to be driven by cities, jurisdictions, and permitting agencies" rather than directly by clients.

Learn more about the results of the survey at *www.asla.org*.

This award-winning landscape design, "Padaro Lane" by Keith LeBlanc Landscape Architecture, displays on-trend use of permeable paving and plenty of open space for outdoor recreation.

LEFT: COURTESY OF SAINSBURY LABORATORY OF UNIVERSITY OF CAMBRIDGE. BOTTOM: JIM BARTSCH. COURTESY OF ASLA

PROGRESS ON MILDEW-RESISTANT IMPATIENS

Gardeners and nursery owners were caught by surprise in 2008 when a fungal disease called impatiens downy mildew decimated summer bedding impatiens *(Impatiens walleriana* and hybrids) all across the country. The highly infectious disease spreads rapidly and is almost impossible to eradicate from the soil once it is present. Researchers have spent the intervening years trying to breed powdery mildew-resistant impatiens with some success. Earlier this year, Ball Horticultural Company based in Chicago, Illinois, announced a major breakthrough: the sequencing of the entire *Impatiens walleriana* genome.

Matt Kramer, research director for Ball, says the genome sequencing project took a little more than two years, thanks to a collaboration with KeyGene, an international biotechnology company. "The intent was to create new knowledge about an important product while at the same time assisting in delivering a solution to a pressing disease problem impacting the entire industry," Kramer says.

Fuzzy white growth on the undersides of impatiens foliage is a symptom of highly infectious impatiens downy mildew.

Don't head to the garden center just yet, though. While the mapping of the genome is already helping plant breeders identify promising genes to target, it will likely be a few years before gardeners can purchase disease-resistant bedding impatiens selections.

One line of impatiens is being developed by Ball's subsidiary, PanAmerican Seed, also headquartered in Chicago. According to Lisa Lacy, PanAmerican Seed's global products manager, the new impatiens are based on the company's Super Elfin® impatiens series, and will resemble that line in "plant vigor and size."

Meanwhile, Syngenta Flowers, based in the Netherlands, recently released a disease-resistant impatiens series named Imara® to some European markets, but there's no word yet on whether this line will be available in North America.

For more information about the genome sequencing breakthrough, visit *www.ballseed.com*.

DAFFODIL EXTRACT MAY YIELD CANCER TREATMENT DRUG

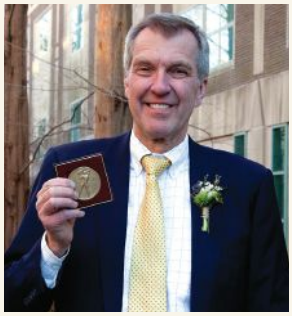
A natural alkaloid called haemanthamine (abbreviated HAE) found in daffodils holds promise as an anticancer agent, according to a report published in March by an international research team. "HAE, which is extracted from daffodil bulbs—in this case from *Narcissus* 'King Alfred'—could be

COURTESY OF TOM CRESWELL, PURDUE UNIVERSITY, BUGWOOD.ORG

PEOPLE and PLACES in the NEWS

2018 SCOTT MEDAL AND AWARD WINNER

Paul W. Meyer, the F. Otto Haas Executive Director of the Morris Arboretum at the University of Pennsylvania, is the 2018 recipient of the Scott Medal and Award. The prestigious award from the Scott Arboretum of Swarthmore College, also in Pennsylvania, recognizes individuals who have made outstanding national contributions to the science and art of gardening.



In the course of his four-decade career at the Morris Arboretum, Meyer has led the arboretum's sustainability efforts, including the construction of its LEED-certified Horticulture Center, which includes a geothermal heating system, solar power, and a green roof. A founding member of the North America-China Plant Exploration Consortium, Meyer has participated in dozens of plant hunting expeditions in Asia and Europe and is known for fostering collaborative partnerships with international colleagues. His previous honors include the Liberty Hyde Bailey Award from the American Horticultural Society in 2014, and the Award of Merit from the American Public Gardens Association in 2013.

For more on the Scott Medal and Award, visit *www.scottarboretum.org/learn/scott-medal-award*.

LANDSCAPE DESIGNER OF THE YEAR

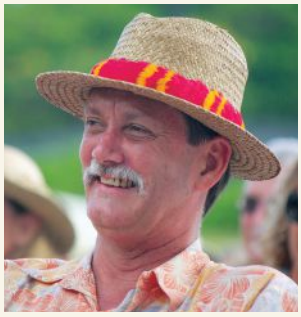
The Association of Professional Landscape Designers (APLD) has named **Margie Grace** its 2018 Landscape Designer of the Year. Grace, the principal of Grace Design Associates in Montecito, California, also won the APLD's Gold Award for the redesign of her Sycamore Canyon office and home in Montecito.

An accomplished landscape contractor who has been featured in major publications and has completed projects worldwide, Grace transformed Sycamore Canyon from what one judge described as "a dreary and uninviting space" into a miniature version of the renowned Lotusland garden in Santa Barbara. "The design is an homage to Lotusland's creator, Madame Ganna Walska," says Grace. "The garden blooms in shades of pink and features dramatic potted plants and reproduction grotesques from Lotusland itself."

For more information on the organization's award program, visit *www.apld.org*.

THE GARDEN CLUB OF AMERICA 2018 MEDAL OF HONOR RECIPIENT

This year's Garden Club of America Medal of Honor winner is Hawaiian horticultural leader **Charles R. "Chipper" Wichman**, who currently serves as the chief executive officer, president, and director of the National Tropical Botanical Garden (NTBG) based in Kaua'i. Wichman has contributed decades of service to the stewardship of native plants and tropical ecosystems in Kaua'i's Limahuli Valley. He also coordinated the first World Conservation Congress held in Hawaii in 2016, and led the construction of the Juliet Rice Wichman Botanical Research Center on Kaua'i, among many other achievements.



For more information on the GCA Medal of Honor, visit *www.gcamerica.org/medals*.

used to preferentially kill cancerous cells at a concentration that would leave normal cells unaffected," says Denis L.J. Lafontaine, the study's leader and a professor at the Université Libre de Bruxelles, Belgium.

"Haemanthamine may be important for curing cancer because it inhibits both the production and the function of ribosomes," Lafontaine says. Ribosomes, Lafontaine explains, are the "nanomachines" in our cells that make all needed cell proteins. Cancer cells rely on ribosomes

Daffodils contain a compound that helps destroy cancer cells at low concentrations.

to fuel their growth and spread, so the researchers posit that HAE's ability to block both the function and ongoing production of ribosomes may help kill off cancerous cells.

According to Lafontaine, the medicinal properties of daffodils have been of great interest since ancient Greek and Roman times, but scientists are only now starting to understand the benefits and intricacies of the compounds responsible for the medicinal effects.

Moving forward, Lafontaine and his collaborators will now test the anticancer potential of other alkaloids related to HAE in order to identify which is the most effective in battling cancer cells. For more on the study, published in the March 6 issue of the journal *Structure*, visit *www.lafontainelab.com*.

News written by Editorial Intern Mackenzie Nichols.

LEFT, TOP TO BOTTOM: COURTESY OF LISA ROPER, APLD; NTBG. RIGHT: AHS ARCHIVES

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Pruning Tools for Every Task

by Rita Pelczar

PRUNING IS a necessary task in any garden. From bigger jobs like removing dead, weak, unhealthy, or crossing branches to more delicate cuts that encourage flowering and fruiting, a well-sharpened, properly-sized, task-appropriate pruning tool is essential. Here are a few that I depend upon.

The **Softgrip® Micro-Tip® Pruning Snip** from Fiskars *(www.fiskars.com)* is made for precise tasks such as pruning houseplants or sculpting bonsai. I use it to cut back stem tips of herbaceous plants to encourage lateral branching. It's only six inches long, so you can reach into small spaces to make accurate cuts. Its comfortable grip and gentle spring-action opening have earned it the Arthritis Foundation's Ease of Use℠ Commendation.

If you grow your own cut flowers, you may want to get a pair of the **Stainless Precision Pruning Snips** from Gardener's Supply Company *(www.gardeners.com)*. Great for snipping fresh bouquets as well as deadheading spent blooms, they are also strong enough to cut thick rose stems. Made of stainless steel with a brass lock, they are as handsome as they are useful. At seven-and-a-half inches long, they are well-suited for smaller hands.

Felco has a number of high-quality, general-purpose hand pruners. Made in

Left: Fiskars Pruning Stik® Tree Pruner. Top: Fiskars Softgrip® Micro-Tip® Pruning Snip. Above: Stainless Precision Pruning Snips.

ALL PHOTOS ON THIS PAGE BY RITA PELCZAR

Top left: Felco 6 Pruner, left, and Felco 2 Pruner, right. Top right: Silky Zubat Pruning Saw. Bottom left: Fiskars 27-Inch Ratchet Lopper.

Switzerland, various models are available from both Gardener's Supply Company and Gardener's Edge *(www.gardenersedge.com)*. For example, the **Felco® 2 Pruner** is sized for larger hands and can cut branches of up to an inch in diameter; the **6 Pruner**, designed to fit smaller hands, has a slightly smaller maximum cutting capacity. Both bypass pruners have hardened steel blades and cushioned, plastic-coated, aluminum alloy handles. They are lightweight, easily sharpened, and can be disassembled for cleaning or repair.

Corona® FlexDIAL® ComfortGEL® Bypass Pruner

Corona®, based in California, also has a wide selection of sturdy hand pruners *(www.coronatoolsusa.com)*. Several models have adjustable features to increase their ease of use and minimize strain on the hands, such as its new **FlexDIAL® ComfortGEL® Bypass Pruner**. The dial can be set between 1 for smaller hands and 8 for larger hands, controlling how wide the blades will open. This helps reduce fatigue when performing repetitive pruning. Cushioned, ergonomic grips and specially coated blades also help to make all sorts of pruning tasks feel almost effortless.

Loppers are designed to cut larger branches and come in many sizes. The **Fiskars 27-Inch Ratchet Lopper** easily cuts through branches of up to two inches in diameter. The ratchet design reduces the effort required to make such large cuts. The anvil-style ground steel blades have a coating that reduces friction and rust. For pruning live branches of up to two inches in diameter, **Fiskars PowerGear2™** pruners offer a similar ratchet design with bypass blades.

A good saw is essential for pruning larger branches. Folding handsaws are convenient to tote around, but for landscape professionals and gardeners who do a lot of pruning, the **Silky Zubat Pruning Saw**, available from A. M. Leonard *(www.amleo.com)*, is a cut above. "The Zubat is a heck of a saw," says Dan Scott, associate director of gardens and facilities at the American Horticultural Society's River Farm headquarters in Alexandria, Virginia. "Most folks never go back to what they were using once they try one." The 13-inch, curved blade has about six teeth per inch, which means it can sever a large branch with minimal effort. The molded rubber handle has a comfortable grip, and the blade extends into the handle for extra strength and stability. The saw comes with a protective scabbard.

Pole pruners are needed to trim branches that can't be reached with loppers or hand saws. The **Fiskars Pruning Stik® Tree Pruner** is a lightweight aluminum option without ropes; just slide the handle to work the cutting head, which can be rotated to make angled cuts. It is five feet long and cuts branches up to one-and-a-quarter-inches in diameter.

For higher and/or larger branches, the **Fiskars Chain Drive Extendable Pole Saw & Pruner** can be adjusted from seven to 16 feet. Its business end is equipped with a precision-ground steel pruner, which operates smoothly by pulling the rope. Its 15-inch saw has a hooked end that helps anchor it on the target branch to prevent slipping.

Whatever you need to prune, these tools, properly maintained, are up to the task.

Rita Pelczar is a contributing editor for The American Gardener.

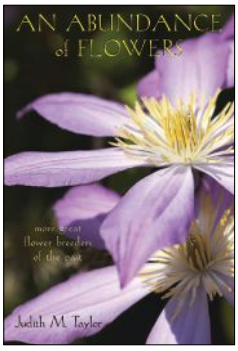
TOP LEFT AND CENTER: RITA PELCZAR. TOP RIGHT: COURTESY OF A.M. LEONARD. BOTTOM: COURTESY OF CORONA

Recommendations for Your Gardening Library

An Abundance of Flowers: More Great Flower Breeders of the Past

Judith M. Taylor. Swallow Press/Ohio University Press, Athens, OH, 2018. 232 pages. Publisher's price, softcover: $28.95.

AN ABUNDANCE OF FLOWERS is the next installment of Judith Taylor's research into the stories of plant breeders, some famous and some not-so. In her first book, *Visions of Loveliness,* Taylor covered 16 genera of ornamental flowers. In this one, she offers the stories of breeders who were active in eight additional groups, including poinsettias, chrysanthemums, and clematis.



Each chapter discusses a particular genus or group of plants, detailing their botanical characteristics, and major and minor breeders. Taylor focuses on breeding achievements in England, France, and the United States, but includes several other countries such as Thailand and Japan. She promises to weed out the myths surrounding some plant introductions. For example, she firmly refutes the long-held belief that Joel R. Poinsett introduced the poinsettia in Charleston, South Carolina, in 1828. (You will have to refer to her book for the real story!)

In addition to memorializing these breeders, Taylor provides interesting political and economic context to their work. In one example, she reports that *Gladiolus* was successfully grown in the Channel Islands of Great Britain by the Mahy family in the 1930s. During the German occupation of Guernsey in World War II, the Mahy fields were obliterated. A Dutch grower helped repopulate the fields with *Gladiolus* stock he had acquired from the family before the war.

Not all breeding efforts are successful. One example is the 1905 commercial failure of the *Dianthus* cultivar 'Fiancee' owned by the Chicago Carnation Company. It caused a sensation upon its debut at a flower show, resulting in thousands of orders for the plants. Unfortunately, the cultivar proved difficult to mass produce, so the company was unable to fill the orders. As Taylor wryly observes, "the name 'Fiancee' is perilously close to fiasco."

Through these and many other stories, Taylor notes that "we who enjoy the result of so many painstaking efforts…can now look at familiar plants in a new light." In this volume, Taylor succeeds once again in bringing the stories of diligent flower breeders of the past to the gardeners who benefit from their efforts today.

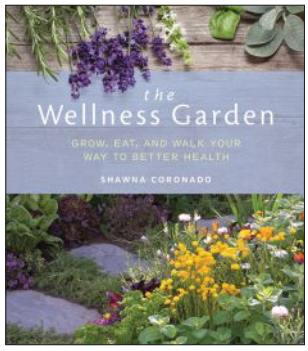
—Denise W. Adams

Denise W. Adams is the author, with Laura L. S. Burchfield, of American Home Landscapes: A Design Guide to Creating Period Garden Styles *(Timber Press, 2013).*

The Wellness Garden: Grow, Eat, and Walk Your Way to Better Health

Shawna Coronado, Cool Springs Press, Minneapolis, MN, 2017. 160 pages. Publisher's price, softcover: $24.99.

WELLNESS AND GARDENING are a natural pairing. For Shawna Coronado, who planted thousands of vegetables every year on her property near Chicago, Illinois, this connection became critical to her health when she was diagnosed with severe degenerative osteoarthritis of the spine in 2015.



Enveloped in intense pain and depressed because this incurable condition put limits on her physical abilities, Coronado turned to a trusted source for relief: the garden. Over the next two years, she forged a lifestyle that she outlines in her latest—and most personal—book, *The Wellness Garden*. "By committing yourself to wellness and to live more mindfully, you make a choice every single day on how you want to live, eat, move, and travel your life path," she writes.

The book's three sections—Growing the Wellness Diet & Lifestyle; Incorporating Exercise in the Garden; and Therapeutic Gardening—paint broad brushstrokes on how to incorporate the lessons Coronado learned while navigating her new lifestyle. Some of the topics—such as growing your own food, using ergonomically-friendly tools, and designing gardens for therapeutic benefits—may seem elementary to those who already garden, but for those new to the concept, the book may be a gateway to useful natural health solutions.

Coronado addresses how her modified diet composed of unprocessed foods and plants with anti-inflammatory benefits helped to naturally reduce her pain levels. Given her success, I wish she had included a few examples of her favorite recipes, but perhaps there will be a *Wellness Garden Cookbook* one day. I also would have liked to see a little more of the author's effervescent personality, which shines through in her frequent speaking appearances and online writing.

If you or someone you know is seeking wellness for whatever reason, I prescribe Coronado's book—plus time spent in a garden, of course.

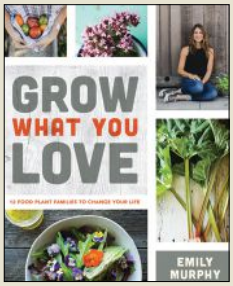
—Deb Wiley

Deb Wiley, a Des Moines, Iowa-based garden writer, editor, and photographer, was honored last year as a Fellow of GWA: The Association of Garden Communicators.

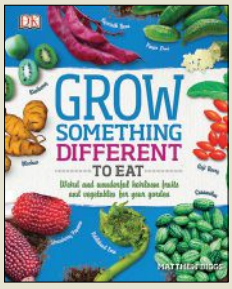
GARDENER'S BOOKS
Inspiration for the Edible Garden

PART OF the fun of growing your own vegetables, fruits, and herbs is the ability to try species or varieties that you wouldn't necessarily find in your local grocery store or even at a farmer's market. No matter where you garden, you can grow all sorts of colors, sizes, and flavors of edibles. Here are a few recently published books that will provide plenty of ideas and inspiration for edible gardening.

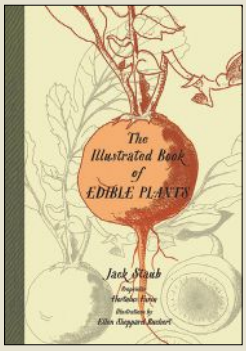
In ***Grow What You Love: 12 Food Plant Families to Change Your Life*** (Firefly Books, 2018, $24.95), Emily Murphy encourages readers to "focus on the plants that provide abundance with less space and time." These include herbs, greens, berries, and even flowers. For the individual plants in each category, Murphy describes how to grow, harvest, and use them. She provides several easy recipes, DIY projects, practical tips, and honest advice on everything from planning your garden to composting.



Grow Something Different to Eat (DK, 2018, $21.95) by Matthew Biggs profiles veggies, herbs, and fruits that are sure to add pizzazz to your plate. Plants like cucamelon, honeyberry, and strawberry popcorn taste as exciting as they sound. Sections such as "Crops for Pots," "Shade-Loving Crops," and "Crops for Soggy Ground," help gardeners select the best choices for specific conditions. Biggs also gives step-by-step growing guidelines for each of these less common edibles, along with cooking tips.



The Illustrated Book of Edible Plants (Gibbs Smith, 2017, $24.99) is a visually appealing collection of what author Jack Staub calls "85 of the most winning edible plants on the planet." He includes both well-known and unusual edibles, each charmingly illustrated by Ellen Sheppard Buchert and accompanied by essays about their noteworthy characteristics. You'll also find plenty of fascinating tidbits such as the Taoist importance of the peach, the wartime medicinal benefits of dill in ancient Rome, and the Elizabethan folklore surrounding the artichoke.



—Mackenzie Nichols, Editorial Intern

Horticultural Events from Around the Country

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 or other benefits. Special events may not be included; contact the host site for details or visit *www.ahsgardening.org/rap.*

NORTHEAST

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

RAP MAY 26. **Decorative Kitchen Garden Containers.** Workshop. Hollister House Garden. Washington, CT. (860) 868-2200. *www.hollisterhousegarden.org.*

JUNE 1–3. **Long Island Orchid Festival 2018.** Planting Fields Arboretum State Historic Park. Oyster Bay, NY. (516) 780-5107. *www.aos.org.*

RAP JUNE 2. **Plant Sale.** Tower Hill Botanic Garden. Boylston, MA. (508) 869-6111. *www.towerhillbg.org.*

RAP JUNE 22–24. **Newport Flower Show.** Rosecliff, The Preservation Society of Newport County. Newport, RI. (215) 988-8800. *www.newportmansions.org.*

RAP JUNE 29. **Native Plants for Cut Flower Gardening.** Lecture. Friends of The Frelinghuysen Arboretum. Morris Township, NJ. (973) 326-7601. *www.arboretumfriends.org.*

RAP JUNE 30. **Gardening with Ease.** Lecture. Coastal Maine Botanical Gardens. Boothbay, ME. (207) 633-8000. *www.mainegardens.org.*

Looking ahead

JULY 3–7. **Gesneriad Society Convention.** The New England Gesneriad Society. Sheraton Framingham Hotel. Framingham, MA. *www.gesneriadsociety.org.*

JULY 6–15. **The Cape Cod Hydrangea Festival.** Cape Cod, MA. (508) 362-3225. *www.capecodchamber.org/hydrangea-fest.*

MID-ATLANTIC

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

RAP MAY 26. **Unexpected Invasives.** Lecture. West Virginia Botanic Garden. Morgantown, WV. (304) 322-2093. *www.wvbg.org.*

RAP JUNE 9. **Lei-Making.** Demonstration. United States Botanic Garden. Washington, D.C. (202) 225-8333. *www.usbg.gov.*

RAP JUNE 10. **Photographing Flowers with Your iPhone.** Workshop. Adkins Arboretum. Ridgely, MD. (410) 634-2847. *www.adkinsarboretum.org.*

RAP JUNE 13. **Small Spaces Series: Pests, Weeds, and Water.** Workshop. Delaware Center for Horticulture. Wilmington, DE. (302) 658-6262. *www.thedch.org.*

RAP JUNE 16. **Richmond Daylily Society Show & Sale.** Lewis Ginter Botanical Garden. Richmond, VA. (804) 262-9887. *www.lewisginter.org.*

JUNE 20–23. **50th Anniversary Convention.** American Hosta Society. Philadelphia, PA. (610) 337-1200. *www.ahs2018philly.org.*

JUNE 21. **Gardening for Drought Tolerance.** Lecture. Chanticleer Garden. Wayne, PA. (215) 988-8883. *www.chanticleergarden.org.*

RAP JUNE 22. **Guided Garden Tour.** Tudor Place. Washington, D.C. (202) 965-0400. *www.tudorplace.org.*

Looking ahead

RAP JULY 7. **Japanese-Style Floral Design.** Workshop. Hillwood Estate, Museums & Gardens. Washington, D.C. (202) 686-5807. *www.hillwoodmuseum.org.*

RAP JULY 14. **Butterfly Festival 2018.** Norfolk Botanical Garden. Norfolk, VA. (757) 441-5830. *www.norfolkbotanicalgarden.org.*

SOUTHEAST

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

RAP MAY 27. **Memphis Area Daylily Society Annual Daylily Sale.** Memphis Botanic Garden. Memphis, TN. (901) 636-4100.

Celebrating Trees Through Art

EVERY THREE years, the American Society of Botanical Artists (ASBA) and the New York Botanical Garden (NYBG) coordinate a botanically-themed art exhibition. This year's event is "Out of the Woods: Celebrating Trees in Public Gardens," featuring the arboreal denizens of various public gardens.

"This triennial exhibition's theme is especially engaging, because people have such close relationships with trees, which are central to our very survival," says Carol Woodin, director of exhibitions for ASBA. "Trees breathe life into us both literally and figuratively."

This illustration of a lichen-covered hawthorn branch at the Minnesota Landscape Arboretum is by Linda Medvea Lufkin.

The current exhibition features 44 pieces selected to represent diversity in artistic styles and tree species. These compositions range from a watercolor depiction of a screw pine *(Pandanus utilis)* from the Bermuda Arboretum to a graphite pencil rendering of a fig tree *(Ficus carica)* from the Tucson Botanical Garden in Arizona.

The exhibition debuted at NYBG in the Bronx last November, and the collection is currently on display at the Huntington Library, Art Collections, and Botanical Gardens in San Marino, California, where it will stay through August 27. From there, the exhibition will travel on to gardens in Missouri, Arizona, and Montana.

Visit *www.asba-art.org/exhibitions/out-woods* for more information.

—Mackenzie Nichols, Editorial Intern

COURTESY OF AMERICAN SOCIETY OF BOTANICAL ARTISTS AND NEW YORK BOTANICAL GARDEN

www.memphisbotanicgarden.com.

RAP JUNE 9. **Farm Your Backyard: Vegetable Growing.** Lecture. Mounts Botanical Garden of Palm Beach County. West Palm Beach, FL. (561) 233-1757. *www.mounts.org.*

RAP JUNE 16. **Grafting Tropical Fruit Trees.** Class. Fairchild Farm. Coral Gables, FL. (305) 667-1651. *www.fairchildgarden.org.*

RAP JUNE 21. **Hydrangeas.** Lecture. Boone County Arboretum. Union, KY. (859) 384-4999. *www.bcarboretum.org.*

RAP JUNE 22. **Food, Land, and People Workshop.** Cape Fear Botanical Garden. Fayetteville, NC. (910) 486-0221. *www.capefearbg.org.*

RAP JUNE 22–30. **Dazzling Daylilies Festival.** Western Kentucky Botanical Garden. Owensboro, KY. (270) 852-8925. *www.wkbg.org.*

RAP JUNE 23. **WNC Daylily Club Annual Flower Show.** North Carolina Arboretum. Asheville, NC. (919) 515-3132. *www.ncarboretum.org.*

Looking ahead

JULY 26. **Build Your Own Fairy Garden.** Class. Yew Dell Gardens. Crestwood, KY. (502) 241-4788. *www.yewdellgardens.org.*

JULY 30–AUG. 3. **Perennial Plant Symposium.** Perennial Plant Association. Raleigh, NC. *www.ppa2018raleigh.com.*

NORTH CENTRAL

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

RAP MAY 27. **Iris Flower Show & Discount Day.** Foellinger-Freimann Botanical Conservatory. Fort Wayne, IN. (260) 427-6440. *www.botanicalconservatory.org.*

RAP MAY 31. **Perennials & Spring Bulbs.** Lecture and tour. Reiman Gardens. Ames, IA. (515) 323-6290. *www.reimangardens.com.*

RAP JUNE 2. **Lurie Garden Plant Sale.** Lurie Garden. Chicago, IL. (312) 228-1004. *www.luriegarden.org.*

RAP JUNE 9. **Beginner Botany for Gardeners.** Lecture. Greater Des Moines Botanical Garden. Des Moines, IA. (515) 323-6290. *www.dmbotanicalgarden.com.*

RAP JUNE 17. **Succulent Container Garden.** Class. Franklin Park Conservatory. Columbus, OH. (614) 715-8022. *www.fpconservatory.org.*

RAP JUNE 18–22. **Pollinator Week.** Festival. Milwaukee's Mitchell Park Horticultural Conservatory. Milwaukee, WI. (414) 257-5608. *www.milwaukeedomes.org.*

RAP JUNE 21. **Hydrangeas.** Lecture. Sarah P. Duke Gardens. Newark, OH. (919) 668-1707. *http://gardens.duke.edu.*

JUNE 25–27. **International Floriculture Expo.** Trade show. McCormick Place. Chicago, IL. (207) 842-5508. *www.floriexpo.com.*

Looking ahead

JULY 14–17. **Cultivate18.** Trade show. Greater Columbus Convention Center, OH. (614) 487-1117. *www.cultivate18.org.*

RAP JULY 19. **Success with Succulents Garden Workshop.** Ford House. Grosse Pointe Shores, MI. (313) 884-5977. *www.fordhouse.org.*

SOUTH CENTRAL

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

JUNE 1–3. **New Orleans Orchid Society Show & Sale.** Lakeside Shopping Center. Metairie, LA. (504) 810-9832. *www.aos.org.*

RAP JUNE 2. **Green Living Festival.** Missouri Botanical Garden. St. Louis, MO. (314) 577-5100. *www.missouribotanicalgarden.org.*

RAP JUNE 2. **Landscaping with Native Plants.** Lecture. Botanical Research Insti-

Trolls Exhibition at Morton Arboretum

SIX MASSIVE trolls will soon take up residence at the Morton Arboretum in Lisle, Illinois. Designed by Danish artist Thomas Dambo, the 15- to 20- foot sculptures are being crafted from reclaimed wood over the next several weeks for the arboretum's summer exhibition, "Troll Hunt," which officially debuts on June 22.

One of Thomas Dambo's trolls amuses a young visitor at a garden in Denmark.

"They are guardians of the trees," says Patricia MacMillan, the arboretum's public relations specialist. The exhibition is intended to "bring a focus on our collective responsibility to care for trees and the environment."

Throughout the summer, visitors can participate in a scavenger hunt to find the huge wooden trolls—some hidden and some in plain sight—around the arboretum's 1,700 acres. Dambo will give a presentation about the project on June 14 at the arboretum. For more details about the exhibition, go to *www.mortonarb.org.*

—Mackenzie Nichols, Editorial Intern

tute of Texas. Fort Worth, TX. (817) 332-4441. *www.brit.org.*

RAP JUNE 4. **Tomatoes & Peppers.** Lecture. LSU AgCenter Botanic Gardens at Burden. Baton Rouge, LA. (225) 763-3990. *www.lsu.edu/botanic-gardens/visit/index.php.*

RAP JUNE 6. **North Texas Daylily Society Flower Show.** Fort Worth Botanic Garden. Fort Worth, TX. (817) 392-5510. *www.fwbg.org.*

RAP JUNE 9. **June Plant Sale.** City Park New Orleans. New Orleans, LA. (504) 482-4888. *www.neworleanscitypark.com.*

RAP JUNE 16. **Oklahoma Urban & Sustainable Garden Plant Sale.** Tulsa Garden Center at Woodward Park. Tulsa, OK. (918) 576-5155. *www.tulsagardencenter.com.*

RAP JUNE 16. **Shade Tolerant Plants.** Lecture. Texas Discovery Gardens at Fair Park. Dallas, TX. (214) 428-7476. *www.txdg.org.*

RAP JUNE 30. **Booms and Blooms Festival.** Powell Gardens. Kingsville, MO. (816) 697-2600. *www.powellgardens.org.*

Looking ahead

JULY 7. **Daylily Daze.** Festival. K-State Gardens, Kansas State University. Manhattan, KS. (785) 532-6011. *www.k-state.edu/gardens.*

SOUTHWEST

AZ, CO, NM, UT

RAP MAY 25–JUNE 1. **Plant Sale.** Betty Ford Alpine Gardens. Vail, CO. (970) 476-0103. *www.bettyfordalpinegardens.org.*

RAP MAY 27. **Spring Opening & Plant Sale.** The Arboretum at Flagstaff. Flagstaff, AZ. (928) 774-1442. *www.thearb.org.*

JUNE 10. **Creative Perennial Combinations.** Class. Tagawa Gardens. Centennial, CO. (303) 690-4722. *www.tagawagardens.com.*

RAP JUNE 13. **So You Want to Be a Beekeeper?** Lecture. Hudson Gardens & Event Center. Littleton, CO. (303) 797-8565. *www.hudsongardens.org.*

JUNE 16 & 17. **Pine/Strawberry Festival.** Pine-Strawberry Business Community. Pine Community Center and Ramada. Pine, AZ. (928) 978-0469. *www.strawberryfestivalaz.com.*

Looking ahead

RAP JULY 21. **Lavender Festival.** Denver Botanic Gardens, Chatfield Farms. Littleton, CO. (720) 865-3500. *www.botanicgardens.org.*

RAP JULY 21. **NoCo Urban Homestead Tour.** The Gardens on Spring Creek. Fort Collins, CO. (970) 416-2486. *www.fcgov.com.*

WEST COAST

CA, HI, NV

RAP MAY 30. **Casa Wellness: Grow Your Own Food.** Workshop. Casa Romantica Cultural Center and Gardens. San Clemente, CA. (949) 498-2139. *www.casaromantica.org.*

RAP JUNE 3. **Wild Family Day.** Festival. University of California Davis Arboretum and Public Garden. Davis, CA. (530) 752-4880. *www.arboretum.ucdavis.edu.*

RAP JUNE 9. **Perennials & Pollinator Plant Sale.** San Francisco Botanical Garden. San Francisco, CA. (415) 661-1316. *www.sfbotanicalgarden.org.*

RAP JUNE 9 & 10. **Descanso Bonsai Society Show.** Descanso Gardens. La Cañada Flintridge, CA. (818) 949-4200. *www.descansogardens.org.*

RAP JUNE 28. **Rare Plant Rescue at SLO Botanical Garden.** Lecture. San Luis Obispo Botanical Garden. San Luis Obispo, CA. (805) 541-1400. *www.slobg.org.*

Looking ahead

RAP JULY 7. **Easy Cactus and Succulent Propagation.** Lecture. Markham Nature Park and Arboretum. Concord, CA. (925) 681-2968. *www.markhamarboretum.org.*

NORTHWEST

AK, ID, MT, OR, WA, WY

RAP JUNE 2. **Rhody Deadhead Party.** Lakewold Gardens. Lakewood, WA. (253) 584-4106. *www.lakewoldgardens.org.*

RAP JUNE 9. **Medicinal Herbs Walk.** Lecture and tour. Mount Pisgah Arboretum. Eugene, OR. (541) 747-3817. *www.mountpisgaharboretum.com.*

JUNE 13. **Tending the Earth: The Urban Agricultural Revolution.** Lecture. Center for Urban Horticulture. Seattle, WA. (206) 780-8172. *www.northwesthort.org.*

JUNE 16. **Evergreen Arboretum & Gardens Plant Sale.** Evergreen Arboretum. Everett, WA. (425) 257-8597. *www.evergreenarboretum.com.*

RAP JUNE 20. **Growing Fuchsias Successfully in the Northwest.** Lecture. Bellevue Botanical Garden. Bellevue, WA. (425) 452-2750. www.bellevuebotanical.org.

Looking ahead

JULY 13–15. **Cactus & Succulent Society Show.** Portland Nursery on Stark. Portland, OR. (503) 788-9000. *www.portlandnursery.com.*

CANADA

JUNE 9 & 10. **Annual Peony Festival.** Oshawa Valley Botanical Gardens. Oshawa, ON. (905) 436-3311. *www.oshawa.ca.*

RAP JUNE 24. **Grow Your Own Cut Flower Garden Workshop.** The Gardens at HCP. Victoria, BC. (250) 479-6162. *www.hcp.ca.*

RAP JUNE 28. **Grow Your Own Food: Garden Maintenance.** Class. Royal Botanical Gardens. Burlington, ON. (905) 527-1158. *www.rbg.ca.*

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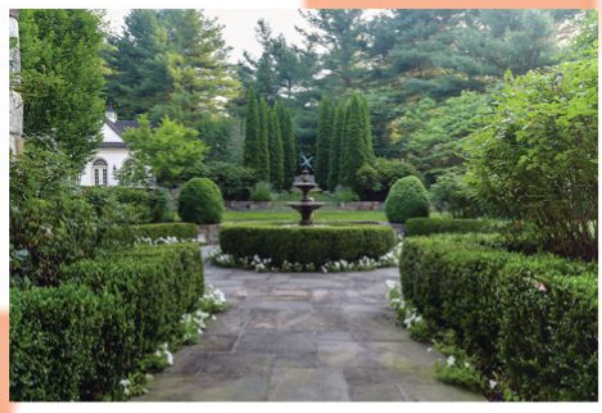

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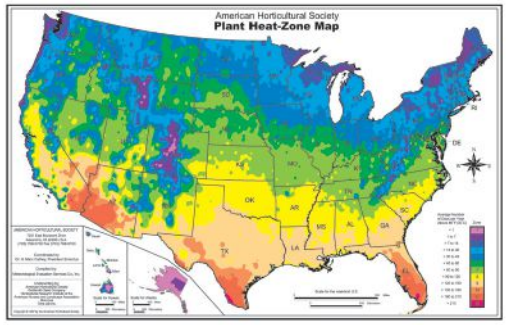
PRONUNCIATIONS AND PLANTING ZONES

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



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

Agave attenuata uh-GAH-vee uh-ten-yew-AY-tuh (USDA Hardiness Zones 10–11, AHS Heat Zones 10–4)
Asimina triloba uh-SIH-mih-nuh try-LO-buh (4–8, 9–5)
Carex buchananii KAIR-eks byoo-kuh-NAN-ee-eye (7–9, 9–1)
Cephalotaxus harringtonia sef-uh-lo-TAK-suss hair-ring-TOH-nee-uh (6–9, 9–3)
Cordyline australis KORE-dih-line aw-STRAY-liss (8–11, 12–10)
Euphorbia tirucalli yew-FOR-bee-uh tih-rew-KAL-ee (10–11, 12–6)
Fatsia japonica FAT-see-uh jah-PON-ih-kuh (8–11, 12–6)
Fraxinus pennsylvanica frak-SIH-nus pen-sil-VAN-ih-kuh (4–9, 9–1)
Hakonechloa macra ha-kon-ee-KLOH-uh MAK-ruh (5–9, 9–2)
Haloragis erecta hal-OR-ah-jis eh-REK-tuh (6–11, 12–6)
Hedera helix HED-er-uh HE-liks (5–11, 12–6)
Helichrysum petiolare hel-ee-CRY-sum pet-ee-o-LAR-ee (9–11, 12–1)
Impatiens walleriana im-PAY-shenz wal-ler-ee-AN-uh (10–11, 12–1)
Ipomoea alba ih-po-ME-uh AL-buh (10–11, 12–5)
I. arborescens I. ar-bo-RES-enz (9–11, 11–8)
I. batatas I. buh-TAH-tus (11, 12–1)
I. bolusiana I. bo-lew-see-AN-uh (11, 12–5)
I. leptophylla I. lep-toh-FIL-luh (4–9, 10–6)
I. lobata I. low-BAY-tuh (10–11, 12–7)
I. ×multifida I. mul-TIF-ih-duh (0–0, 12–1)
I. pandurata I. pan-dyew-RAY-tuh (6–8, 8–1)
I. purpurea I. pur-PUR-ee-uh (0–0, 12–1)
I. quamoclit I. KWAM-oh-klit (11, 12–6)
I. tricolor I. TRY-kul-ur (11, 12–1)
Lamium maculatum LAY-mee-um mak-yew-LAY-tum (4–8, 8–1)
Lindera benzoin lin-DAIR-uh BEN-zo-in (4–9, 8–1)
Lonicera sempervirens lah-NISS-er-uh sem-pur-VY-renz (4–9, 9–1)
Magnolia acuminata mag-NOLE-yuh ak-yew-min-AY-tuh (4–8, 8–2)
M. foveolata M. fo-vee-o-LAY-tuh (7–11, 12–7)
M. grandiflora M. gran-dih-FLOR-uh (6–9, 9–6)
M. insignis M. in-SIG-nis (7–9, 9–7)
M. laevifolia M. lee-vih-FO-lee-uh (7b–10b, 10–7)
M. liliiflora M. lih-lee-eye-FLOR-uh (5–8, 8–5)
M. maudiae M. MAW-dee-ee (7b–11, 10–7)
M. sieboldii M. see-BOLD-ee-eye (6–9, 9–7)
M. ×soulangiana M. soo-lan-jee-AN-uh (5–9, 9–5)
M. virginiana* var. *australis M. vir-jin-ee-AN-uh var. aw-STRAY-liss (4–9, 9–1)
M. wilsonii M. wil-SOWN-ee-eye (6–9, 9–6)
M. yuyuanensis M. yew-yew-uh-NEN-siss (7a–10, 10–7)
Murraya paniculata MUH-ray-uh pan-ik-yew-LAY-tuh (9–10, 10–9)
Pilea involucrata pee-LEY-uh in-vol-yew-KRAY-tuh (11, 12–1)
Pinus ponderosa PY-nus pon-deh-RO-suh (6–8, 8–6)
Plectranthus scutellarioides plek-TRAN-thus skoo-tuh-LAIR-ee-OY-deez (11, 12–1)
Prunus laurocerasus PREW-nus law-row-SEH-rah-sus (6–9, 9–6)
Rosmarinus officinalis roze-muh-RY-nus oh-fiss-ih-NA-liss (8–10, 12–2)
Sambucus racemosa sam-BOO-kus ras-eh-MO-suh (3–7, 7–1)
Sassafras albidum SASS-uh-frass AL-bih-dum (4–8, 8–3)
Sphaeralcea coccinea sfeer-AL-see-uh kok-SIN-ee-uh (3–10, 12–4)
Vinca major VING-kuh MAY-jer (7–11, 12–1)

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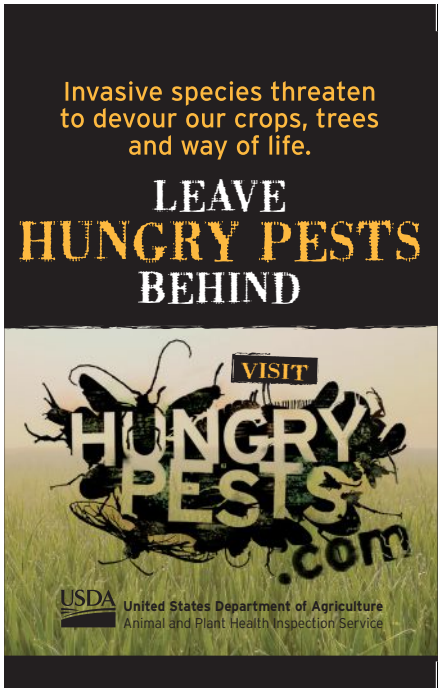

PLANT LABELS

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Trumpet Honeysuckle 'Blanche Sandman'

by Greg Freeman

'Blanche Sandman' blooms profusely in mid- to late spring and then intermittently until frost.

WHILE NATIVE plants are starting to get more widespread attention because of their value for wildlife, there are still wonderful selections that remain overlooked or confined to a regional fan base. A good example of this is trumpet honeysuckle *(Lonicera sempervirens,* USDA Zones 4–9, AHS Zones 9–1), which is beautiful and vigorous, but has a restrained growth habit unlike many of the non-native honeysuckles.

Native to the eastern United States from Connecticut to Florida, trumpet honeysuckle is evergreen in the southern part of its range and deciduous further north. Typical specimens of the multi-stemmed vine grow 15 to 20 feet tall with a diameter of three to five feet. The species has attractive pinkish-orange flowers that bloom heavily over a two-month period in early to mid-spring and sporadically thereafter. Hummingbirds and night-flying sphinx moths regularly visit the flowers. Sparse clusters of reddish berries add further interest in late summer before they are devoured by songbirds.

A number of selections are available, including 'Magnifica'; 'John Clayton' (aka 'Sulphurea'), which has yellow flowers; and orange-red 'Major Wheeler'. But it's the lesser-known 'Blanche Sandman' that I recommend because its deep-rose flowers bloom heavily in May, and then reliably on and off again until the first heavy frost.

CHANCE ENCOUNTER

I discovered 'Blanche Sandman' in 2011 when I exhibited daffodils at the East Tennessee Daffodil Society's show in Knoxville. A native plant vendor had some small, potted 'Blanche Sandman' specimens, and I gladly handed over the five or six dollars she was asking for. I like to know the stories behind plant names, so I did some digging and discovered that 'Blanche Sandman' had been introduced by Allen Bush of the former Holbrook Farm & Nursery in Fletcher, North Carolina. A few years later, I was fortunate to run into Bush, who at the time was director of special projects for Jelitto Perennial Seeds, based near Louisville, Kentucky.

According to Bush, a woman named Blanche Sandman, who owned a small, backyard nursery near Louisville, propagated and sold this honeysuckle starting in the 1960s. "You'd see it planted on mailboxes and trellises all around town," says Bush. Sandman was simply selling it as a trumpet honeysuckle, so Bush named it after her as a way "to distinguish it from others that were floating around in the trade."

GARDEN CULTURE

As with other trumpet honeysuckles, 'Blanche Sandman' thrives in rich, well-drained soil and full sun, although it adapts to other soil conditions and tolerates part shade. It's best to provide a trellis, arbor, or fence to support the vine, but I have seen it trained as a groundcover. If you don't have a lot of space, you can easily keep the vine in check by cutting it back after the first heavy flush of blooms. Prune some of the stems each fall to help promote air flow and reduce susceptibility to powdery mildew.

If you decide you'd like to grow 'Blanche Sandman', it is readily available through retail and mail-order nurseries and has become a favorite passalong plant among gardeners.

Sources

High Country Gardens, Shelburne, VT. *www.highcountrygardens.com.*
Sandy's Plants, Inc., Mechanicsville, VA. *www.sandysplants.com.*

Greg Freeman lives in Walhalla, South Carolina, and chronicles his gardening at www.GregFreeman.garden.

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