

# The American GARDENER

The Magazine of the American Horticultural Society

July/August 2006

small  
gardens  
*with big appeal*

Hedges: Beyond  
the Ordinary

Water Wisely with  
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Silphiums for  
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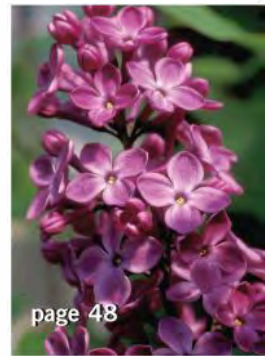
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## ON THE ROAD WITH AHS

**A**FTER A WHIRLWIND couple of months, I write to you now as president emeritus with exciting new responsibilities. As you will read later in this issue (see page 14), I am not the only one who has changed roles and responsibilities for the AHS. We now have a new slate of officers on our AHS Board, headed by incoming Board Chair Susie Usrey, an executive with Monrovia nursery in Azusa, California.

And while a national search continues for a new president, Director of Member Programs Tom Underwood has agreed to serve as interim president. Tom brings incredible experience in organizational management and leadership to the position and has the support of a talented and energetic staff. There are indeed exciting times ahead, and I am thrilled to continue to be part of it.

You will note that the header on this column has changed. Because I will no longer be based out of our AHS headquarters at River Farm, I thought you might enjoy hearing reports from the road and stories of AHS members I encounter during my travels.

In mid-May I was in Orlando, Florida, for the Magic of Landscapes Symposium—an annual program the AHS supports in partnership with colleagues in Florida. This symposium, now in its third year, encourages green industry professionals to champion quality landscapes in their developments and communities. At the conference, AHS member Elizabeth Miller, a landscape architect with the National Capital Planning Commission in Washington, D.C., shared fascinating information about landscape planters that are being specially designed to offer both security and beauty in the nation's capital. A lot of useful quantitative information about the economic benefits quality landscapes deliver can be found on the symposium website ([www.magicoflandscaping.com](http://www.magicoflandscaping.com)).

I will be traveling quite a bit this summer, attending AHS programs and other events. Among these will be the AHS National Children & Youth Garden Symposium in St. Louis from July 27 to 29, an extraordinary program in partnership with the Missouri Botanical Garden. I will also be attending the America in Bloom Symposium and Awards Program in Eureka Springs, Arkansas, September 28 to 30.

After that I return to River Farm for the fabulous display of new plants during Fashion in Bloom from September 20 to 22. This is the second year for this great event, on which AHS partners with the Garden Centers of America. As a fitting grand finale, our annual Gala is set for the evening of September 23. One of our truly inspirational American landscape architects, Jim van Sweden, will be this year's honorary Gala chair.

From July through September, I also will be visiting San Francisco, Columbus, Indianapolis, Orlando, and Garrison, New York, among other places. Please feel free to contact me ([kmwarner@ahs.org](mailto:kmwarner@ahs.org)) if there is a chance we might be able to get together at any of these locations or events.

As always, happy gardening to each and every one of you!



—Katy Moss Warner, AHS President Emeritus



## MEMBERS' FORUM

### MAKING SCENTS OF POLEMONIUMS

I was pleased to see the article in the March/April issue devoted to one of my favorite plant genera, *Polemonium*. But as a botanist who has studied skipilots (*Polemonium viscosum*) for about 30 years, I was a little taken aback to see the

flowers described as “generally scentless.” Skipilots perfume the alpine air of the Rocky Mountains with floral fragrances that come in two flavors. “Sweet-flowered” skipilot plants have flowers that contain 2-phenyl alcohol, one of “sweetest” volatile compounds

known. This volatile is found in the nectar where it entices bumblebees to visit and pollinate the flowers. “Skunky-flowered” skipilots have calyx lobes covered with sticky glandular hairs that produce a mysterious skunk odor, repellent to insect pests, elk, and deer.

Other western polemoniums also have fragrant flowers. *P. pulcherrimum* subsp. *delicatum*—an understory species common in Colorado’s Rocky Mountains—also has skunk-scented flowers, while *P. foliosissimum* has a more musky floral scent. Perhaps eastern polemoniums are less fragrant!

Candace Galen

Professor, Division of Biological Sciences  
University of Missouri at Columbia

### PRONUNCIATION CORRECTION

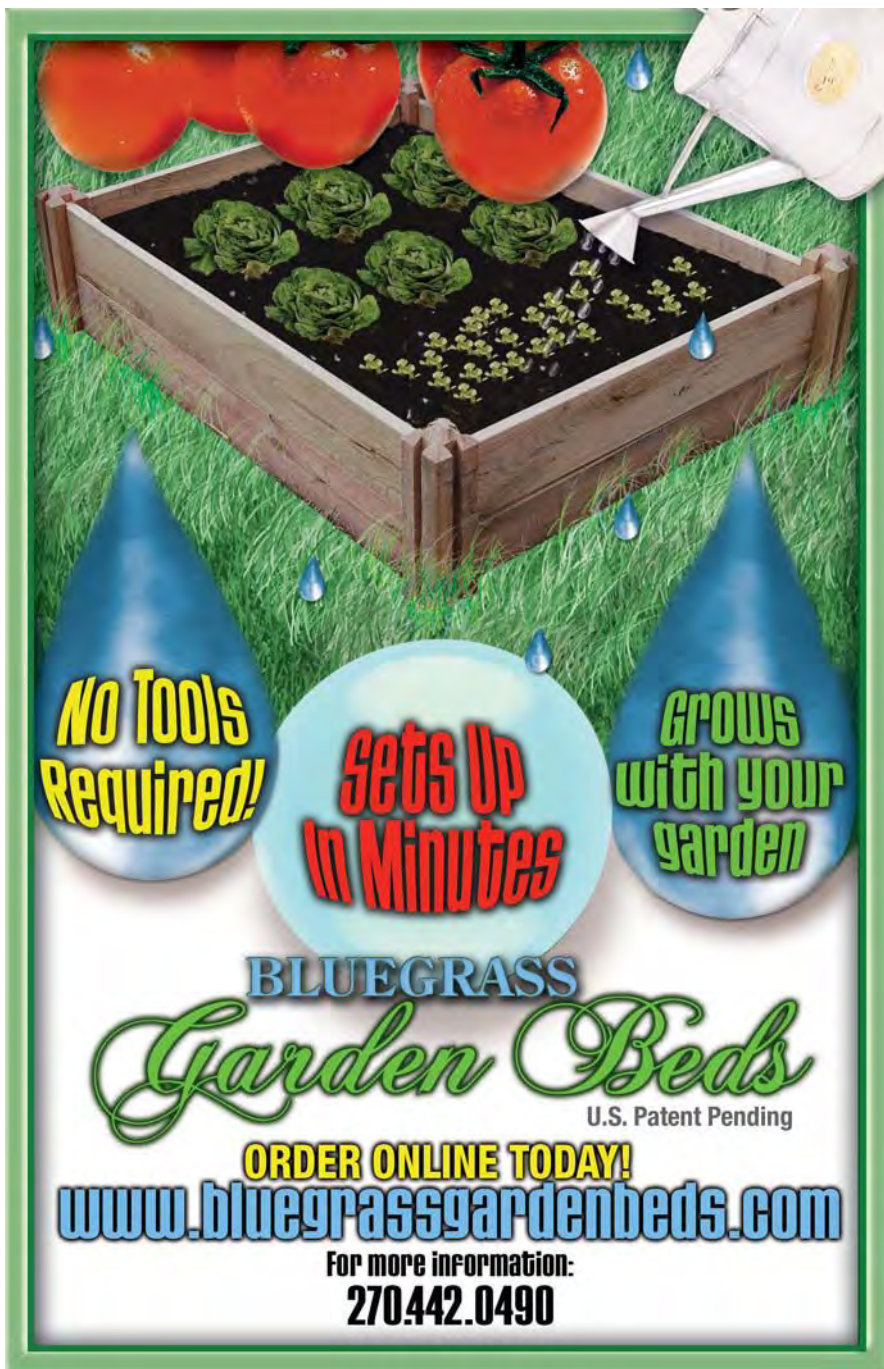
With each issue of *The American Gardener*, one department I look forward to is the pronunciation guide, so I can enhance and practice my own ability to pronounce botanic Latin.

In the November/December issue, however, two pronunciations did not seem reasonable to me. The (mis)pronunciation of *Matthiola incana* was, I believe, the result of misspelling the botanical name. The pronunciation of *Arisaema dracontium* as A. drak-o-NY-tum, however, makes no sense to me. The species name has, again I believe, the same derivation as the word “draconic” (of or like a dragon) which is pronounced dray-kon’-ic. Therefore, I believe that *A. dracontium* should be pronounced A. dray-KON-tee-um.

If you haven’t published something similar in the not too distant past, I believe a comprehensive article about the rules for pronouncing botanical Latin would be greatly appreciated by readers.

Jerry Hudgens

Churchville, Maryland



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## Fashion in Bloom at River Farm

FOR THE SECOND YEAR in a row, the **Garden Centers of America (GCA)** is coordinating a major horticultural event in the Mid-Atlantic region. This year's event has a new name, "Fashion in Bloom: Collection 2007," to highlight the prominence of new plants and anticipated trends within the gardening industry. From September 20 to 22, Fashion in Bloom will be geared toward green industry professionals, while on September 23 the public is invited for Consumer Day.



Like last year, there are six host sites for the event: the **Conard-Pyle Company**, West Grove, Pennsylvania; **Homestead Growers**, Davidsonville, Maryland; **Virginia Growers**, Montpelier, Virginia; **White's Nursery & Greenhouses, Inc.**, Chesapeake, Virginia; **McDonald Garden Center**, Virginia Beach, Virginia, and the AHS's **River Farm** headquarters in Alexandria, Virginia. Each site will feature an array of new and improved plants and products from independent garden centers, landscape contractors, growers, and garden furnishing suppliers.

At River Farm, the theme will be "America's Garden Celebration: Decorating Inside Out," with industry participants exhibiting creative ways to design "an inviting outdoor environment, decorated with unexpected indoor luxuries." The five companies that will be showcasing their products at River

Farm will all have unique and innovative approaches to this theme. These companies are:

**Centerton Nursery** from New Jersey, which produces container-grown perennials. They will display colorful mixed plantings and containers;

**Cherry Lake Tree Farm** from Florida, which specializes in large container-grown ornamental trees. They will incorporate tree-lined walkways and large-specimen boxed trees;

**Goldsmith Seeds**, based in California, whose focus is on innovative flowers. They will present novel uses for plants and container gardening;

**Proven Winners®**, a marketing consortium representing three U.S.-based companies—**Euro American** in California, **Four Star Greenhouse** in Michigan, and **Pleasant View Gardens** in New Hampshire—puts their label on high-performance garden plants. They will feature annual beds, hanging baskets, and formal containers;

**Saunders Brothers Nursery and Orchard** in Virginia, which offers a well-rounded supply of nursery stock. They will showcase some of their best boxwood varieties.

Fashion in Bloom will be a sensation for industry professionals considering 2007 retail options, as well as for curious and creative home gardeners who want to get a "sneak peek" at next season's plant celebrities and design trends. For more information, visit [www.fashioninbloom.com](http://www.fashioninbloom.com).

## Transitions in AHS's Board of Directors

JUNE MARKED significant changes to the AHS Board of Directors, including the transition of Board Chair from **Arabella Dane** of Center Harbor, New Hampshire, to **Susie Usrey** of Dayton, Oregon (see article on page 14). "I am so grateful to the AHS membership for the support they have given me over the last two years," says Arabella, who remains on the Board as immediate past chair.

There were also some changes in the positions for elected officers. Former second vice chair **Don Riddle, Jr.** of Davidsonville, Maryland, is now first vice chair; **Leslie Ariail** of Alexandria, Virginia, is now second vice chair; and the new treasurer is **Arnold Steiner** of Birmingham, Alabama. **Albin McDonough Plant** of Baltimore, Maryland, continues on the Board as secretary.

New to the Board is **Suzanne Bales** of Oyster Bay, New York. A garden communicator, Suzanne is currently senior editor for gardening and outdoor living at *Better Homes & Gardens*. The author of seven books in the Burpee American Gardening Series, she received the AHS Writing Award in 1995

and has twice earned Quill and Trowel Awards from the Garden Writers Association. A former AHS Board member, Suzanne is also on the board of the Garden Conservancy and is an advisor to the Brooklyn Botanic Garden and Old Westbury Gardens in New York.



Suzanne Bales

Board members who completed their terms in June are **Brian Holley** of Cleveland, Ohio; **Christine Perdue** of Middleburg, Virginia; **Kurt Bluemel** of Baldwin, Maryland; **Natasha Hopkinson** of New York, New York; and **William Seale, Jr.** of Alexandria, Virginia. "We are so grateful for the tremendous contributions of talent and time these horticultural leaders

made to the American Horticultural Society," says AHS President Emeritus **Katy Moss Warner**.

## Call for Nominations

# AMERICAN HORTICULTURAL SOCIETY 2007 GREAT AMERICAN GARDENERS AWARDS



### *It's an Honor...*

Since 1953, the American Horticultural Society's Great American Gardeners Award Program has recognized individuals and institutions that have made significant contributions to American horticulture. Nominations are now being accepted for 2007.

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

Use the nomination form on the opposite page. For additional information, visit [www.ahs.org](http://www.ahs.org) or call (703) 768-5700 ext. 137.

**Nominations must be submitted by September 22, 2006.**



2006 Urban Beautification Award winners Edgar and Kay Aldridge with AHS Board Chair Susie Usrey

## 2007 AWARDS

### **Liberty Hyde Bailey Award**

To qualify for this award, an individual must reside on the North American continent and must have made significant contributions in at least three of the following areas of horticultural activity: teaching, research, writing, plant exploration, administration, art, business, and leadership.

### **Luther Burbank Award**

Recognizes extraordinary achievement in the field of plant breeding.

### **Paul Ecke Jr. Commercial Award**

Given to an individual or institution, who, because of a commitment to the highest standards of excellence in the field of commercial horticulture, contributes to the betterment of gardening practices everywhere.

### **G. B. Gunlogson Award**

Given for the creative use of new technology to make home gardening more productive and enjoyable.

### **Horticultural Communication Award**

Recognizes effective communication using media and research techniques for the purpose of expanding horticultural awareness.

### **Horticultural Therapy Award**

Recognizes significant contributions to the field of horticultural therapy.

### **Landscape Design Award**

Acknowledges an individual whose work has expanded the awareness of horticulture in landscape architecture.

### **Meritorious Service Award**

Awarded to a past board member or friend of the Society to recognize outstanding and exemplary service in support of the Society's mission, goals, services, and activities.

### **Professional Award**

Given to an individual who makes his/her living as a leader or director of an arboretum or botanical garden and whose achievements during the course of his/her career represent a significant contribution to horticulture.

### **Jane L. Taylor Award**

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

### **Teaching Award**

Recognizes an individual whose ability to share his/her knowledge of horticulture with others has contributed to a better public understanding of the plant world and its impact on people.

### **Urban Beautification Award**

Awarded to an individual or institution for significant contributions to urban horticulture.



## A Colorful Garden School

THE SECOND of three 2006 Garden Schools, titled “The Art & Science of Color in the Garden” and hosted by Franklin Park Conservatory, was held May 11 and 12 in Columbus, Ohio. At the conservatory, 40 participants learned how to use color effectively in the garden from knowledgeable and engaging speakers such as author and landscape designer **Julie Moir Messervy**, Longwood Gardens planning and design leader **Tres Fromme**, and horticulturist **Heather Will-Browne** of the Walt Disney World Resort.

“I really enjoyed how approachable all the lecturers were,” says **Amy Rader**, a Master Gardener intern from Lafayette, Indiana, who attended the Garden School. She also enjoyed the “discussions involving color combinations and the various plants that can be utilized to obtain these combinations.”

The two-day event included a field study trip to Chadwick Arboretum, which features a garden designed by the late **Adrian Bloom**. Participants also visited three private gardens in the Columbus area, including the governor’s residence where the First Lady of Ohio, **Hope Taft**, led the tour.

The final 2006 AHS Garden School will take place in Austin, Texas, on October 26 and 27. It will explore the topic of “The Art & Science of Garden Photography” and will fea-



Garden School attendees visited the vibrantly colorful Chihuly Glass Exhibition in the Franklin Park Conservatory.

ture **Van Chaplin**, garden photographer for *Southern Living* magazine and horticulturist **Robert Bowden** of the Harry P. Leu Gardens in Orlando, Florida. To learn more, visit [www.ahs.org](http://www.ahs.org) or e-mail [education@ahs.org](mailto:education@ahs.org).

JESSICA ROZMAUS



## 2006 AHS GARDEN SCHOOL

### “The Art & Science of Garden Photography” October 26 & 27, 2006

Lady Bird Johnson Wildflower Center, Austin, Texas

Registration opens  
August 1, 2006!



Ronald Sprouse

Lady Bird Johnson Wildflower Center

Look at the garden through a new lens, heighten your ability to capture the garden, and gain a greater appreciation for the surrounding landscape with “The Art & Science of Garden Photography” amid the stunning landscape of the Lady Bird Johnson Wildflower Center.

Featuring guest horticulturist **Robert Bowden** of Orlando’s Harry P. Leu Gardens and a special evening with **Van Chaplin**, garden photographer at *Southern Living* magazine.



Robert Bowden



Van Chaplin

Visit [www.ahs.org](http://www.ahs.org) or call (703) 768-5700 ext. 137 for more information on this exciting event.





## AHS NATIONAL EVENTS AND PROGRAMS 2006 CALENDAR

Mark your calendar for these upcoming national events and programs that are sponsored or cosponsored by the American Horticultural Society.

- JULY 27–29. **National Children & Youth Garden Symposium.** St. Louis, Missouri. Hosted by the Missouri Botanical Garden.
- SEPT. 20–23. **Fashion in Bloom** (formerly called the Eastern Performance Trials). George Washington's River Farm. Alexandria, Virginia. (Open to AHS members and the public on Saturday, September 23 from 9 a.m. to noon.)
- SEPT. 23. **AHS Annual Gala.** George Washington's River Farm. Alexandria, Virginia.
- OCT. 26 & 27. **AHS Garden School: The Art & Science of Garden Photography.** Lady Bird Johnson Wildflower Center, Austin, Texas.
- DEC. 14. **Annual Friends of River Farm Holiday Reception.** George Washington's River Farm, Alexandria, Virginia.

For more information about these events, call (800) 777-7931 or visit the AHS website ([www.ahs.org](http://www.ahs.org)).

## Garden Club Photo Competition Open to AHS Members

FOR THE SECOND year in a row, **The Gardeners of America/Men's Garden Club of America (TGOA/MGCA)**, an AHS horticultural partner, opened their annual Photography Competition to AHS members. The results of the 2006 contest were announced during the organization's national convention held in Spartanburg, South Carolina, in April.

Out of 394 entries, **Shirley Winnes**, a TGOA member from Green Bay, Wisconsin, won Best of Show for her photograph of tulips and forget-me-nots in a public landscape. Three AHS members received awards, including Immediate Past Chair of the AHS Board **Arabella Dane** of Center Harbor, New Hampshire, who took second runner-up for Best of Show with her entry, "Bumble Bee on Lupine." AHS member **Anne Allen** from Brownsville, Vermont, was a Best of Section Winner for roses and received a Judges Award. AHS member **Di DeCaire** from Penfield, New York, also received a Judges Award.

All photographs from the 2006 contest will be considered for inclusion in the 2008 calendar, which TGOA/MGCA sells as a fundraiser. The 2007 calendar includes two photos by AHS members who participated in the 2005 Photography Competition and is now available for purchase from the organization.

## Start Saving Seeds

As your plants begin to set seeds this summer, remember to save some for the annual AHS Seed Exchange! Each year, members send in hundreds of seeds from all over the country. These include annuals, perennials, trees, shrubs, vines, vegetables, fruit, and herbs. So if you'd like to swap seeds with other AHS members and get some very interesting plant varieties, check your September/October issue of *The American Gardener* or the AHS website at [www.ahs.org](http://www.ahs.org) for more information and a seed submission form. The deadline for submitting seeds is November 1, 2006.

The deadline for entries for the 2007 Photography Competition will be March 2, 2007. "We encourage any AHS member to participate," says **Judy Schuck**, national photography and calendar chairman for TGOA/MGCA. "We have received some really beautiful images from the ones who have entered in the past."

To learn more about the contest and how to enter, call (515) 278-0295 or visit [www.tgoa-mgca.org](http://www.tgoa-mgca.org).



TGOA member Shirley Winnes won Best of Show for this photograph.

## America In Bloom in Arkansas

AMERICA IN BLOOM (AIB), an AHS horticultural partner, will hold its fifth annual Symposium and Awards Program from September 28 to 30 in Eureka Springs, Arkansas. The site will provide the perfect setting for the symposium's theme, "Life in the Past Lane," since it is purported to be the only city in America whose entire downtown area is on the National Register of Historic Places. Eureka Springs also won the Yoder Brothers Heritage Preservation Award in last year's AIB competition.

Prizes at September's symposium will be awarded according to population categories and the eight AIB criteria: floral displays, landscaped areas, turf and groundcover areas, urban forestry, en-

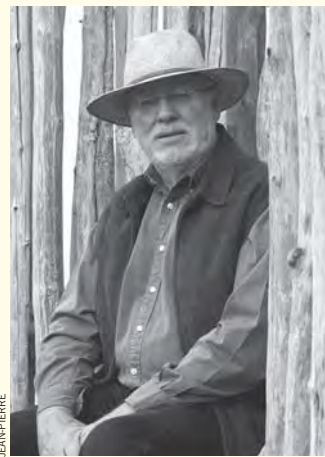


Save the Date!

Saturday, September 23, 2006  
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# “AMERICA’S GARDEN CELEBRATION”

5:00 p.m. – 10:00 p.m.



**James van Sweden**  
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Featuring the work of  
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**Amy Lamb**

Please join the American Horticultural Society for an elegant evening under the stars to support our national educational programs and the stewardship of River Farm.

As a special treat, Gala guests will have the chance to preview and stroll among the best new plants for spring 2007 in River Farm’s picturesque gardens as the AHS hosts the Garden Centers of America’s annual “Fashion in Bloom” event.



“Poppy IV” compliments of Amy Lamb. Don’t miss her upcoming show “Inflorescence: Photographs by Amy Lamb,” September 18 through November 5, 2006 at River Farm!  
[www.amylamb.com](http://www.amylamb.com)



For information on the Annual Gala 2006 call (800) 777-7931 ext. 114 or e-mail [tgibson@ahs.org](mailto:tgibson@ahs.org). Information about the Garden Centers of America’s “Fashion in Bloom” is available online at [www.fashioninbloom.com](http://www.fashioninbloom.com).



## AHS Awards Ceremony and Banquet at River Farm



The AHS welcomed the recipients of the 2006 Great American Gardener Awards and Book Awards to River Farm on June 2. Above: Edgar and Kay Aldridge of Hoover, Alabama, accept the Urban Beautification Award from AHS Board Chair Susie Usrey, right. Right: Jane L. Taylor Award winner Sheldon Fleming and his wife, Deborah.



vironmental awareness, tidiness, heritage preservation, and community involvement.

“There is no doubt that the atmosphere at our symposium is infectious, as communities come together to share ideas on what works best and as the tours offer first-hand evidence of a community’s success,” says AIB President **Marvin Miller**.

**Laura Kunkle**, AIB administrator, says that through AIB, “more than 20 million people in 130 communities have learned to make significant improvements in the lives of their citizens, and provide a solid basis for true community sustainability.”

Find out much more about last year’s winners and the 2006 symposium at the AIB website, [www.americainbloom.org](http://www.americainbloom.org), which also includes detailed information about how new communities can get involved with the program.

## River Farm’s Meadow Grows

THIS PAST MAY, volunteers and AHS staff planted the third section of River Farm’s five-acre **André Bluemel Meadow** with more than 31,000 plugs of grasses and herbaceous perennials donated by **Kurt Bluemel**, a past AHS Board member and owner of the Kurt Bluemel, Inc., wholesale nursery. Thirty different species—most of which are natives—were planted, including anise hyssop (*Agastache foeniculum*), plains false indigo (*Baptisia australis*), and mountain mint (*Pycnanthemum nudicum*).

To help establish the new planting, the AHS horticultural staff will provide supplemental water and weed control for the first

COURTESY OF KASSIE BAKER (2)

GCA's

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RIVER FARM

The American Horticultural Society’s River Farm will be one of six host sites on the East Coast for this spectacular event for members of the green industry. Preview the new plants for 2007 from Centerton Nursery, Cherry Lake Tree Farm, Goldsmith Seeds, Proven Winners, and Saunders Brothers.

For more information, visit [www.fashioninbloom.com](http://www.fashioninbloom.com).

CENTERTON NURSERY

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year. By the end of the season, the plants will be large enough to survive on their own, says AHS Horticulturist **Peggy Bowers**.

“Creating this meadow has been a learning experience,” Peggy adds. “With each year, we are more prepared for controlling invasive species through a variety of strategies. We also are discovering which plants seem to attract the greatest diversity of wildlife and then are adjusting our plantings accordingly.”

The first and second sections of the meadow were completed in 2004 and 2005 respectively. Plants in both areas have become established and are thriving, attracting a variety of birds, butterflies, and other wildlife. The next section of the meadow is scheduled to be planted in spring 2007.



Thousands of new plants were added to the meadow at River Farm in May.

## Friends of River Farm Family Picnic



Youngsters and their parents enjoyed a day of fun and food during the second annual Friends of River Farm Family Picnic on May 21, 2006. Activities included face painting, above, plant-themed arts and crafts, educational displays, left, and outdoor games. Next year's picnic will be held on May 20, 2007.

*News written by Assistant Editor Viveka Neveln and Editorial Intern Heather Robbins.*

VIVEKA NEVELN (3)

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## Susie Usrey is New AHS Board Chair

by Linda McIntyre

**T**O LEAD THE American Horticultural Society's Board of Directors, it's important to have wide-ranging contacts among gardeners and green industry professionals throughout the United States, and also to have good insight into regional and national trends in plants and gardens. Incoming AHS Board Chair **Susie Usrey**, who is vice president for customer relations with Monrovia nursery in Azusa, California, brings all of those qualities and much more. "I am passionate about gardening and passionate about plants and people," says Usrey, who has been with the influential wholesale nursery for 35 years, working to help train the people who sell Monrovia's well-known line of plants to retailers throughout the country.



New AHS Board Chair Susie Usrey, above, enjoys spending time in her Dayton, Oregon, home garden, right.

Usrey takes up her post during a pivotal period for the AHS marked by several notable transitions. These include the launch of the Campaign for American Horticulture—a capital campaign to support the enhancement and expansion of AHS programs and facilities to better meet the Society's future needs—and the retirement of **Katy Moss Warner** after four

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**"I am passionate about gardening and passionate about plants and people."** —Susie Usrey

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years as AHS president. Over those four years, Usrey worked closely with Warner and with other AHS Board members to develop and implement a new strategic plan for the organization.

Warner says her change of role to the AHS's president emeritus is made easier knowing the Board will be in good hands. "I have full confidence in Susie's leadership," she says. "She has been deeply involved in developing our long-term strategy through the Board's visioning committee, and her commitment to excellence in horticulture will be a huge asset to the AHS."

**Arabella Dane**, who completed her two-year term as AHS Board Chair in June, is also confident that her successor is equal to the task. "Susie brings, along with her corporate experience, a wealth of horticultural connections and a seasoned approach to the decision-making process. She and her husband Bruce have been consistent and enthusiastic supporters of all AHS

programs and activities for many years." Dane adds that Usrey's pragmatic approach will serve the Board well. "She's not one to sit in a corner making noise—she digs in to identify problems and work toward solutions."


Usrey says that over the next year she will likely focus on the capital campaign, increasing membership, and establishing a



new organizational structure, led by the new president once a selection is made. "I also want to help promote a stronger focus on youth gardening, getting kids out into their backyards," she says. "I'd like to build on the accomplishments of the National Children & Youth Garden Symposium with new programs and awards."

Her wealth of experience in the nursery trade and familiarity with the plants gardeners are looking for will help advance the AHS's vision of making America a nation of gardeners and a land of gardens. "Susie is a great inspiration for our industry," says **Sandi McDonald**, president of the board of the Garden Centers of America (GCA), a trade association for which Usrey is also a board member. "She works tirelessly on issues that affect us all. She travels a great deal for Monrovia, which gives her tremendous insight into trends and concerns throughout the country."

When not traveling, Usrey enjoys spending time in her garden with her husband, Bruce Usrey, who is Monrovia's chief executive officer, and her four grandchildren.

"I'm excited about the direction the AHS is moving in," says Usrey, "and I'm really looking forward to helping take this organization to the next level." 

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*Freelance writer Linda McIntyre lives in Washington, D.C.*

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# Uncommon Hedges





Look beyond the ordinary to create a spectacular hedge that's more than a green wall.

BY MARTY WINGATE

ONE OF THE most useful plantings in the garden is the one that divides us from something else. Hedges are plantings with a purpose; they work for us. They delineate property boundaries, provide enclosure, and divide large spaces into smaller, distinct areas. And they hide things, such as the neighbors, the bus stop across the street, or the garbage bins.

But when it comes to selecting plants for hedges, we seem to be stuck in arborvitae mode. When a hedge of some sort is needed, we throw up a row of *Thuja occidentalis*—most likely 'Smaragd' or 'Pyramidalis'—and call it good. While the solid line of green has its place, it isn't the only option for a hedge, and if we limit ourselves to that concept we are missing an exceptional opportunity to add interest to our gardens. Other evergreens, both coniferous and broadleaf, along with a host of deciduous plants, are ready to assume the hedge billet, adding much more to the landscape than just a green wall.

### SINGLE SPECIES HEDGES

Formal hedges—plantings of a single species that are sheared to maintain their size and shape—certainly have their place, although they may appear incongruous with the informal landscape styles popular today. But many single species hedges adopt a more adaptable, relaxed attitude when the plants are allowed to develop their natural form.

Landscape designer and author Judy

**Opposite page:** Deciduous hedges provide seasonally shifting colors and textures. Vertical spires of tiny white flowers, top, add summer flair to this hedge of bottlebrush buckeye (*Aesculus parviflora*). Bottom: Native serviceberries (*Amelanchier* sp.) provide spring flowers, tasty berries, and colorful fall foliage in this “edible” hedgerow.



A nascent hedge of tricolor European beeches (*Fagus sylvatica* 'Purpurea Tricolor') provides definition to this front yard without completely obscuring the view.

Mielke says that her favorite hedges, “are more like loose masses of plants rather than sheared shapes.” With respect to pruning, she advises gardeners to “leave the shears in the tool shed. If any trimming needs to be done, it should be with individual cuts to branches at varying lengths, to maintain a naturalistic rather than sheared effect.”

A deciduous hedge has its own strong points. First, we commonly need to screen off scenes that we view only in warm weather—late spring to fall. If we aren't out in the garden in the dead of winter—and our neighbors aren't out on their deck—then a hedge that lets some light in during winter is a reasonable option. A deciduous canopy also gives you the chance to carpet the ground with spring-flowering bulbs.

Some deciduous plants don't drop all their leaves in fall. Juvenile oaks, beeches, and hornbeams tend to retain their dried leaves until spring. This lends a rustic and ancient look to a row of plants that might only be a few years old.

A hedge that provides a scrim effect obscures unwanted views without completely blocking them. It's sort of like using a Venetian blind: Enough of your view is obstructed to make a screen, but it doesn't have the feel of a solid wall you get from a dense evergreen. Small-leaved plants fit the bill. In mild regions, the large ever-

green shrub *Azara microphylla* is a fine choice (USDA Hardiness Zones 8–10, AHS Heat Zones 12–10), but even larger-leaved plants, such as the semi-evergreen *Viburnum ×burkwoodii* (Zones 5–8, 8–1) would work well.

### SIZE AND PLACEMENT

Along with what to plant, consider how much of it you need. In large landscapes, 100 feet of neatly clipped yew appears the epitome of class. In smaller residential landscapes, a hedge can be employed similarly, but it is critical to keep the dimensions of the hedge proportional to the overall size of the garden.

Robert Bowden, director of Harry P. Leu Gardens in Orlando, Florida, advises gardeners to consider the effect they want to achieve. “Do you want a small hedge to act as a garden divider or do you want to screen your neighbor's boat?” The mature size of hedge plants is another important factor. Because frequent pruning is needed when plants outgrow their space, Bowden suggests that “there is no sense in creating more work for yourself.”

Often there are particular sights that we want to block out, not the entire world. Does the hedge really need to run the length of your property? If your neighbor's deck looms over your back garden, consider screening out only what is un-



## THE BENEFITS OF GOOD PLANT SELECTION

Using the same two or three plants for hedges has drawbacks beyond monotony. The Leyland cypress (*Cupressocyparis leylandii*, USDA Hardiness Zones 6–9, AHS Heat Zones 12–9) has been planted extensively, to put it mildly, as a fast-growing hedge in both the United States and Britain. This top-selling conifer grows quickly to 30 feet, making it a popular choice for those who want a quick screen. But it continues to grow to 60 or 70 feet or more. A hedge of these giants will quickly dwarf most suburban landscapes.

### AVOIDING DISEASE

Another troublesome aspect of a monoculture is that disease and insect problems can spread rapidly throughout the planting, causing devastating damage or requiring repeated, often expensive, control measures. In the case of Leyland cypress, bagworms can decimate a planting, as can several canker diseases.

“An unexpected bonus with a mixed shrub border is better plant health that a diversified mix gives you over a single species hedge,” explains Susan Mertz, of Kokopelli Nursery in Lenexa, Kansas. Although combining different species in your hedge does not eliminate disease and insect infestations, it reduces their severity since different plants are susceptible to different problems.

### PROBLEMS WITH INVASIVENESS

Invasive plants are a concern, but a plant may be invasive in one area and not another. Burning bush (*Euonymus alatus*, Zones 4–9, 9–1), for example, is a noxious weed in the eastern half of the United States but a delightful shrub in the Northwest, where it does not spread at all. It’s important to be sure your new flowering and fruiting hedge plants won’t be a nuisance. For more information about locally invasive species, contact your local Department of Natural Resources or the National Invasive Species Information Center ([www.invasivespeciesinfo.gov](http://www.invasivespeciesinfo.gov)). —M.W.

wanted. A short row of something may be the easiest solution.

Recently, I visited a garden where a trio of tall, slim *Juniperus scopulorum* ‘Skyrocket’ (Zones 3–7, 7–1) successfully blocked a neighbor’s second story window from the small patio below. In my yard in Seattle, Washington, two plants of *Ilex crenata* ‘Northern Beauty’ (Zones 5–7, 7–5)—four feet wide and five feet tall—provides some privacy from the adjacent lot and redirects the view beyond to a lovely woodland scene. Where I needed a little more screening, a 15-foot row of the narrow-leaved, soft-textured *Phillyrea angustifolia* (Zones 7–9, 9–7) disguises the recycling and garbage bins.

### MIXING IT UP

A mixed hedge—often called a hedgerow—requires more planning than a single-species hedge, but the results can be spectacular. Combinations of deciduous and evergreen trees and shrubs lend depth and year-round interest to garden plantings, as well as increasing habitats for birds. They still accomplish the job of separating us from the rest of the world, but they do it subtly, by distracting us with their seasonal displays. Evergreens hold places during the winter and provide a foil for shrubs with colorful flowers, fruit, and foliage. The mix of forms, textures, and color creates a tapestry that is a feast for the gardener’s eyes and its fruits are a feast for the birds.

Planting a hedgerow is a loose affair. You aren’t obligated to hold to a certain number of inches between each plant in order to give that regimented effect. And if one plant dies right in the middle of your hedge, you won’t have to tear your hair out trying to find a plant exactly the same size as the others in the line to replace it. Let its neighbors fill in the breach, or choose another hedgerow-friendly plant to include.

It’s certainly appropriate to repeat plants within the hedgerow, to give it that natural look, but a random repetition is more appropriate than one-two-three, one-two-three. And work with the depth of the bed to allow room for small-

**This formally sheared mixed hedge of arborvitae, holly, beech, and yew provides a dense, multicolored summer backdrop for a border of perennial flowers.**





## Sources

**Desert Gardens Nursery**, Phoenix, AZ. (602) 569-1300. [www.desertgardensnursery.com](http://www.desertgardensnursery.com). E-mail [jabpbs@aol.com](mailto:jabpbs@aol.com) to check on plant availability.

**Fairweather Gardens**, Greenwich, NJ. (856) 451-6261. [www.fairweathergardens.com](http://www.fairweathergardens.com). Catalog \$5.

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

**Las Pilitas Nursery** (northern facility), Santa Margarita, CA. (805) 438-5992. [www.laspilitas.com](http://www.laspilitas.com). Price list free; catalog \$8.

**Woodlanders, Inc.**, Aiken, SC. (803) 648-7522. [www.woodlanders.net](http://www.woodlanders.net). Catalog \$4.

er shrubs among the taller plants.

Maintenance for a hedgerow is different from the shearing requirements of a formal hedge. To reduce the size of your hedge while maintaining its natural look, selectively remove branches. Another pruning option for your hedge is stooling—that is, cutting plants down to the ground. Although this doesn't work for all plants, it's great for elderberries (*Sambucus* spp.), twig dogwoods such as *Cornus stolonifera* (Zones 3–8, 8–1) and *C. sanguinea* (Zones 4–7, 7–1), as well as smoke bush (*Cotinus coggygria*, Zones 5–9, 9–3)—you miss the puffy inflorescences, but you still get the fabulous fall color.

### REGIONAL OPTIONS

When choosing plants for your hedge, consider the size of your garden, the effect you are trying to achieve, and, of course, the region where you garden. With that in mind, gardening experts from different regions of the country offer some of their favorite hedge selections below (for more hedge plant information, see the chart on page 21).

#### Southwest

"I have such a soft spot for mixed hedges,"



Above: The gray-green leaves and decorative mustard-colored seedheads of four-wing saltbush (*Atriplex canescens*) complement the adobe walls around this Southwest home. Left: Blue ranger (*Leucophyllum zygophyllum*) is a mounded shrub that features silvery gray foliage and violet flowers.

says horticulturist Mary Irish, former director of public horticulture at the Desert Botanical Garden in Phoenix, Arizona. To design a mixed hedge, she suggests that the gardener "consider when the various species are most colorful, either by flower or by foliage, and mix that up. And pay attention to leaf color, size, and form and mix that up as well."

Among Irish's mixed hedge favorites are firebush (*Hamelia patens*, Zones 8–12, 11–8), guajillo (*Acacia berlandieri*, Zones 8–10, 10–8), and any of the numerous varieties of Texas ranger (*Leucophyllum* spp., Zones 8–9, 9–8), particularly 'Green Cloud', 'White Cloud', or *L. zygophyllum*, (Zones 8–9, 10–7).

Judy Mielke, who lives in Scottsdale, Arizona, includes hopbush (*Dodonaea viscosa*, Zones 9–15, 12–10), Arizona rosewood (*Vauquelinia californica*, Zones 7–10, 10–7), four-wing saltbush (*Atriplex canescens*, Zones 7–10, 10–7), quailbush (*Atriplex lentiformis*, Zones 6–10, 10–6), and jojoba (*Simmondsia chinensis*, Zones 10–12, 12–10) among

her favorite subjects for hedges. "All of these species are evergreen, with fairly dense foliage," explains Mielke.

#### Southern California

Carol Bornstein, director of living collections and the nursery at the Santa Barbara Botanic Garden suggests several California natives as hedge plants for coastal gardeners in central and southern California and areas with a Mediterranean climate. Bornstein likes two manzanita cultivars in particular: *Arctostaphylos* 'Sunset' and *A. densiflora* 'Howard McMinn' (Zones 7–9, 9–7), are "medium-sized evergreen shrubs requiring only minimal pruning," says Bornstein. 'Sunset' has glossy green leaves and bears white flowers in winter or early spring. 'Howard McMinn' has dark green foliage and light pink flowers.

Two evergreen cherries, *Prunus ilicifolia* (Zones 6–10, 10–7) and *P. lyonii* (Zones 7–10, 10–7) make very effective hedges, whether informal or sheared. "Both have glossy leaves and creamy white, fragrant flowers in spring, followed



by dark red to black, half-inch berries that are eaten by many species of birds and mammals,” notes Bornstein.

Lemonade berry (*Rhus integrifolia*, Zones 9–10, 10–8) may be left unpruned to become a 30-foot tree or sheared annually (stooled) for a more formal effect. For a mixed hedge, Bornstein suggests combining it with the above cherries as well as with toyon (*Heteromeles arbutifolia*, Zones 8–11, 12–8), coffeeberry (*Rhamnus californica*, Zones 7–9, 9–7), and coast live oak (*Quercus agrifolia*, Zones 9–11, 12–9) to create a naturalistic hedgerow.



In addition to its drooping clusters of spring flowers, a hedge of Little Henry sweetspire (*Itea virginiana* ‘Sprich’) offers brilliant red to maroon fall foliage.

### West

In the West, broadleaf evergreens, such as the California wax myrtle (*Myrica californica*, Zones 7–10, 9–7), planted along with Oregon grape—either the tall species, *Mahonia aquifolium* (Zones 6–9, 9–6), or the lower-growing species, *M. nervosa* (Zones 5–7, 7–5), give visual interest as well as winter cover for birds.

Red elderberry (*Sambucus racemosa*, Zones 3–7, 7–1) is a standout species. Many elderberries bloom in flat-topped clusters of tiny flowers, but *S. racemosa* blooms in conical clusters, followed by red fruit. ‘Sutherland Gold’ is a cultivar with red-tinged, chartreuse foliage when grown in full sun. Mexican elderberry (*S. mexicana*, 6–10, 10–6) develops blue fruit, while the flat clusters of white summer flowers of the American elderberry (*Sambucus canadensis*, Zones 4–9, 9–1) are followed by black fruit.

### Midwest and Central States

Susan Mertz of Kokopelli Nursery in Lenexa, Kansas, notes that housing trends toward smaller residential lots put a premium on hedge plants with small stature or columnar forms. Evergreen shrubs that rate high on her list include ‘Sky Pencil’ holly (*Ilex crenata*, Zones

5–7, 7–5), ‘Stove Pipe’ yew cultivar (*Taxus baccata*, Zones 7–8, 8–7), and Green Tower™ boxwood (*Buxus sempervirens* ‘Monroe’, Zones 6–8, 8–6).

For a deciduous contrast Mertz recommends the ‘Fineline’ cultivar of buckthorn (*Rhamnus frangula*, Zones 3–8, 8–1) which, she says, “has the attributes of columnar buckthorn and the fine cut foliage of fernleaf buckthorn.”

Smaller selections that offer seasonal blooms are: Little Henry sweetspire (*Itea virginiana* ‘Sprich’, Zones 6–9, 10–7), which also has brilliant fall color; Summer Wine™ ninebark (*Physocarpus opulifolius* ‘Seward’, Zones 3–7, 7–1), which tops out at three to four feet; and Ivory Halo™ dogwood (*Cornus alba* ‘Bailhalo’, Zones 2–8, 8–1) with its variegated summer foliage

and red stems for a winter show.

Author and design consultant Tracy DiSabato-Aust of Sunbury, Ohio, says, “I’ve done low hedges with many of the ‘Green’ series boxwoods that hold up in our winters.” She also likes the soft screen created by *Chamaecyparis nootkatensis* ‘Sullivan’ (Zones 4–7, 7–1). For a tall, deciduous hedge she suggests the fastigiate hornbeam (*Carpinus betulus* ‘Fastigiata’, Zones 4–8, 8–1).

### Northeast

Lois Berg Stack, extension specialist in ornamental horticulture at the University of Maine, advises gardeners to “choose plants that are compatible not only visually, but also environmentally.” For gardeners in this region, she recommends little leaf lilacs

(*Syringa pubescens* subsp. *microphylla*, Zones 5–8, 8–3)—“a nice alternative to common lilac—later-flowering, smaller plants”; fothersgilla (*Fothergilla gardenii*, Zones 4–8, 9–1)—“spring flowering, fabulous fall color”; or winterberry (*Ilex verticillata*, Zones 5–8, 8–5)—“good for wet soil, full sun locations.” She also likes a combination of rhododendrons and azaleas for well-drained, moist, loamy, partly shaded sites,



The dense, prickly stems of the hedgehog rose (*Rosa rugosa*) create an impenetrable hedge; its flowers, produced sporadically from spring to fall, are followed by showy red-orange hips.



## MORE UNCOMMON HEDGING OPTIONS

The following plants represent a few of the many hedging options for gardeners in various regions of the country. The heights provided are for unclipped hedges; many of these selections can be maintained at a lower height with pruning.

| Name   | Height/width (feet) | Notes   | Native range                   | USDA Hardiness/AHS Heat Zones |
|--|---------------------|---|--------------------------------|-------------------------------|
| <i>Acalypha wilkesiana</i><br>copperleaf                                 | 6–12/4–8            | evergreen; bold, multi-colored leaves   | Pacific islands                | 10–15/12–1                    |
| <i>Carpinus caroliniana</i><br>American hornbeam                         | 20–30/20–30         | deciduous; often shrubby tree with yellow or orange fall foliage  | eastern North America, Mexico  | 3–9/9–1                       |
| <i>Chilopsis linearis</i><br>desert willow                               | 20–30/15–25         | deciduous; large shrub or small tree, foxglove-like pink or white summer flowers, drought tolerant, takes well to pruning | southwestern North America     | 8–9/9–8                       |
| <i>Cordia parvifolia</i><br>little-leaf cordia                           | 4–6/4–10            | mostly evergreen shrub; white spring flowers, may rebloom in fall, drought tolerant                                       | southwestern North America     | 9–11/11–9                     |
| <i>Fagus sylvatica</i><br>European beech                                 | 80/50               | deciduous tree; dark green leaves turn yellow to orange-brown in fall; smooth gray bark                                   | central Europe to the Caucasus | 4–7/9–4                       |
| <i>Lonicera nitida</i><br>boxleaf honeysuckle                            | 5–10/5–10           | evergreen or semi-evergreen shrub with small glossy leaves and white spring flowers; can be sheared or left natural       | China                          | 6–9/9–5                       |
| <i>Myrica pensylvanicum</i><br>northern bayberry                         | 9/5–12              | semi-evergreen suckering shrub; foliage is dark green, waxy gray-white fruit; tolerates seaside conditions                | eastern North America          | 3–6/6–1                       |
| <i>Pittosporum tenuilobatum</i><br>kohuhu                                | 12–30/6–15          | evergreen shrub or small tree; glossy, leathery leaves on black stems, black-red spring flowers; good for seaside gardens | New Zealand                    | 9–11/12–9                     |
| <i>Rosmarinus officinalis</i><br>rosemary                                | 2–5/2–5             | evergreen shrub; leathery, fragrant leaves, small, blue, spring to summer flowers   | Mediterranean region           | 8–11/12–8                     |
| <i>Viburnum carlesii</i><br>'Compactum'<br>compact Korean spice viburnum | 3–4/3–4             | deciduous, rounded shrub; dark green leaves, very fragrant white to pink spring flowers                                   | Korea, Japan                   | 5–8/8–5                       |
| <i>Viburnum</i> 'Pragense'   | 10/10               | evergreen; wrinkled, dark green leaves; domed clusters of white, late spring flowers                                      | garden origin                  | 6–8/8–6                       |

and crabapples or hawthorns as a larger hedge in full sun.

The Botanic Garden of Smith College in Northampton, Massachusetts, includes both formal and informal hedges in a landscape that was originally designed by Frederick Law Olmsted. "Our campus is quite formal in many ways," Director Michael Marcotrigiano says, "so we still have long expanses of clipped yew hedges in many areas where straight barriers are needed, such as along the street in town." Less formal hedges are used elsewhere, especially to direct foot traffic. Plants for informal hedges include rugosa rose hybrids (*Rosa rugosa*, Zones 2–9, 9–1), inkberry (*Ilex glabra*, Zones 5–9, 9–1), and several species of viburnums, "the more compact forms if the area needs to look tidy and the more expansive forms nearer the woodland gar-


den," says Marcotrigiano. These plants work equally well in the home landscape.

### Southeast

Robert Bowden, director of the Harry P. Leu Gardens in Orlando, Florida, suggests a variety of native and non-native plants for use as unclipped, informal hedges in the Deep South. Among the natives he recommends are: Carolina cherry laurel (*Prunus caroliniana*, Zones 4–10, 10–1), purple anise (*Illicium floridanum*, Zones 7–9, 9–4), eastern red cedar (*Juniperus virginiana*, Zones 3–9, 9–1), and *Magnolia grandiflora* 'Little Gem' (Zones 7–9, 9–1). Non-native plants that Bowden rates highly for hedge use are: *Camellia sasanqua* (Zones 7–9, 9–6), sweet viburnum (*Viburnum odoratissimum* var. *awabuki*, syn. *V. awabuki*, Zones 8–9, 9–7), and Japanese

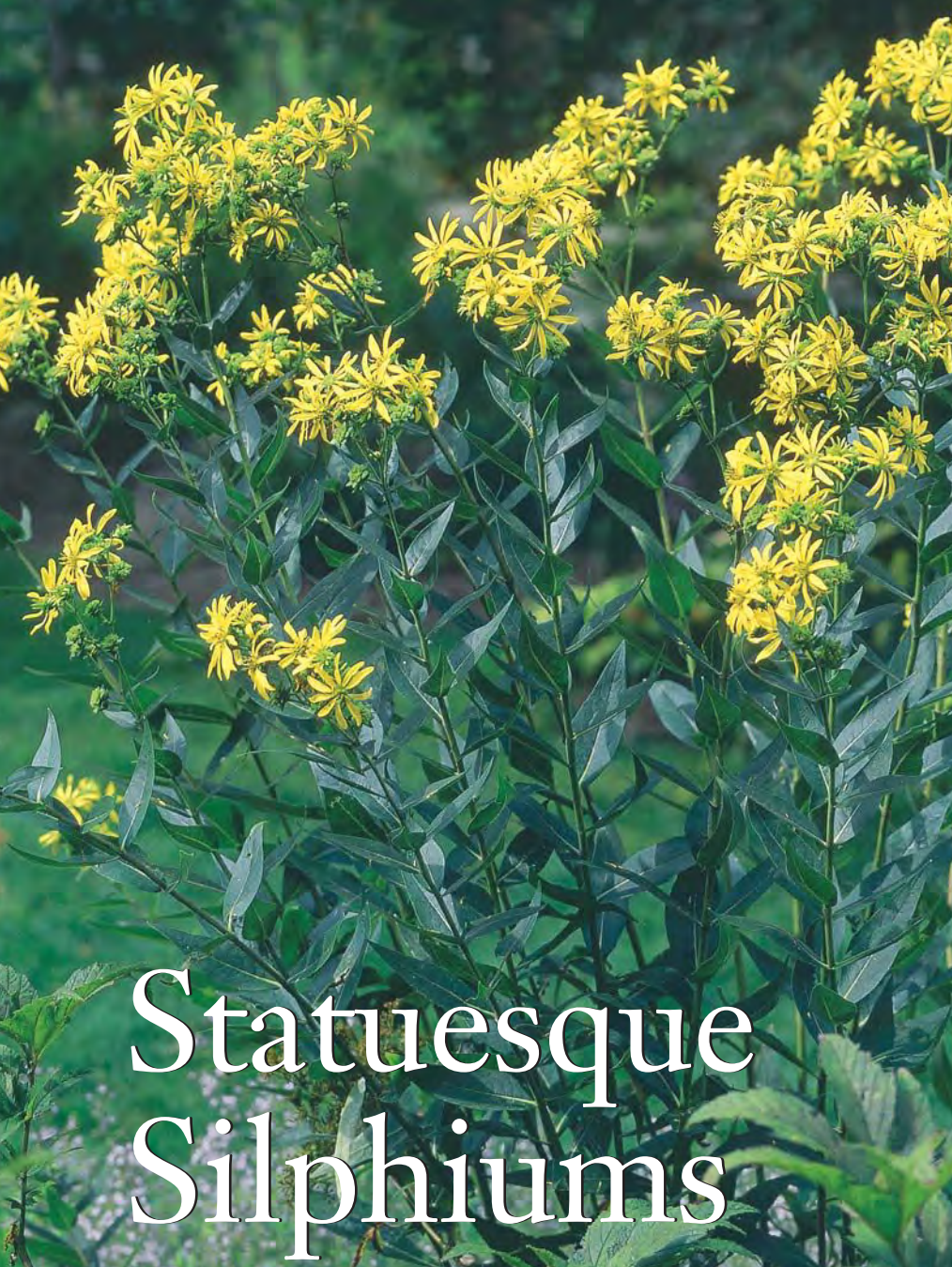
cleyera (*Ternstroemia gymnanthera*, Zones 8–10, 10–8).

### HEDGING YOUR BETS

It's obvious that there are situations where a hedge comes in mighty handy for reasons beyond obscuring unwanted sights. And there are fabulous alternatives to that army of arborvitae that threatens to march across the lawn. Plant a hedge that works for all your garden purposes—as a screen, a backdrop that sets off a mixed border of perennials and shrubs, a home to wildlife, or just as a garden in itself—a mix of colors and textures that shifts with the seasons. 

*Marty Wingate writes a weekly garden feature for the Seattle Post Intelligencer. She lives in Seattle, Washington.*





# Statuesque Silphiums

Elevate your garden's appeal with these bold late summer-flowering natives.

BY NATALIA HAMILL

HAVING RAMBLED about midwestern prairies while I lived in Lawrence, Kansas, I became quite familiar with a number of the tall stately members of the genus *Silphium*, also known as rosinweeds. I didn't come to appreciate them as garden subjects, however, until I designed a native plant border in eastern Kansas and had to work overtime to find plants with bold foliage.

From a design perspective, a border consisting of American natives like coreopsis, coneflowers, gaura, penstemons,

phlox, goldenrods, and grasses is in great danger of looking wild and unkempt if there aren't at least a few big, bold-textured plants breaking up fine lines and functioning as accents.

A prairie plant with bold foliage is almost an oxymoron; thin stems and small or finely divided leaves that stand up to wind and minimize water loss during hot dry summers are far more typical. Big burly silphiums, therefore, are an excellent choice to add contrast, weight, and vertical accents to a border of native perennials.

## SUNNY FLOWERS AND PENETRATING ROOTS

A member of the aster family (Asteraceae), the genus *Silphium* includes 19 species distributed in 37 states and Canada. Rosinweed flowers superficially resemble the blooms of sunflowers (*Helianthus* spp.) and oxeye daisies (*Heliopsis* spp.). But silphiums can be distinguished from the other two by the ring of seeds that form around the central disk, since only the outer ray flowers are fertile.

Silphiums are well-known for drought tolerance, with some species boasting tap roots that burrow down 15 feet or more. While this suggests that you don't have to water established plants, it also means transplanting is out of the question.

The genus name *Silphium* is thought to derive from the Greek word "silphion" which is the name the Greek physician Hippocrates used for an entirely different plant. However, Hippocrates's plant contained a resinous substance just as *Silphium* does. Small globs of pine-scented sap or resin—hence the common name rosinweed—exude from cracked or cut stems. After it's been exposed to the air, this thick liquid turns gummy, and, historically, some Native Americans used it as a cleansing chewing gum.

Based on my experience, you will be much happier with silphiums if you forgo the resinous chewing gum and take advantage of their bold, statuesque qualities in the garden instead. Plant them in full sun in soil that has not been amended with compost or other rich, organic



Topping out at four to five feet, *Silphium integrifolium*, top left, is suited for the back of a mixed border. While attractive to birds and insects, *Silphium perfoliatum*, above, self sows and can become a nuisance in beds.



material; their efficient and powerful tap-roots adapt well to heavy clay soil. As with most sun-loving prairie plants, rich soil and/or too much water encourages lanky growth, causing plants to flop over.

Like many deep-rooted prairie plants, silphiums spend their first year anchoring an extensive root system deep into the soil. For this reason, you may not see a lot of top growth the first season. Most plants will reach their mature size by the third year, however.

## COMPASS PLANT

The leaves of compass plant (*Silphium laciniatum*, USDA Zones 4–9, AHS Zones 9–5) were what first drew my attention to the genus. Its distinctive, sculptural foliage makes it a favorite of landscape designer Julie Siegel of Evanston, Illinois, as well. “Think cool shadows and interesting green—and the sculptural stem branching,” says Siegel.

The deeply dissected leaves can grow 24 inches long, providing an unusual texture in both prairie and garden. The species name means deeply cut or lacerated, referring to the pinnatifid—cut close to the midrib—basal leaves. Basal leaves are the largest, the leaves become smaller as they develop upward along the stem.

This is a tall, sturdy plant with stiff, bristly flowering stems that grow to nine feet tall. The sunflowerlike flowers, which are four to five inches wide with yellow rays and yellow center disks, appear in loose spikes on the upper parts of the plant. Mature plants may have up to 100 flowers opening from June through September.

Neil Diboll, president of Prairie Nursery in Westfield, Wisconsin, notes that “the tall flower stalks make it an excellent specimen plant and a focal center in the garden.” Songbirds will perch on the tall stalks while goldfinches and other small birds eat the nutritious seeds as they ripen in late summer and fall.

The common name refers to the tendency for its basal leaves to orient themselves north and south, like the needle of a compass. Young leaves twist on their petioles in response to morning light, enabling plants to take full advantage of morning and late afternoon sun while minimizing the desiccating effects of the hot midday sun on large leaf surfaces. Once leaves are mature they lose their ability to change di-

## NATIVE COMPANIONS FOR SILPHIUM

Silphiums are great plants for a prairie garden where self-sufficiency and natural spread are desirable. “In the Midwest,” says landscape designer Julie Siegel, “this genus works best when it’s fighting it out with other equally aggressive prairie plants.” She suggests the following companions that are equal to the task: big bluestem (*Andropogon gerardii*), gray coneflower (*Ratibida pinnata*), rattlesnake master (*Eryngium yuccifolium*), and nodding onion (*Allium cernuum*).

With the possible exception of the overly prolific cup plant, silphiums can be a dramatic and pleasing addition to a mixed border. “Silphiums provide a strong vertical element by nature of their tall flower stalks,” says Prairie Nursery president Neil Diboll, who considers their foliage, especially that of compass plant and prairie dock, an additional plus. For border companions he likes prairie dropseed (*Sporobolus heterolepis*) and little bluestem (*Schizachyrium scoparium*) because “they help to occupy the soil around the taprooted silphiums and reduce weed growth. They also provide a nice counterpoint to the leaves of the silphiums.”

Other Diboll recommendations for silphium border companions include: smooth penstemon (*Penstemon digitalis*), spiderworts (*Tradescantia* spp.), berg-



Supported by sturdy square stems that can soar up to eight feet, masses of cup plant flowers create a bold mid- to late-summer display in this mixed bed.

amot (*Monarda fistulosa*), and “later-blooming asters and goldenrods for late season color and interest.” As a woody companion, Diboll suggests New Jersey tea (*Ceanothus americanus*) “with its deep green foliage and low-growing habit.”

Another use for this bold, wildlife-friendly genus is as a field border or filter strip. This is a planting that separates agricultural fields from adjacent areas, especially where drainage ditches, streams, and other bodies of water are close by, to stabilize soil, reduce runoff, provide wildlife habitat, and serve as a travel corridor allowing animals to move safely between habitats. The U.S. Department of Agriculture recommends both compass plant and prairie dock as part of a mixed planting of native grasses and forbs, such as: eastern gamagrass (*Tripsacum dactyloides*), culver’s root (*Veronicastrum virginicum*), hoary vervain (*Verbena stricta*), New England aster (*Symphotrichum novae-angliae*), spotted Joe-Pye weed (*Eupatorium maculatum*), and wild quinine (*Parthenium integrifolium*). —N.H.





A stem of *Silphium laciniatum* provides a perch for a goldfinch, one of many songbirds that are attracted by its nutritious seeds that ripen in late summer and fall.

rection. Both leaves and flowers can be cut for dramatic fresh arrangements.

If you've ever had the pleasure of seeing compass plant in the prairie, you can imagine the scene described by John Madson in *Where the Sky Began* (University of Iowa, 2004), "Pioneers sometimes used compass plant stalks to mark the edges of wagon routes over the wild prairies, tying scraps of cloth to the tall stems to indicate safe passage around boggy swales and sloughs."

### PRAIRIE DOCK

Prairie dock (*Silphium terebinthinaceum*, Zones 3–9, 9–1) is easily recognized from a distance because of the very large, dark green basal leaves that grow 12 inches wide and 24 inches long. When not in flower, prairie dock has a robust, mounded, shrublike form that works beautifully to break up finer-textured plants.

When the smooth flowering stems shoot up eight feet tall bearing clusters of three inch-wide flowers in mid- to late summer, garden visitors never fail to notice. Flowering lasts for three to four weeks, sometimes longer. The maturing seedheads attract songbirds, and it's fun to watch goldfinches bobbing up and down as the tall stems support their weight. Although the



flowering stems reach Empire State Building heights, they are naked and easy enough to see through that you don't have to relegate prairie dock to the back of the border. Use it front and center where the unique foliage can really be appreciated.

Prairie dock thrives in clay soil but also grows well in loam and moist sand. The foliage looks best where soil stays slightly damp. Both leaves and flowers can be cut for fresh arrangements. The species name, *terebinthinaceum*, comes from Greek meaning "like turpentine" in reference to the aromatic stem resins.

### CUP PLANT

Cup plant (*Silphium perfoliatum*, Zones 4–9, 9–5) is a handsome plant with big square stems entirely surrounded by a pair of leaves that are fused at their bases. The specific epithet, *perfoliatum*, means "through the leaf," referring to the way the stem appears to pierce the leaves.

The cups that form from the joined leaf bases hold water for several days after a rain, providing refreshment for small birds—including hummingbirds—and insects. Emerging from the top portion of the stem, lots of three- to four-inch-wide yellow flowers open over a two or three week period in mid- to late summer. Goldfinches flock to the flowers to eat seed as it matures.

Substantial, dark green foliage on four- to five-foot—and sometimes eight-foot—tall plants makes cup plant an excellent solid vertical accent in the prairie garden. *Silphium perfoliatum* var. *connatum*, sometimes called Virginia cup plant, is a less common variety with purple stems lightly covered in gray hair.

Cup plant is adaptable to most soils. If grown in heavy soil with lots of organic matter it is likely to self-seed and you may end up with more cup plants than you bargained for. "I don't generally recommend cup plant for gardens, as it tends to self-seed aggressively," Diboll cautions. This characteristic has garnered



The large leaves of prairie dock, left, contribute a dense, bold texture to a planting, while its long-lasting blooms, above, rise on naked stems, providing an airy flower display.



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**Prairie Nursery**, Westfield, WI. (800) 476-9453. [www.prairienursery.com](http://www.prairienursery.com). Catalog free.

## Resources

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it a place on the list of invasive species in Connecticut. It is probably best limited to prairie gardens. If you grow it where its spread is not desired, plant the area around it with dense groundcovers and rogue unwanted seedlings.

### WHOLELEAF ROSINWEED

Compared to other members of the genus, wholeleaf rosinweed (*Silphium integrifolium*, Zones 4–8, 7–1) is somewhat understated. Flowering plants are generally a mere four to five feet tall and the foliage is not as distinctive as the other species described. Paired, opposite, three-inch-long leaves clasp the stem. The species name means “with entire,” or “uncut,” referring to the smooth, toothless leaf edges. Leaves tend to be quite variable in shape. The stems are maroon when plants are grown in full sun, and multiple stems develop, giving rise to bright yellow flowers from mid- to late summer.



With its fused leaf bases creating a cup, *Silphium perfoliatum* captures and holds rainwater for thirsty birds and insects.

Because wholeleaf rosinweed is shorter than most of the other plants in this genus, it is easier to use in conventional gardens, although it, too, can spread by seed. Try it as a backdrop for other perennials and shorter grasses or in repeated clumps to break up finer textures. I have also seen it used effectively in colonies, contrasting with large masses of queen of the prairie (*Filipendula rubra*) and gayfeather (*Liatris spicata*).

Wholeleaf rosinweed grows well in a variety of soils from moist to dry and is excellent in clay. This species has a thick, fibrous root system and is more drought tolerant than some of the other species.

### SLENDER ROSINWEED

Like wholeleaf rosinweed, slender rosinweed (*Silphium gracile*, Zones 5–9, 9–5) is not as big and boisterous as some of its cousins; it behaves well in the garden, producing multiple four-to-six-foot stems with broad, eight-inch-long leaves toward the plant's base. The leaves on the upper stem are much smaller. Masses of three-inch-wide, soft yellow flowers bloom on leafless stalks in late summer and fall. Both wholeleaf and slender rosinweeds attract a variety of nectar-sipping butterflies and seed-eating birds.

Slender rosinweed is adaptable to many soil types, is drought resistant, and responds well to shearing back once or twice in early summer to encourage shorter, bushier plants.

## RIPE FOR A BREAK OUT

Once I began looking at silphiums critically, it soon occurred to me that breeders should be working with this genus to develop lines that bloom for longer periods and in colors beyond yellow. Apparently, I'm not alone in this opinion. In his introductory entry on silphiums in *Native Plants for North American Gardens* (see “Resources,” left), Allan Armitage of the University of Georgia notes, “*Echinacea purpurea* came out of hiding in the mid-1990s; wonderful cultivars have been introduced and continue to become available. Similar break out stories concern salvias, sedums, and heucheras, for example. Perhaps silphiums will be next—after all, they are tough; at least 10 species are presently grown and available for breeding; they attract birds and butterflies by the dozens; and already a legion of people love them.”



Slender rosinweed adds late-season color to a sunny or partly shaded border.

So keep your eyes peeled for new selections, but in the meantime, find a place in your sunny border for one of these bold, free-flowering natives. They will contribute an assertive textural contrast, a lofty vertical accent, and a delightful banquet for birds and butterflies.

*Natalia Hamill has worked with perennials in the Midwest for 20 years. She is currently completing a Masters program in horticulture at the University of Georgia in Athens.*



# Making the Most of


Five gardens offer design strategies to make a big impact when room is limited.



**I**N A CULTURE that often proclaims that “bigger is better,” some people might feel limited when designing a garden in a small space. However, many gardeners and landscape designers relish the challenge of creating welcoming and intriguing gardens in what might be considered “postage-stamp-size” residential yards.

One advantage of a diminutive space is that it can be easier to foster a sense of intimacy. Just as smaller rooms within a home seem the coziest, modest-sized garden spaces can feel appropriately scaled and be comfortable places to relax and escape the demands of everyday life.

To create a feeling of privacy, it usually helps to have some sort of enclosure or screening. In many cases, dividing a small space can actually make it feel bigger, although some people prefer an open space that offers an extended view. When a house opens directly into a garden, the outdoor space can serve as a valuable extension of the living space. And working in a small garden encourages an up-close-and-personal interaction with nature.

On the following pages, we reveal how five small home landscapes around the country were transformed into rich and rewarding gardens. Factors such as the size of the space, which initially appeared to be challenges, ultimately turned into opportunities for creative approaches to design. In the end, each of these gardens came to reflect the vision of the owners and designers. 

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*Virginia Small, a freelance writer, editor, speaker, and consultant, gardens in Woodbury, Connecticut.*



# a Small Space

BY VIRGINIA SMALL



## A LUSH OASIS IN AN ENTRY COURTYARD

**B**everly and Richard Armstrong wanted a colorful garden to accentuate the contemporary look of their new Santa Fe home. When Monika Hellwegen and Azul Cobb of Carlotta From Paradise, a garden design firm in Santa Fe, began designing the entry garden, they faced a few limitations. The 60-foot-by-70-foot courtyard, enclosed by adobe walls, was bisected by a straight stone walkway (made of Mexican porphyry) that led from an entry gate to the front of the house.

To counteract that strong linear element and to create an informal garden with a sense of lushness, they added visual variety by mixing plants of different shapes, heights, and textures. There is a sense of movement in the overall planting scheme, and not all of the tall plants are placed near the walls. A small fountain adds visual interest and sound as water flows from a bamboo spout into a rough-hewn stone vessel (see photo, right).

New Mexican soil is very lean, so Hellwegen and Cobb began by bringing in soil enriched with manure and compost and installing a drip irrigation system. They chose perennials with long bloom times and planted them close together, which helps to keep their roots cool. Key plants include drought-tolerant perennials such as *Penstemon palmeri* and 'Moonshine' yarrow as well as plants such as New Mexico privet (*Forestiera pubescens*), agaves, and grasses that thrive with minimal water.

The owners spend a great deal of time in this garden, and it is visible from the kitchen and living room windows. Since most of the garden is visually quite open, the designers strived to



**Opposite page:** A path made of regional stone bisects the tapestry of plantings in this Santa Fe, New Mexico, garden. **Top left:** A bench set in an alcove makes an inviting destination. **Above:** *Achillea* 'Moonshine', penstemons, salvias, and an agave surround an intriguing water feature.

create more intimacy within certain areas. They designed paths as spurs from the main walkway that lead to two alcoves. They varied the levels within these niches and included benches in both areas and a birdbath as a focal point.



When building an addition to their home required the dismantling of a cottage garden that Darlene and Bruce Bock had tended for 10 years, they took the opportunity to completely revamp their backyard. Having become fascinated with Japanese stroll gardens, they decided to try their hand at designing their own version of that style. They divided the 50-by-25-foot space into several “rooms,” which they say “makes the space feel bigger as you wander from one area to the next.”

They planted the paths with woolly thyme (*Thymus pseudolanuginosus*); it makes an attractive and walkable ever-green surface in their garden in Belling-

## ASIAN INFLUENCES

ham, Washington. Darlene wanted to create the look of water flowing through the garden, so they used black Chinese beach pebbles to make a dry river bed that winds through the center of the garden and “empties” into a small pond. The color of the pebbles is repeated in black mondo grass (*Ophiopogon planiscapus* ‘Nigrescens’) planted nearby.

In designing the planting scheme, Darlene focused on color, texture, proportion, and placement. She chose a palette of orange, yellow, and red plants to reflect the prominence of these colors in Asian design. Key plants include Japanese blood grass (*Imperata cylindrica* ‘Rubra’), a bristlecone pine (*Pinus aristata*), Japanese maples (*Acer palmatum* ‘Waterfall’ and ‘Garnet’), and a red-flowering Chinese hibiscus (*Hibiscus rosa-sinensis*). Two bamboo screens add height and structure, and a large bowl filled with rocks and a brown glass float serves as a focal point (see top photo).

The garden became a serene haven that provides year-round interest. “There’s a sense of harmony, with everything in its place,” says Darlene.

**Top right:** Using rocks that had been collected over a lifetime from around the world, Darlene and Bruce Bock created a “rock bowl” as a memorial tribute to Bruce’s grandfather.  
**Right:** Japanese blood grass and Japanese maples provide vivid red counterpoints.





## CURVING LINES ADD STRUCTURE TO A TINY BACKYARD



Mary Sherman Willis took cues for the design of her 20-foot-wide-by-40-foot deep backyard garden from the architecture of her home in downtown Washington, D.C. The Moorish-designed townhouse boasts numerous archways, including a clerestory arch above a set of French doors that leads to the backyard. She designed a semi-circle that protrudes from a rectangular brick patio; then she repeated the half circle shape in a swath of lawn to create a strong sense of recurring geometric structure. Although the yard slopes (it's about eight inches higher on one side than the other), she made sure the lawn was perfectly level so that it visually anchors the garden. The lawn also serves as a place for the eye to rest within a space surrounded by tall buildings. At the back of the yard, a sandstone wall also features a small arch with a tiny built-in fountain add to the garden's sensory appeal.

Beds along the sides of the lawn were planted with trees, shrubs, and perennials for a “blowsy effect.” On the lower side of the yard, Willis compensated for the uneven level by using taller plants. Key plants include a weeping cherry (*Prunus serrulata* ‘Kwanzan’), which forms an umbrella of shade for the back patio; a corkscrew willow (*Salix babylonica* var. *pekinensis* ‘Tortuosa’), which eventually became a tall screen; and hostas, irises, azaleas, and other shade-tolerant plants.

To add screening that still retained views of neighboring yards, she erected trellising as a “permeable membrane” along the sides of the yard. Roses and a climbing hydrangea grow against the trellising.



Repetition adds rhythm and unity to this small garden. The circular motifs in the house's glass panels and outdoor light fixtures are echoed in the semi-circular flagstone patio, top, as well as the lawn, above.





## A SERENE SANCTUARY WHERE LESS IS MORE



As Joe Krakora tackled the design of his 11-foot-by-40-foot backyard in Washington, D.C., he felt inspired, rather than hampered, by its diminutive size: “I thought about how you can find a universe in a teacup.” Krakora drew inspiration from gardens he had visited in Kyoto and Tokyo, Japan, where great attention is paid to the placement of every element and the relationships among those elements. “That type of garden encourages a personal encounter with a space,” he explains. His goal was to expand the sense of size and impact by working within a relatively miniature scale. Ultimately, he created a series of vignettes—tiny gardens within a single garden—a process that evolved without advance planning.

Within this context, Krakora found that simplicity was important. He was guided by the “less is more” design principle. Key plants include many types of mosses and various types of ferns, as well as azaleas of varying sizes. A mature magnolia, located on one side in the center of the yard, casts shade over the space. The color green predominates in this garden, with seasonal splashes of color adding pizzazz. About a dozen antique millstones collected from Kyoto are strategically placed to add visual interest and to help move the eye on a journey through the garden.

This garden can be experienced on several levels. A meandering path affords the opportunity to stroll through the space and look at plantings up close. The garden is also viewed from chairs on a brick terrace or through French doors that open to that terrace. A third vantage point is from a small balcony on the second floor of the house. Krakora especially enjoys sitting on the terrace and taking in the scene: “I feel transported into another world, a different mindset.”

**Top:** A sinuous path draws the eye toward a gateway, making the tiny space feel larger. The design emphasizes simplicity and attention to detail to promote an atmosphere of serenity. **Left:** French doors allow the garden to be enjoyed from within the house in all seasons.




## COTTAGE-GARDEN STYLE FOR A NARROW YARD



Marny Jean Careaga dreamed of having a romantic English-style cottage garden in the backyard of her home near Cleveland, Ohio. However, she felt challenged by the tiny space (roughly 22 feet wide by 55 feet deep) and by the fact that it was in full view of a neighboring yard along one side. So Careaga and her husband enlisted Sabrena Schweyer and Samuel Salsbury of Salsbury-Schweyer, Inc., in Akron, to help them address these challenges.

To create screening and privacy without a standard eight-foot-tall fence (which would have felt less neighborly), a trellis-like structure was erected along one side. A similarly-styled pergola with a seating area was built at the back of the yard to disguise a blue barn-style shed. The trellis, made from three-inch-diameter posts, gets covered by vines and serves as a backdrop for abundant flowering perennials. A grassy oval roughly in the center of the space provides a place to relax or entertain. The lawn area was designed so that its shape could later become a flagstone patio as their budget permits.

Careaga wanted to grow “one of everything,” especially plants that boast fragrance or could provide cut flowers. So the design included old-fashioned plants such as roses, lilacs, hydrangeas, and viburnums, as well as new varieties, including a ‘Carol Mackie’ daphne (*Daphne xburkwoodii* ‘Carol Mackie’) and a Harry Lauder’s walking stick (*Corylus avellana* ‘Contorta’). To enhance the sense of structure, plantings are grouped by type.

Careaga and her husband enjoy being in the garden as well as looking at it from the back windows, especially upstairs. It also provides a lovely setting for tea parties and other social events. 

**Exuberant flowering perennials make a colorful display in the border along the trellis, prairie plants flourish next to the driveway, and culinary herbs grow in a bed close to the house.**



# *the merits of* Drip Irrigation

ARTICLE AND PHOTOGRAPHS BY LEE REICH

Drip irrigation conserves water, reduces weeding, and is easier to install than most gardeners realize.

**W**HEN I ONCE asked one of the country's best vegetable gardeners why he doesn't use drip irrigation, he smiled, flourished his watering wand, and said, "I like to play god." For those of us who are less omnipotent in the garden, drip irrigation (also called trickle irrigation) is a godsend. Thanks to drip irrigation, a method of watering where water is slowly dripped into the soil, the ground in my garden remains moist throughout each growing season come rain or shine and with little attention from me. The benefits of drip irrigation are most dramatic in arid climates—in Israel,

for example, where drip irrigation was invented. But even where I garden, in the humid Northeast and other regions with usually abundant rainfall, plants grow better with regular watering. Rain, after all, rarely falls in just the right place at just the right time.

That said, a caveat is in order: Drip irrigation, or any method of watering, is not always necessary for growing plants. The benefits of any kind of watering depend on the kinds of plants grown, how well the climate behaves, and the plant performance you desire. Drip irrigate a wildflower-type garden that includes drought-







Although often associated with vegetable gardens, drip irrigation systems can easily be adapted for use in ornamental beds.

tolerant plants such as coneflower, liatris, and yarrow, and you're likely to end up with overly rank growth and more weeds. With few exceptions, though, if there's any part of your garden that you are going to water regularly, drip irrigation is the best way to go.

A real plus of drip irrigation is its effect on weed problems and water use: Both diminish. By pinpointing water applications, none is wasted on promoting weed growth in the ground between widely spaced garden plants or in paths. The water savings of drip over a sprinkler also comes about because a sprinkler floods all soil pores with each watering, but much is wasted until gravity drains



Above: The author adjusts a dripperline in his vegetable garden. Opposite page: A well-designed drip irrigation system delivers water to the root zone of vegetables rather than the area between the rows.

## SOAKER WOES

A soaker hose may seem like the ideal way to water plants. Just screw the porous rubber hose to the end of your hose or spigot, lay the soaker hose on top of the ground or bury it a few inches deep, turn on the faucet, and let water trickle out. One spring I did just this in my vegetable garden.

After noting the less-than-stellar response from my plants, I cut up two-foot sections of the hose for more quantitative testing. What I found was that the output was highly variable from different sections and that it changed during even one season.

I expect ooze rate in the field to be even more variable. With no pressure-compensating feature, output from elevated portions will be less than lower portions and portions closer to the water source will ooze faster than those further along the line. The pores also are not self-cleaning, so they can be expected to ooze more slowly over time, especially when used without a filter. I consider soaker hoses to be poor stand-ins for drip irrigation. If you use them in a small, flat garden area, they may be more efficient than sprinklers, but to ensure continued effectiveness, you will probably need to replace them every season. —L.R.

water from larger pores, letting roots catch their breath to use what's left. With drip irrigation, water is offered at a rate more in sync with plant use, so roots have constant access to needed water and air. And finally, water from a drip system does not spray into the air, which offers two more benefits over sprinklers. First, not getting water on leaves reduces the likelihood of fungal diseases. Second, avoiding having airborne water reduces evaporation, making another contribution to the 60 percent water savings generally attributed to drip irrigation.

So why aren't more gardeners using drip irrigation, you may ask? In most cases, it's because drip irrigation is perceived as difficult or high-tech, or only designed for nursery applications. Nothing could be further from the truth. Almost anyone can put together a basic drip irrigation system. The control mechanisms, tubing, fittings, emitters, and hole punch are available through a number of suppliers; some provide online assistance to help you design a system tailored to your garden's needs. A few manufacturers offer kits that come complete with all you need to set up a drip irrigation system for a small garden. Sure, there's an upfront commitment of time to set up the drip system, but you'll find it's well worth it for the time and water savings over the long haul.

## WATER, WATER EVERYWHERE

Ideally, a drip system puts out water at a rate that matches plant use, which of course varies with the size and kind of plant, temperature, sunlight, and wind speed. Rather than trying to factor together all these variables, you could just soak the whole garden with the equivalent of a one-inch depth (which works out to about a half-gallon per square foot) of water per week. This amount is a good approximation of average plant water use. Compute how long it would take to provide this amount



## THE NUTS AND BOLTS OF A DRIP IRRIGATION SYSTEM

The key to convenience for any drip irrigation system is a **timer**, which can be anything from an electronic “command center” that activates solenoid valves to water various zones at various times, to a relatively inexpensive, battery-powered unit that threads right onto any spigot.

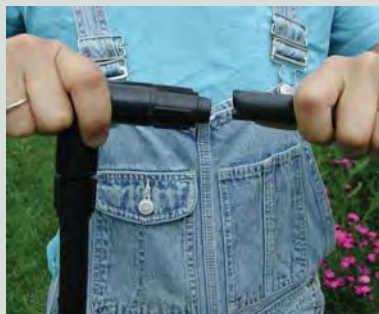
From the timer, the water goes through a 200-micron filter and then through a **pressure regulator**. It’s important to note that some municipalities require you to install a **backflow preventer**, or check valve, at the beginning of the line to prevent water from siphoning back into the household water system



**Timers make it easy and convenient to maintain a continuous supply of moisture to plant roots.**

if pressure drops, so be sure to check local ordinances. The pressure regulator brings water pressure down, typically to only about 15 pounds per square inch, enabling the use of inexpensive, low-pressure fittings.

Next along the water line is thin-wall, half-inch, black polyethylene tubing, which is the so-called “**header line**” (or mainline) that carries water out to the garden. I bury this line shallowly or cover it with mulch where it runs across the lawn or paths,



**A Smart-loc connector joins sections of the drip irrigation system.**

just deeply enough to keep anyone from tripping on it or chewing it up with the lawnmower. Sharp bends and branches in this line are handled with special **L and T connectors** threaded or pushed onto the header line.

Once out in the garden, we come to the heart of drip irrigation: the **emitters** through which water exits. Emitters are not merely leaky pieces of pipe or holes punched in header lines. Output of water through such emitters would vary with water pressure, distance along the line, and changes in elevation, and would be prone to clogging should any parti-



**An opening is made on the header line with a hole punch, left, before it is fitted with an emitter, or dripperline, right.**

cles get into the line. The best emitters have ingeniously designed orifices that are self-cleaning and maintain a fairly constant drip rate regardless of changes in water pressure. Water drips out at a specified rate, usually from one to four gallons per hour. Emitters can be buried in planted areas, but I prefer to leave them on the surface so they’ll be less likely to be gouged by my trowel, and they can be moved out of the way when digging or spreading compost or mulch. In areas that experience especially intense sunlight, covering emitters with a thin layer of mulch slows degradation of the plastic by sunlight.

I tailor the emitters I use according to how my plants are arranged. Thus, in my vegetable garden I run a single quarter-inch “soakerline”—it should more correctly be called a **dripperline**—down the center of each three-foot-wide bed. This dripperline, also easy to snake among plants in a mixed border or flower bed, has relatively closely-spaced outlets, each six inches apart and emitting one-half gallon per hour of water. Quarter-inch dripperline is not very pressure compensating, but that’s not a problem with my short 10- to 20-foot-long beds all on level ground. Were pressure compensation needed, I would instead use half-inch pressure-compensating line, “T-Tape,” or some other products having pressure-compensating emitters six to 12 inches apart.

Emitters with openings every six to 12 inches are useful for beds because they wet wide swaths of ground as capillary attraction between soil particles pulls water horizontally even



as gravity tugs it vertically. Soil texture determines the horizontal spread. The many capillary-size channels in clay soils pull water laterally about three feet from each emitter while, at the other end of the spectrum, the larger pores of sandy soils exert less pull, creating a wetting front that moves laterally only about a foot from each emitter. A wide bed, depending on the kind of soil, might require more than a single dripperline.



**Dripperlines should be checked periodically to make sure they are functioning properly.**

When setting up trees, shrubs, or other widely spaced plants on drip irrigation, you don't want to water the many feet of ground between them. In this case, run a header line from plant to plant, and then at each plant punch a hole in the line and plug in an emitter. Many types of **plug-in emitters** are available; for a row of newly planted fruit trees, I chose the pressure-compensating "PC Plus" emitter, which



**A plug-in emitter delivers water to the base of this blueberry plant. Larger plants may require several emitters to get adequate moisture.**

emits one-half gallon of water per hour. Older trees would need more than a single emitter, both for even root distribution and for adequate moisture, or could be encircled by a ring of emitter tubing, such as a half-inch pressure compensating line, plugged into the header line. —L.R.

of water using emitter spacing, emitter output, and the lateral spread of water for your soil type—water drains more quickly through a sandy or loamy soil than it does in a clay soil.

An alternative to this computation, most useful wherever periodic rainfalls allow some wiggle room, is to water for a total of about four hours per week. This may seem like a lot of water, but the water is just dripping during that time, and those four hours can be spread out over much of the day every day of the week, allowing wells and aquifers recharge time. For instance, my drip timer can turn the water on and off six times a day, so each watering, spread at intervals during daylight hours, is for four hours divided by seven days of the week divided by six times per day, or about six minutes per session.

## THROUGH THE YEAR

Except for some minor maintenance, drip irrigation lets you pretty much forget about watering for the season. The timer, filter, and pressure regulator need to be brought indoors for winter; everything else can remain outdoors. Some users suggest blowing water out of the lines with air at the end of each growing season. I also plug the header line—after disconnecting the timer pressure regulator, and filter—to keep out curious creatures.

During the growing season, I turn off the spigot during wet spells and manually water newly planted seeds or transplants until their roots reach down to the wetting zone. Some years, if I think of it, I'll decrease watering durations early and late in the season, when plants use less water.

The performance of even the most automated watering system needs periodic monitoring. Look over your timer's shoulder to make sure the water is going on and off as planned. Then scurry over to your plants to spot check that water is dripping from the emitters. Occasionally check the soil, digging a hole to feel for moisture or probing for moisture with an electronic moisture meter. And, of course, look at your plants. If they look happy and are growing well, you know the system is doing its job. ☺

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

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(866) 682-1580.  
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[www.urbanfarmerstore.com](http://www.urbanfarmerstore.com).

*Lee Reich is the author of *Weedless Gardening* (Workman Publishing, 2001) in which he details an integrated system to control weeds, one part of which is drip irrigation. He lives in New Paltz, New York.*



# Spicebush's

Many gardeners are familiar with the understated beauty of the native spicebush, but the genus *Lindera* includes many other gems worthy of a place in American gardens.

BY DANIEL J. HINKLEY

**B**ECAUSE I HAVE spent an inordinate part of my adult life in natural landscapes of the world studying the flora for possible introductions into Western horticulture, it's no surprise that I am frequently asked what it is I see in a plant that makes it "good."

I must admit that, despite having many opportunities to do so, I have never fully articulated the criteria that set some plants apart from others. There are the obvious parameters of foliar texture, autumn color, and effects from flower and fruit. Yet undeniably there exists an elusive quality, some subtle but perceptible pedigree that confers nobility. It is this understated yet tangible essence of quality that I have come to associate with the genus *Lindera*—in fact, with every member of the rather large plant family to which it belongs.

In evolutionary terms, this family, the laurels (Lauraceae), is considered relatively ancient, comprised chiefly of evergreen trees in the tropics and subtropics. Ecotourists to Central America who have caught a glimpse of the fabled quetzal through their binoculars can probably thank the ripening fruit of laurel family members for bringing this feathered splendor into view. And if you spend any time in the kitchen you've probably encountered at least one member of its 47 genera, such as bay (*Laurus nobilis*), cinnamon and camphor (*Cinnamomum* spp.), and avocado (*Persea americana*).

Across the board, the small greenish or yellow flowers are generally unisexual on separate male and female plants, although recent research by the Missouri



Early spring blooms of *Lindera obtusiloba* run the length of its 15-foot stems. Female plants produce glossy ebony fruit that is complemented by glowing yellow foliage in fall.

MICHAEL S. THOMPSON



# Exotic Siblings



Commonly encountered in moist woodlands throughout eastern North America, *Lindera benzoin* puts on a show of yellow flowers in spring and yellow foliage in fall.

Botanical Garden indicates that some species may be capable of switching sexes. In the field, characteristics that I use to identify members of this family include leaf arrangement (always alternate), the presence of aromatic oils in the leaf when crushed (think camphor), prominent parallel leaf venation, and fleshy fruit—technically drupes—held close to the branches by short, stubby pedicels known as cupules.

Considering the astounding number of taxa in the genus *Lindera*—estimated at between 80 and 100 species—I find it somewhat surprising that so few of these deciduous and evergreen shrubs and small trees are known and appreciated in gardens of North America or even Europe.

## NORTH AMERICANS

Of the three recognized *Lindera* species native to North America, two—pondberry (*Lindera melissifolia*, USDA Zones 7–9, AHS Zones 9–6) and bog spicebush

(*L. subcoriacea*, Zones 7–8, 8–6)—are rarely encountered either in cultivation or in the wild and have been red-flagged for conservation.

The most gregarious native species, spicebush (*Lindera benzoin*, Zones 4–9, 8–1) is certainly the best known, inhabiting moist, shaded woodlands in every state east of the Mississippi and into the northeastern provinces of Canada. Spicebush is a pleasing deciduous shrub adorned in early spring by a diaphanous haze of exceedingly fragrant small yellow flowers that bloom along its eight-by-eight-foot (or more) framework.

Its young twigs and foliage give off a lemony aroma when bruised and the leaves—along with those of its relatives, *Sassafras albidum* and *Persea borbonia*—are a primary food source for the larvae of the spicebush swallowtail butterfly. In late summer to early fall, berries on female plants turn bright red and the leaves take on a cheerful shade of yellow.

Pondberry, also called southern spicebush or Jove's fruit, is a smallish upright deciduous shrub native to seasonally flooded depressions and swamps from southern Missouri and North Carolina south to the Gulf Coast. It is listed as endangered both nationally and in several states, and, according to the Center for Plant Conservation, only 40 scattered populations are known, principally in Arkansas and Mississippi. "Its leaves are longer and narrower than those of spicebush, but they have a similar aroma," says Bob McCartney, co-owner of Woodlanders nursery in Aiken, South Carolina. Elliptical reddish fruits develop on female plants in late summer, followed by yellowish fall color.



Pondberry's red fruits produce seeds with low viability; the shrub reproduces vegetatively by stolons and tends to form small colonies.

Bog spicebush, also deciduous, is found in scattered moist woods and wetland areas from Virginia south to the Gulf Coast. It is listed as endangered in North Carolina and Florida. According to Bill Cullina, author of *Native Trees, Shrubs & Vines* (see "Resources," page 38), its leaves are smaller and more leathery than *L. benzoin*, and the mature leaves lack the characteristic spicy aroma.



Though more unsung *Lindera* taxa are almost certainly awaiting discovery in the mountains of Mexico and Central America, there is no argument the genus is geographically centered in eastern Asia, where more than 80 species have been documented.

## ASIAN NATIVES

The mountains of Japan and Korea play host to a trio of exceptional deciduous *Lindera* species that I count among my favorites. *Lindera glauca* (Zones 6–8, 8–5) is a relatively small rounded shrub up to



Leaves of the willowleaf spicebush turn from green to red in fall, and apricot brown in winter, persisting decoratively much like the foliage of American beech trees.

six feet with simple ovate leaves to four inches long, dark green above and, hence the specific epithet, glaucous white beneath. These leaves transition to delicious tints of orange and red in mid-autumn, yet the show has only just begun. Adhering firmly to the branches until late winter, the leaves of *L. glauca* ripen to a tawny brown, a color best described as the fresh spring pelt of a white-tailed deer. A closely allied species—some references list it as synonymous or as a subspecies—willowleaf spicebush (*L. salicifolia*, Zones 6–8, 8–5), offers equally fine winter effects.

The jet black fruits of *L. glauca* are somewhat lost in the autumn landscape; the same cannot be said for those of *L. erythrocarpa* (Zones 6–8, 9–6). A common component of the oak forests of South Korea and northern Japan, its startling

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## Resources

**Manual of Woody Landscape Plants** (5th edition) by Michael A. Dirr. Stipes Publishing, Champaign, Illinois, 1998.

**Native Trees, Shrubs & Vines** by William Cullina, Houghton Mifflin, Boston, Massachusetts, 2002.

crowds of red fruit on female specimens, especially in complement to the blazing yellow autumn color, are unparalleled by any other deciduous shrub.

The third of the triad, sharing both continental and archipelagic territory, is *Lindera obtusiloba* (Zones 6–9, 8–1),

which, to my mind, is reason enough to embrace the entire genus without questioning. In late winter, its spreading, multi-branched skeleton, up to 15 feet in height, carries a vivid and beguiling display of yellow flowers. The three-lobed leaves, very similar in appearance to those of its *sassafras* kin, emerge soon after and sear to a sizzling yellow in autumn as female specimens ripen crops of glistening ebony fruit.

The characteristic leaf lobing of *L. obtusiloba* is not without precedent in the genus, as long as one figures into the equation the puzzling, ever changing parameters of plant taxonomy. *Lindera triloba* (Zones 6–8, 8–6) is a similar plant, and although I consider it a bit more refined and elegant, the real McCoy is difficult to locate. Before collecting the seed of this species in the high mountains of Shikoku, Japan, I had received numerous specimens of *L. obtusiloba* masquerading under its name. Taxonomists have historically reassigned *L. triloba* to the genus *Parabenzooin*; however recent analysis has it back in the ranks of *Lindera*. Rather than the dazzling yellow fall color of *L. obtusiloba*, however, my garden specimens of *L. triloba* yield a panoply of reds and oranges in autumn.

## EVERGREEN LINDERAS

As alluded to earlier, deciduousness in this family is the exception rather than the rule



*Lindera erythrocarpa* produces purplish-brown stems that are cloaked by greenish-yellow flowers in late winter. Bright red fruits follow on female plants.



and the same applies to this genus. With some 30 evergreen species to consider, it will take many more years of study before I can intelligently comment on them. The first evergreen species I grew came from the late North Carolina plantsman J.C. Raulston, who had germinated seeds of *L. aggregata* (Zones 7–8, 9–7) and sent one to me to trial. My specimen has sulked in the coolness of my Pacific Northwest garden ever since, yet it has provided me an entrée into the puzzling and overwhelming realm of the evergreen linderas.

The glossy green leaves of many of the species are prominently parallel-veined and not dissimilar to their sister genus *Cinnamomum* in appearance. When one ventures forth into the territory where these grow, however, all bets are off. In China's Sichuan Province, I have hiked amidst thickets of evergreen linderas that appeared superficially identical, though some bear fruit that ripen to black while others to red. Most appear to be better adapted to the heat and humidity of the mid-Atlantic and Southeast states than to our cool Pacific Northwest climate, and indeed there is a fine collection of evergreen linderas at the Atlanta Botanical Garden (ABG).

Jamie Blackburn, curator of woodland gardens at ABG says *L. aggregata* is a good choice for southern gardens because it stays reliably evergreen. "The undersides of the leaves have a silvery sheen, and emerging new foliage has a silvery look that is very ornamental," says Blackburn. At ABG, the slow-growing specimens have matured at about eight feet tall and wide.

Blackburn also recommends *L. reflexa* (Zones 7–8, 9–7), although he says it tends to be deciduous in the Atlanta region. "But even without leaves, the bright green stems show up nicely in the winter landscape," he notes. "Its foliage and flowers are similar to those of our native spice-bush, but the leaves are not as aromatic." One specimen at ABG is 12 feet tall and wide and still growing.

Dense foliage and an upright habit distinguish *L. floribunda* (Zones 7–8, 9–7) which, despite its specific epithet, has smallish flowers according to Blackburn. "The most interesting aspect of *L. floribunda* isn't the flowers, it's the almost fastigate shape and compact foliage—it almost looks like it has been trimmed," says Black-



At the Atlanta Botanical Garden, slow-growing *Lindera aggregata* provides a substantial evergreen presence in this mixed border of herbaceous perennials.

burn. One specimen at ABG is nearly 12 feet high and five feet in diameter at its broadest point after about 10 years.

In 1996, while plant hunting in China's Yunnan Province, I was attracted to a

handsome evergreen shrub clad with quantities of bright red fleshy fruit. This I later identified as *L. communis* (Zones 6–8, 8–6) and have found it performs well in the Pacific Northwest.

## GROWING AND PROPAGATING LINDERAS

Grow linderas in well-draining, evenly moist, neutral to slightly acidic soil. A site in full sun to part shade is ideal for most species, but deciduous species will develop optimum autumn color in sunny locations. Jamie Blackburn of the Atlanta Botanical Garden says evergreen linderas benefit from part shade in the Southeast. Remember, both male and female selections are required for fruit set, so plan on planting two or more if fruit is desired.

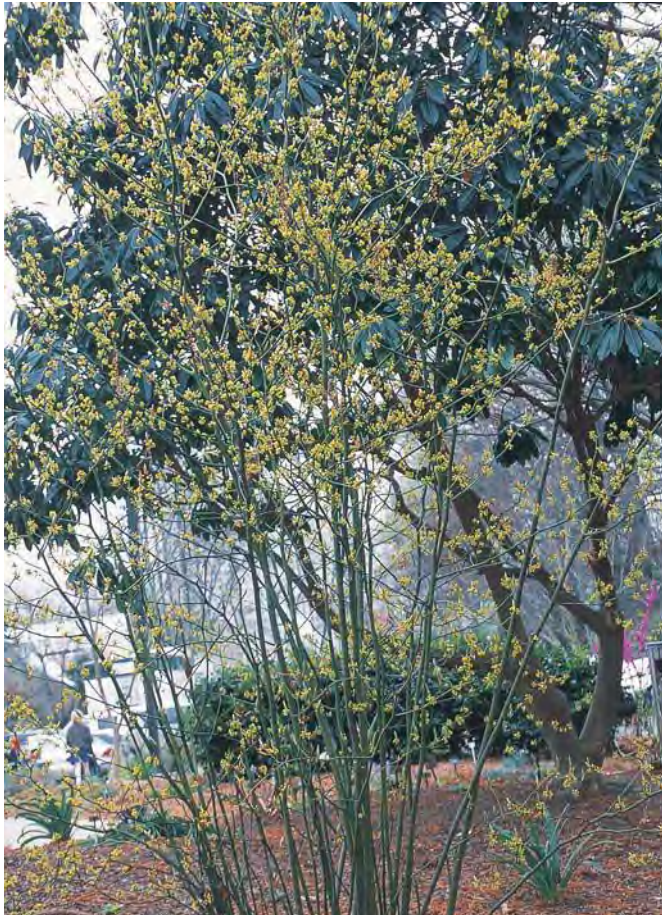
The flip side of this, according to Blackburn, is that some of the deciduous Asian linderas have proven weedy in some areas. At the Morris Arboretum near Philadelphia, female specimens of *L. obtusiloba* were removed because of this problem. So, depending on the location of your garden, you may want to consider seeking out only male selections of certain species.

Sow seeds as soon as they ripen in late fall—if you can beat the birds to them; most will germinate the following spring. Take softwood cuttings of deciduous species; hardwood cuttings with bottom heat for evergreen species.

No major pests or diseases are known to trouble the genus. The aromatic oils of the laurel family are thought to discourage many insects and herbivores, but I'm not certain enough regional information is available yet to declare the genus *Lindera* completely "deer proof."

—D.J.H.





Although *Lindera reflexa*, above left, tends to be deciduous in USDA Zone 7, its green stems provide winter interest. *Lindera floribunda*, seen here at the Atlanta Botanical Garden, above right, grows eight to 12 feet tall with a compact, almost fastigate habit.

Still to be adequately tested is *Lindera fragrans* (Zones 6–7, 7–6), perhaps the most elegant of broad-leaved evergreen shrubs I have ever encountered. From China’s Sichuan Province, it provides spidery textured, evergreen foliage to five inches in length along multi-branched stems up to 15 feet.

*Lindera megaphylla* (Zones 6–8, 8–6), which, as its name would imply, has large and long glossy green leaves, has recently been planted in my new garden in Indianola, Washington, where it seems quite content in the perpetual winter fog with which it is provided.

## LANDSCAPE SUGGESTIONS

Though most of the linderas possess relatively small flowers, the effects can be quite dazzling if properly placed. Consider siting plants where the flowers will be backlit by the rising or setting sun. In this situation, the haze of golden flowers in late winter or early spring will be enhanced.

Accentuate the bold-foliaged species,

such as *L. obtusiloba* and *L. triloba*, with more finely textured foliage from adjacent shrubs and perennials. A dwarf hemlock, for instance, as well as the erect fronds of dissected ferns, would contrast nicely with the large-lobed foliage of these species. As in all matters of design, think in terms of black and white—i.e., contrasting sizes and textures—and you won’t go wrong.

Spicebush and the other American linderas fare best where they receive some shade and are ideal for naturalizing at the edge of a woodland garden. Good companions include native wildflowers such as Virginia bluebells (*Mertensia virginica*), trout lilies (*Erythronium* spp.), and mayapples (*Podophyllum peltatum*), as well as other shade-tolerant native shrubs and trees, including vernal witch hazel (*Hamamelis vernalis*) and leucothoes.

Lastly, remember the most often forgotten ornamental attribute of plants: their season of fruit. If you are limited by space, plant both sexes in one planting hole. If you have the room, plant three or even five

seedlings to assure at least a matched set. The crops of glistening black or red fruit of these species, as their foliage transitions to intense butterscotch yellows or burgundy reds, creates a memorable scene and will bring birds into your garden.

Although my knowledge of *Lindera* is still growing, my commitment to this splendid genus of deciduous and evergreen shrubs remains intact. For effects of flower, foliage, and fruit provided by both North American natives as well as exotic taxa, there are few genera that offer such breadth of ornament to our gardens as from this aggregate of simply good garden plants. ☞

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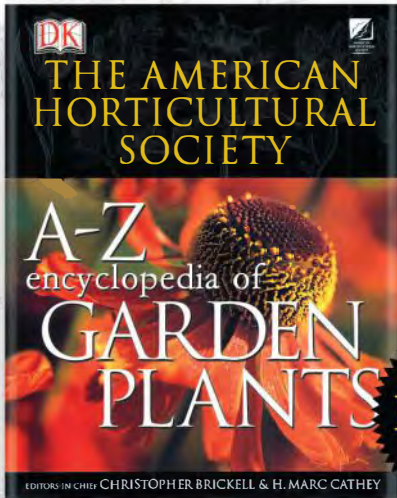
*A plant explorer, writer, lecturer, and horticultural consultant, Daniel J. Hinkley is the 2006 recipient of the American Horticultural Society’s Liberty Hyde Bailey award. He and his partner, Robert L. Jones, founded Heronswood Nursery in 1987 and operated it for nearly 20 years until recently. Hinkley and Jones are developing a new garden in Indianola, Washington.*





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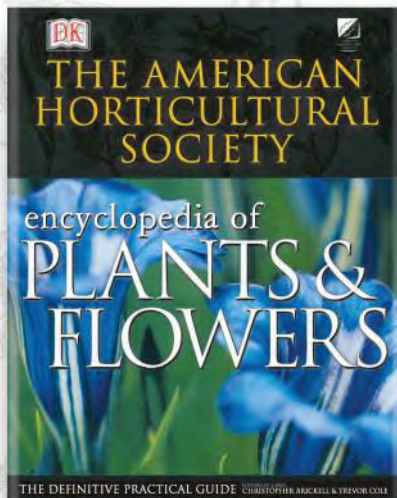
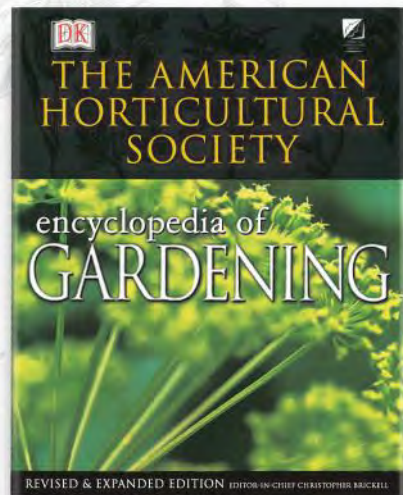
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# the Mountain West

*For your high-altitude garden, choose plants based on whether you have moist or dry conditions.*

**T**HE CASCADE MOUNTAINS, the Rocky Mountains, and the Sierra Nevada each support unique native plants and wildlife. Those regions also have much in common, including the fact that their alpine and sub-alpine climates make the summer gardening season quite short. This is all the more reason to ensure that your habitat garden includes plants that provide food and shelter for wildlife. Integrating regionally native shrubs, trees, and perennials can help you accomplish this goal.

## CLIMATE CHALLENGES

Habitat gardening differs on the western and eastern sides of mountain ranges. Western slopes tend to have lush vegetation because clouds moving from west to east release much of their moisture as they rise to pass over the mountains. Eastern slopes, however, can be extremely dry, because they lie in a so-called rain shadow. Xeriscaping—using plants that are adapted to local rainfall levels—is a good option for both eastern and western slopes, but is especially important for the former, where the combination of cold and drought can quickly desiccate nonadapted plants.

Mountain climates also can be quite windy at times, so choose deep-rooted and low-growing plants that can stay anchored in high-altitude gales. Also make sure that you have some conifers to provide birds with shelter from wind and snow. Woody brush piles also provide a home for birds and small mammals; consider placing a mound of trimmings from shrubs and conifers in an out-of-the-way corner of your garden.

## MOIST MOUNTAIN HABITATS

Trees such as paper birch (*Betula papyrifera*), Rocky mountain maple (*Acer glabrum*), quaking aspen (*Populus tremu-*

*loides*), and scarlet sumac (*Rhus glabra*) do well in moist mountain regions. Birch and aspen attract butterflies such as the mourning cloak and tiger swallowtail, while maple, aspen, and sumac provide seeds for birds and mammals. Spring azure butterflies sip nectar from the sumac's flowers, and its leaves put on a brilliant fall show.



**Small evergreens like *Picea pungens* 'Seli Fastigiata' provide food and shelter for birds.**

In moderate moisture conditions, consider evergreens such as Douglas fir (*Pseudotsuga menziesii*) and Colorado blue spruce (*Picea pungens*), which provide both shelter and food in winter: the latter attracts crossbills, grosbeaks, and pine siskins. For shrubs, try mountain mahogany (*Cercocarpus montanus*), a mid-size deciduous shrub that tolerates a range of conditions from moderately moist to semi-dry. Wild mock orange (*Philadelphus lewisii*) will add ornament (and pollina-

tors) to a habitat garden in early summer with its fragrant white flowers highlighted by golden stamens.

Along a stream bank or drainage ditch, plant red-osier dogwood (*Cornus stolonifera*) to attract butterflies in summer and add winter color to your garden. One of my favorite small trees, serviceberry (*Amelanchier alnifolia*), is a superb wildlife species that boasts lovely white blossoms in spring followed by edible purple berries.

Fruiting shrubs such as hackberry (*Celtis occidentalis*) in the Rockies and huckleberry (*Vaccinium* spp.) in the Cascades and Sierra Nevada, elderberry (*Sambucus nigra* subsp. *canadensis*), and currants (*Ribes americanum* and *R. aureum*) require only moderate moisture and attract a host of wildlife.

Flowering perennials that prefer a moist environment include monkeyflowers (*Mimulus* spp.)—nectar plants for buckeye butterflies—sticky geranium (*Geranium viscosissimum*), western blue flag (*Iris missouriensis*), and yellow-flowered twin-violet (*Viola biflora*), which make a superb groundcover and attract butterflies. For an early taste of spring, plant alpine buttercup (*Ranunculus adoneus*) and its cousin, Jupiter buttercup (*R. jovis*), which open cheerful yellow blossoms in the snow. And for a summer floral show that yields winter food (rose hips) for wildlife, plant Wood's rose (*Rosa woodsii*).

## DRY MOUNTAIN HABITATS

Evergreen trees and shrubs come into their own in dry subalpine environments: pines (*Pinus ponderosa* and *P. flexilis*), juniper (*Juniperus scopolorum*), and Engelmann spruce (*Picea engelmannii*) are a cornucopia of berries, seeds, and tender buds.

For small gardens, consider creeping juniper (*J. horizontalis*), which has many lovely varieties that vary in color from



## Resources

**California Native Plant Society**, (916) 447-2677. [www.cnps.org](http://www.cnps.org).

**Colorado Native Plant Society**, Fort Collins, CO. [www.conps.org](http://www.conps.org).

**Rocky Mountain Wildflowers** by Jerry Pavia. Fulcrum Publishing, Golden, Colorado, 2003.

## Sources

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

**Las Pilitas Nursery** (southern location), Escondido, CA. (760) 749-5930. [www.laspilitas.com](http://www.laspilitas.com). Catalog online.

**Western Native Seed**, Coaldale, CO. (719) 942-3935. [www.westernnativeseed.com](http://www.westernnativeseed.com). Catalog online.

green and blue to purple. Bristlecone pine (*P. aristata*) also is small and slow growing, and several small species and varieties of spruce are available.

Black chokecherry (*Prunus virginiana* var. *melanocarpa*) is a good companion for juniper in dry gardens up to 10,000 feet. It offers creamy white flowers in spring, edible red to purple fruit in summer, and yellow to red fall leaf color.

Dryland habitat gardens benefit from evergreen bearberry—also called kinnickinnick (*Arctostaphylos uva-ursi*) and



*Penstemon barbatus* 'Elfin Pink' brightens up a dry-mountain habitat garden.

Oregon grape (*Mahonia repens*), two excellent groundcovers that produce copious berries and thrive in cold, dry conditions. For an especially lovely garden shrub, try 'Wood's Red' bearberry, a dwarf cultivar that has attractive rounded green leaves, pink flowers, and large, shiny red fruit. Thimbleberry (*Rubus deliciosus*) is an attractive shrub that pairs well with bearberry and ponderosa pine. It thrives in sun or part shade and is quite drought-tolerant.

Penstemons thrive in dry gardens that have sandy, well-drained soil, and many species attract hummingbirds. Scarlet bugler (*Penstemon barbatus*) is a superior hummingbird plant that, although short-lived, readily self-sows. Wild hyssop (*Agastache cana*) is another good nectar source for hummingbirds and hawk moths.

Dry, sunny, free-draining areas on south-facing slopes are best for butterfly weed (*Asclepias tuberosa*), the showiest of the native milkweeds. The bright orange flowers are a magnet for butterflies, including swallowtails and monarchs. Pair butterfly weed with another butterfly favorite, sulphur-flower (*Eriogonum umbellatum*), which forms broad mats of vegetation headed by bright yellow umbels. Round out this flaming summer display with the bright orange-red flowers of blanketflower (*Gaillardia aristata*). ☺

Joanne Wolfe is a contributing editor for The American Gardener.



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## Tony Avent, Plant Explorer and Horticultural Provocateur

by Doreen Howard

**H**IS PLANT DELIGHTS NURSERY catalog defines trendsetting plantsman Tony Avent better than any essay or eulogy could. From “Hairy Potter” to “Titanum...A Lust Story,” his satirical catalog covers draw the reader inside to be educated, entertained, and—most of all—enticed into planting something new. “Tony’s eye for unusual plants is second only to his ability to connect those plants with appreciative gardeners,” says garden writer Felder Rushing, an AHS board member. Fellow plant hunter Dan Heims describes Avent in evangelical terms. “Tony’s the preacher of horticulture. He ascends the pulpit and expounds the glory of plants. Hallelujah!” Avent and his wife, Michelle, own Plant Delights Nursery at Juniper Level Botanic Gardens in Raleigh, North Carolina. This five-acre display garden features over 17,000 varieties of plants collected in the last 30 years; many are available from the catalog and website ([www.plantdelights.com](http://www.plantdelights.com)).

Avent talked with garden writer Doreen Howard recently about his latest plant expedition, trends in the gardening world, and one of the nursery’s specialties—hostas.



**Doreen Howard:** You’ve made more than 50 trips around the world to find plants. Where did you go this year, what did you find, and will it be in your catalog soon?

**Tony Avent:** We went to South Dakota to look at native species of southern

maidenhair fern (*Adiantum capillsveneris*). I like to look at a species in its entire range. I found the plant in Arizona, where the ground was frozen and covered with snow.

Now we’re growing this species from collections found in Florida, Alabama,

North Carolina, Texas, Michigan, Bermuda, South Africa, China, and Mexico. The Bermuda form is unique, because it’s very short and compact. The Alabama form is amazingly vigorous. The one from Florida has smaller pinules. At this point, we are evaluating, not selecting.

**Above left:** Drought-tolerant plants in the Southwest section at Juniper Level Botanic Gardens. **Above right:** Tony Avent in the garden.



We also share material with other researchers. Last year, we sent quite a bit of material to the Fern Research Group at Duke University. If we have extra plants that sprout from spores, we sell them in our online catalog. Many of these forms have been offered at one time or another. Last year, we introduced one from Texas that we called 'Rock Springs' after the town where we found it.

**You've talked about 30-year cycles in plant popularity. What's next?**

People like what they perceive as "new" things, but everything goes in cycles. In the 1940s and '50s, perennials were big. The 1970s were all about annuals and ferns. Ferns are on the upswing again; they should be good for 15 years.

I'd say that natives are a solid bet. Tender perennials for containers and hardy tropicals haven't peaked yet. They are probably good for another eight to 10 years. *Brugmansia* will be huge, too.

We think it's more fun to set trends than to follow them. We're in the early phases of developing baptisias (*Baptisia*



**Avent predicts that new baptisia cultivars such as 'Minor Pink', above, will be part of a wave of future plant trends.**

spp.); they'll be big. You'll see them in pinks, bicolors, and with huge flower stalks. The first wave should come in the next two to three years. We've also been developing colocasias with Dr. John Cho at the University of Hawaii. New ones with glossy black leaves will soon be available.

**Are hostas still a "hot" perennial? And how do you come up with names for them like 'Outhouse Delight' and 'White Wall Tires'?**

Hostas are not considered "in" anymore, yet their sales are still going up because there's a glut of producers and product. And there will always be gardeners—like our customers—who want new and unusual hostas. Hosta producers have spent a lot of time developing fragrance. *Hosta* 'Cathedral Windows', for example, which we offer, is incredibly fragrant and has cool striping on its flowers.

The names usually come to me when I'm driving or on a plane—when I'm completely bored!

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*Doreen Howard, former garden editor at Woman's Day, gardens in Roscoe, Illinois.*

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## Things That Go “Blink” in the Night

by Kathryn Lund Johnson

**A**ROUND THE GLOBE, the blinking tail lights of fireflies have sparked imaginations since the dawn of civilization. The soft-bodied beetles, members of the order Coleoptera and the firefly family, Lampyridae, exist on every continent except Antarctica. There are 23 genera and approximately 200 species of fireflies, or “lightning bugs,” in North America, with the heaviest concentration found east of the Mississippi River. Preferred habitats vary with species and include woodlands, wetlands, fields, and grasslands.

### SOME LIGHT CONVERSATION

In North America, the eggs, larvae, and adults of most species produce light created through a process known as bioluminescence. Fireflies blink to communicate—it’s how they identify, locate, and select their mates—and each species has a distinctive blink. Duration, intensity, frequency, colors, and the time of day when blinking begins are species-specific. During the mating season, males blink to females and females blink in response. Fireflies of some genera contain lucibufagins, chemicals ranging from distasteful to deadly for predators of the beetles when ingested. In these species, blinking likely wards off potential predators by advertising the presence of the chemicals.

While researching the mating games of fireflies, James E. Lloyd, professor of entomology and nematology at the University of Florida, Gainesville, determined that females of the genus *Photuris* sometimes blink for reasons other than romance since they produce no predator-deterrent lucibufagins. In addition to responding to the distinctive flash of their own species, they have evolved the ability to blink in response to mate-seeking males of *Photinus*. These females, coined “femme fatales” by Lloyd, employ this tactic, called aggressive mimicry, to lure *Photinus* males. Taking Lloyd’s findings one step further, Thomas Eisner and Jerrold Meinwald, professors



of chemical ecology at Cornell University in Ithaca, New York, found that this deceptive ploy gains the females much more than just a quick meal. They discovered that the blood of *Photinus* fireflies contains a well-stocked larder of lucibufagins. By consuming the blood of the male *Phot-*

*inus*, the female *Photuris* acquires lucibufagins that she oozes through “reflex bleeding” if threatened by predators.

Explanations for why firefly eggs and larvae glow are speculative, but since fireflies in these stages are not sexually mature, it does not likely involve mating behavior. Douglas W. Tallamy of the University of Delaware in Newark, believes the glowing of firefly larvae is the first known example of an insect utilizing bioluminescence, rather than coloration, to warn predators of potential toxicity.

### HUNGRY YOUNGSTERS

Adult fireflies live for about one to two weeks, during which they lay eggs in moist soil. Larvae appear about three weeks later and continue to reside underground for one or two seasons, pupating in the spring. Most larvae build pebble-sized mounds of earth around themselves prior to pupation. Adult beetles emerge about 10 days after pupation.

The larvae of fireflies are voracious carnivores. Their prey includes such garden pests as snails and slugs, which they track by following slime trails. The larvae also feed on mites, cutworms, earthworms, and other soft-bodied invertebrates, both living and dead. Using opposing, sickle-shaped mandibles, the larvae grab and pierce their prey. From ducts in their mandibles, they inject the prey with a combination anesthetic/diges-





Adult fireflies, left, are beloved for their gentle twinkling display on summer evenings. Firefly larvae, above, are actually voracious predators of many insects and garden pests, such as this snail.

tive substance. The anesthetic immobilizes the prey, and the digestive juices break down tissue into liquid form, allowing the larvae to ingest the “innards.”

Less is known about the eating behaviors of adult fireflies, but it is believed that some species consume pollen and nectar, while others—with the exception of the female *Photinus* fireflies—probably do not feed at all.

### DIMINISHING GLOW?

Though no definitive scientific data exist, there are reports of declines in the populations of fireflies. Since fireflies are habitat- and site-specific, land development and the draining of wetlands and other damp ecosystems affect breeding activity and the survival of eggs and larvae. Another serious threat to fireflies is the indiscriminate and

casual use of pesticides. “Firefly larvae don’t do well in sterile lawns,” advises Tallamy. “And with 40 million acres of lawn in the U. S., it’s no surprise that we’re seeing a decline in the firefly population.” Municipal mosquito spray programs may be contributing to this trend.

What can gardeners do to stem the decline of fireflies? We can leave parts of our yards in a natural state, educate our communities about the interconnectedness of Earth’s organisms, and strive to preserve fragile ecosystems. With our help, future generations will continue to delight in the remarkable blinking displays of fireflies.

*Freelance writer Kathryn Lund Johnson enjoys the summer display of fireflies in her Middleville, Michigan, garden.*

### HOW A FIREFLY PRODUCES ITS GLOW

Bioluminescence, the process by which fireflies produce light, is a chemical reaction—the result of the oxidation of luciferin, a light-emitting molecule; adenosine triphosphate, an energy source present in all living things; luciferase, an enzyme; and magnesium, a facilitator. The light produced is “cold light”—almost none of it is given off as heat. (By comparison, an electric light bulb gives off 10 percent light and 90 percent heat.) Because cold light conserves energy, it is extremely efficient. Fireflies regulate the light by drawing oxygen into specialized organs in their abdominal segments. Light emitted by the eggs and larvae is a glow, while that of adults is the familiar “blink.”

Scientists have long recognized the importance of luciferin and luciferase in the medical arena. The chemicals help to determine the presence of cancer cells, and assist in diagnosing heart attack victims. They also are used to detect bacteria in food, milk, and water. For decades, the sole source of the chemicals was the light-emitting organs of fireflies. To acquire the insects for experimentation, several companies and universities put a bounty on them, paying collectors a penny per firefly. Millions were collected. Luciferin and luciferase are now produced synthetically, and the collection campaigns have been discontinued.

—K.L.J.



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## Horticultural News and Research Important to American Gardeners

### RULES CHANGE AIDS SEED EXCHANGES

The U.S. Department of Agriculture's Animal and Plant Health Inspection Service (APHIS) has implemented a regulatory change that makes it easier for gardeners, horticultural societies, arboreta, and small businesses to import small lots of seed. The new rule, effective May 15, 2006, lets qualified importers bring in up to 50 packets of 50 seeds or 10 grams of seed per taxon without having to obtain the previously-required—and very cumbersome—phytosanitary certificate.



Instead, these small entities can apply for an import permit for seeds that are not of prohibited genera, are not noxious weeds as defined by federal regulations, and are not subject to any extraordinary regulations under federal law (for example, the new rule would not apply to genetically modified seeds). Unlike the phytosanitary certificate, the importer's permit is free and valid for three years of multiple use.

Joyce Fingerut, government liaison for the North American Rock Garden Society, has been following the process closely. "It's been necessary to educate lawmakers and regulatory agencies about the phytosanitary safety of horticultural seed imported through seed exchanges," she says. "These groups are stable, responsible, and knowledgeable, and their procedures are based on strict identification and phytosanitary requirements. In addition, many seeds traded in these exchanges are not widely available in the trade, primarily because of difficulties in germination or cultivation, so they are unlikely to become invasive."

Fingerut notes that the recent change is part of a broader effort by APHIS to up-

date the body of regulations governing the importation of plants. The factors driving the effort—including sharp increases in quantity and variety of plant imports and the global-trade-driven introduction of exotic pests—and its goals are outlined in an APHIS white paper issued in December 2005. The white paper, "Addressing the Risks Associated with the Importation of Plants for Planting," is available on [www.aphis.usda.gov/ppq/37/revision.html](http://www.aphis.usda.gov/ppq/37/revision.html). It includes information on how interested individuals and groups can participate in the regulatory process.

### MOTH IMPERILS NATIVE CACTUS

The cactus moth (*Cactoblastis cactorum*), valued in Australia and the Caribbean as a biocontrol agent, is a growing threat to the prickly pear cactus



**Though cactus moth larvae usually burrow inside cactus pads, they occasionally congregate on the outside of the plants, above left. Above right: Male and female cactus moths look similar except that the female, at the top, is slightly larger.**

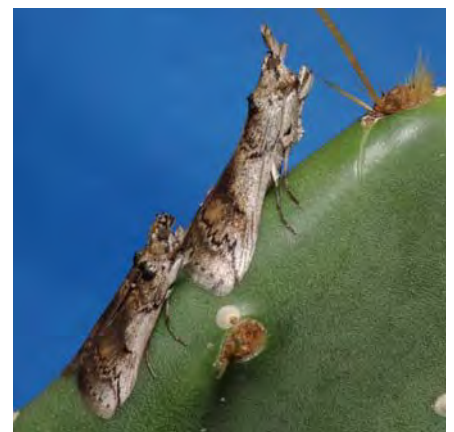
tus (*Opuntia* spp.) population in the United States, according to the U.S. Department of Agriculture (USDA). The moth's larvae burrow into the cactus's pads and feed voraciously, hollowing them out and eventually causing the plant to collapse and die.

The moth was first found in the Florida Keys in 1989 and has since moved

along both sides of the coast at a rate of about 100 miles per year. USDA researchers estimate that, at the current rate of spread, the cactus moth could reach the borders of Texas, home to a large population of prickly pears, by 2007.

While the prickly pear cactus is considered an invasive exotic plant in some regions of the world, it is native to the United States, most often found in western states such as California, Arizona, New Mexico, Texas, and Nevada.

USDA scientists are hopeful that the so-called sterile insect technique (SIT), whereby a large quantity of sterile individuals is released into the cactus moth population, making productive mating less likely, will help to control the moths' spread. A large-scale study on SIT began in spring 2005. "The SIT program, cou-



pled with physical removal of infested material, seems to have significantly reduced the cactus moth population [in a test site at Dauphin, Alabama]," says Joel Floyd of the USDA's Animal and Plant Health Inspection Service. "We also have a regulation in the works to prevent the movement of host material from the southeastern states."



Home gardeners outside infested areas who believe their prickly pear cacti might be hosting cactus moth larvae are encouraged to contact their state department of agriculture, the USDA, or the entomology department of a state university. For more information, including photos of cactus moths, their larvae, and infected plants, visit [www.aphis.usda.gov/ppq/ep/emerging\\_pests/cactoblastis/index.html](http://www.aphis.usda.gov/ppq/ep/emerging_pests/cactoblastis/index.html).

### ORGANIC GOES ACADEMIC

Colorado State University (CSU) in Fort Collins, Colorado, has developed the nation's first science-based organic agriculture program for undergraduate students. The groundbreaking interdisciplinary program will be offered starting this fall through CSU's College of Agricultural Sciences. In addition to agriculture, students in the program will study ecology and environmental conservation, nutrition, soil science, plant pathology, and greenhouse production. They will be required to complete an internship with an organic farm or CSU's own certified organic facility.



Colorado State University's nearby certified organic farm will provide hands-on learning for students in the school's new organic agriculture program.

"This program provides students for the first time with an opportunity to study the science of organic food and fiber production through classroom and experiential learning," says Marc Johnson, dean of CSU's College of Agricul-

tural Sciences. "Our goal is to provide students with the tools to develop a holistic understanding of the food system—and to empower them to enhance that knowledge with alternative agriculture practices."

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Growing interest in organic production among both consumers and students led CSU to develop the program. The Colorado legislature established an organic certification program in 1989, more than a decade before the national organic program was launched.

“Many of our students are passionate about sustainable agriculture and the role that organic farming can play in the future,” says Jessica G. Davis, a professor in CSU’s Department of Soil & Crop Sciences. “We have had a student-run organic garden for years, and this program is an outgrowth of the students’ leader-

ship in this area.” To learn more, visit <http://organic.colostate.edu>.

### RESEARCHERS STUDY WIND PROTECTION

Gardeners in many parts of the country are familiar with the desiccating effect of wind on their plants. A group of scientists at the University of Nebraska in Lincoln (UNL) has studied the effectiveness of three protective measures: antitranspirant spray on a plant’s leaves, polyacrylamide gel treatment for its roots, and external protection by a windbreak.

The results, detailed in the April 2006 issue of the journal *HortScience*, showed that physical protection from wind was the most beneficial treatment, followed by the polyacrylamide gel root dip. The spray provided the least protection.

The experiments were done over four years on muskmelon transplants,

**University of Nebraska researchers have found that hedges, such as this one of oleander (*Nerium oleander*), offer one of the best ways to protect other garden plants from the drying effects of wind.**

but Laurie Hodges, a UNL associate professor and extension specialist, says the results should be similar for other plant varieties. “Providing wind protection is an advantageous measure for home gardeners in windy areas,” she says. “This can be provided by shrubs and trees as well as fences and walls.”

While a windbreak offers the most comprehensive protection, the gel root treatment proved useful in helping new transplants to establish themselves in the early stages of growth. Hodges says that these dips are used by the U.S. Forest Service when they plant bareroot trees, and that UNL scientists now routinely use them on new plantings that won’t be irrigated or that are set out in hot weather.

### NEW LILACS FROM NATIONAL ARBORETUM

Plant breeders at the U.S. National Arboretum (USNA) have announced two new lilac cultivars to follow up their successful introduction of *Syringa* ‘Betsy Ross’ in 2000.

*Syringa* ‘Old Glory’ boasts an abundance of fragrant, blue-purple flowers, a rounded growth habit, and disease-tolerant foliage, making it potentially useful in warmer and more humid areas than other lilac cultivars. It grew about 11 feet high and 13 feet wide over a 25-year testing period.



## PEOPLE and PLACES in the NEWS

### Heronswood’s Kingston Nursery Site Closed by Burpee

On May 30, **Heronswood Nursery**, the internationally acclaimed purveyor of unusual plants and horticultural treasures, was abruptly shut down by its corporate owner, **W. Atlee Burpee & Company**. Most of the nursery’s staff, including co-founder and plant explorer **Daniel Hinkley**, were laid off without warning, and what remains of Heronswood’s nursery stock will be moved from the original Kingston, Washington, site to Burpee’s Fordhook Farm facility in Doylestown, Pennsylvania.

According to Burpee CEO **George Ball**, the decision was based on economics. “As the business of Heronswood expanded outside the Northwest, we found it inefficient to fulfill orders nationally and continue to conduct operations in the state of Washington,” Ball stated in a press release issued on the day the Kingston site was closed. According to a Burpee spokesperson, orders for plants from the Heronswood catalog and website will continue to be fulfilled through Fordhook Farm.

Hinkley and partner **Robert Jones**, who started the nursery 19 years ago, had managed Heronswood since its purchase by Burpee in 2000. The fate of the Kingston buildings and the renowned demonstration gardens that Hinkley created on the 15-acre property has not yet been announced.

### Workman Publishing Acquires Timber Press

**Timber Press**, a boutique publisher known for its exclusive line of detailed and often beautiful horticultural books, has been bought by **Workman Publishing**, based in New York City. Timber Press was founded in Portland, Oregon, in 1978 by **Richard Abel**. Since 1989, former business lawyer **Bob Conklin** has overseen the company’s operations. Timber prospered during Conklin’s tenure, growing from five to 30 employees and securing its niche as a favorite of serious gardeners and professional horticulturists. Conklin told reporters that he expects Workman to operate Timber as an independent entity and to keep its headquarters and employees in Portland.





The U.S. National Arboretum's two new lilac cultivars—'Old Glory', above, and 'Declaration', above right—will be available for home gardeners in 2008.



*Syringa* 'Declaration' was selected for its showy, fragrant, dark-red-to-purple flower clusters, nearly a foot long, and for its open and upright habit. Over the testing period, it grew about eight-and-a-half feet tall and six-and-a-half feet wide. 'Declaration' is best suited to cooler regions in which lilacs generally perform well.

Like 'Betsy Ross,' both of these cultivars are products of a lilac hybridization program started at the USNA in the early 1970s by the late Donald Egolf. Egolf, an acclaimed plant breeder, sought to develop superior lilacs that could withstand warmer climates and the diseases such conditions often foster.

Both of the new cultivars flower in mid- to late April at the National Arboretum (USDA Zone 7, AHS Heat Zone 7). They should be widely available in garden centers in 2008.

#### DRY CLIMATE RESEARCH FACILITY OPENS

Earlier this year, the U.S. Department of Agriculture (USDA) opened a new research facility, which will focus on the challenges of growing in dry climates. Researchers at the U.S. Arid-Land Agricultural Research Center (USALARC), located in Maricopa, Arizona, will study water management and conservation, pest management and biocontrol, and plant physiology and genetics.

"Scientists will focus on understanding the complex relationships between cropping systems, water management, and the environment," says Edward B. Knipling,

administrator of USDA's Agricultural Research Service (ARS). "The resulting knowledge will provide a foundation for efficient and environmentally friendly agriculture in arid climates."

This research is also likely to benefit home gardeners. "While the bulk of this work is designed with farmers in mind, some of it could be applied on a smaller scale," says Laura McGinnis of ARS. "These scientists have researched integrated pest management and management of limited water resources, both of which could be helpful for gardeners."

With severe to extreme drought affecting about 12 percent of the continental United States, according to the government's National Climatic Data Center, the results of USALARC's research will be eagerly awaited.

*Written by Washington, D.C.-based freelance writer Linda McIntyre.*

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## The Essential Garden Hose

by Rita Pelczar

**T**HE GARDEN HOSE IS SUCH a simple tool, you might think there's not a lot to say about selecting, using, and caring for one. However, there are different types and qualities of hoses as well as special fittings that will increase their efficiency and utility. Here's an overview.

### CHARACTERISTICS

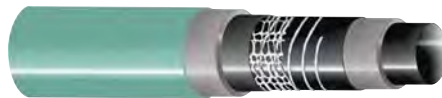
Hoses come in a variety of lengths and diameters. Because added length reduces water pressure, you should buy the shortest hose that meets your distance requirements. Most garden hoses are 25 to 100 feet long, sold in increments of 25 feet, and they range from 1/2-inch to 3/4-inch in diameter. Water is delivered faster through hoses with a larger diameter.



Hoses are generally made of vinyl, rubber, or a combination of the two. Better quality hoses are reinforced with a radial cord and are constructed in layers. The number of plies (layers) varies from one to eight—the greater number of plies, the stronger the hose.

Vinyl hoses are lightweight and relatively inexpensive, but they are less forgiving when crimped, and may become brittle and crack over time. Although rubber hoses usually last longer and are

less likely to burst under pressure than vinyl types, they are more expensive and heavier—an important consideration if you need to lug your hoses around the yard. For most gardening tasks, a good quality rubber-reinforced vinyl hose is a good compromise. Look for one that has heavy-duty fittings that are less likely to leak or crack.



**Above: Multiple layers, as seen in this Flexogen hose, add durability. Left: To maximize water pressure in the garden, use the shortest hose that satisfies your needs.**

The Flexogen hose, offered by Gilmour Manufacturing, boasts eight-ply construction. Foam inner layers contribute flexibility while keeping it lightweight, and outer layers are abrasion and weather resistant. At the faucet end, a rigid collar prevents kinking, and its couplings are made of durable brass.

Teknor Apex offers the NeverKink™ line of hoses that have a patented technology that prevents kinking and makes winding up hoses after use a snap. Several companies, including Teknor Apex and Aquapore Moisture Systems, whose hoses are distributed by Fiskars, manufacture hoses with a significant percentage of recycled rubber and/or plastic. For a list of suppliers for these “green” products, see the Environmental Protection Agency’s Comprehensive Procurement Guidelines website ([www.epa.gov/cpg/products/garden.htm](http://www.epa.gov/cpg/products/garden.htm)) and click on its “Database of Manufacturers and Suppliers.”

### HOSES FOR DIFFERENT USES

Hoses are used for more than transporting water from the faucet to the garden. Soaker and sprinkler hoses are designed to deliver a steady stream of water to a specific area. By focusing the water where it's needed, water is conserved. Although less precise than drip irrigation systems (see the article about drip irrigation on page 32), these hoses provide a simple, inexpensive, and transportable means of irrigating beds and vegetable gardens.

Soaker or sprinkler rings work on the same principle. They are designed to be placed around newly planted trees or shrubs to provide the slow, deep watering that helps young plants become established. The Trickle Ring Tree Saver supplies up to half gallon of water per minute through the holes in the rigid, circular plastic tube, and is recommended for the critical first year of newly planted trees. Similarly, the Fiskars Tree and Shrub Soaker Ring fits around the trunk of trees or shrubs to slowly soak the root zone.



**The Trickle Ring Tree Saver delivers water to the root zone of newly planted shrubs and trees.**



## Sources

**Choice Products, Inc.**, Paducah, KY. (270) 554-8500.

**Fiskars Brand, Inc., Garden Tools & Accessories**, Sauk City, WI. (800) 500-4849. [www.fiskars.com](http://www.fiskars.com).

**Gilmour Manufacturing**, Somerset, PA. (800) 458-0107. [www.gilmour.com](http://www.gilmour.com).

**Teknor Apex Company**, Pawtucket, RI. (800) 289-6786. [www.teknorapex.com](http://www.teknorapex.com).

**The Trickle Ring Company**, Arrington, TN. (615) 414-5309. [www.tricklerring.com](http://www.tricklerring.com).

Gardeners often reach for a convenient hose for a drink of water, but many hoses are unsafe for this use. According to a May 2003 article in *Consumer Reports*, only hoses that are labeled for drinking—or that are thoroughly flushed out before use—are safe. Many hoses contain polyvinyl chloride with lead as a stabilizer. Unsafe levels of lead may leach into water left standing in the hose. Algae and bacteria can build up inside the hose. For more information about drinking from hoses, see the online article “Dare You Drink from a Garden Hose?” ([www.consumerreports.org/cro/health-fitness/get-the-lead-out-of-the-garden-hose-503/overview/index.htm](http://www.consumerreports.org/cro/health-fitness/get-the-lead-out-of-the-garden-hose-503/overview/index.htm)).

### MAKING CONNECTIONS

If you use soaker or sprinkler hoses, it is often convenient to leave them attached to a faucet. But if you want to use the faucet for other purposes from time to time, you can make life easier by attaching a water distributor with two to four taps. Connected directly to the faucet, it allows you to run multiple hoses from a single source. A separate shut-off valve is provided for each tap.

Another tool that expands your hose options is the Dual-Flo™ Nozzle from Choice Products, Inc. Made of die-cast aluminum, this hand-held nozzle has an internal valve system with two outlets, allowing the user to select either a high pressure stream, or normal flow without switching hoses. Each outlet can be opened or closed independently. A hand trigger controls the strength of the flow from the pressurized outlet.

Faucets are not always located in the most convenient places. Rather than trampling beds or battling shrubs each

time you want to access your faucet, consider attaching a spigot extender. A short hose runs from the faucet to a spigot that is anchored in the ground in a more convenient location. The spigots may be elevated for further ease of access. And if



The Dual-Flo splitter nozzle from Choice Products allows you to switch easily between normal water flow and high pressure.

you need to thread your hose through beds or around corners, hose guides inserted at critical points help prevent kinking and damage to small plants.

### HOSE MAINTENANCE

To extend the life of your hose, store it out of the sun, since ultraviolet rays can weaken or degrade it. If your hose is not equipped with a protective collar at the faucet end, purchase a hose saver—a short length of hose surrounded by a coil of bend-resistant wire—to provide extra support to this stress point. Drain your hose before freezing weather arrives to prevent cracking and store it in a protected place, preferably in your “green garage.”

Rita Pelczar is contributing editor for *The American Gardener*.

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| 4 FLOWERING       | And To GET MORE FLOWERS, LONGER and MORE BEAUTIFUL                                    |                                 |
| 5 SEEDLINGS       | To PLANT THEM ALL SAFELY, UNIFORMLY — and GROWING MORE STRONGLY                       |                                 |
| 6 TREES TO GET    | “TWO YEARS’ GROWTH IN ONE”?   |                                 |
| 7 FRUITING        | For EARLIER, HEAVIER, BEARING?  |                                 |
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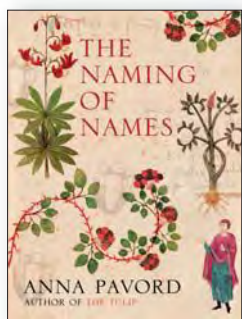


## Recommendations for Your Gardening Library

### The Naming of Names: The Search for Order in the World of Plants

Anna Pavord. Bloomsbury, New York, New York, 2005. 471 pages. Publisher's price, hardcover: \$45.

IT'S EASY for plant enthusiasts today to take for granted the plant classification system we all know, but this system of categorizing plants



and animals beginning with kingdom and becoming more specific as you work down to family, genus, and species is the result of millennia of study

and reflection. In *The Naming of Names: The Search for Order in the World of Plants*, Anna Pavord, best known for her popular book, *The Tulip*, traces the course of our understanding of the nature of plants and our attempts to categorize and name them.

Although her topic is academic, Pavord makes it fascinating. She cares passionately about the subject, and it's contagious. She begins with the theories of early philosophers working circa 500 B.C., who postulated that air contains the seeds of all things. When washed to the ground by rain, some of these seeds produced plants. Another theory was that plants were animals with their feet in the air and their mouths in the ground.

A major breakthrough came in 300 B.C., when Theophrastus published two volumes describing 600 known plants and suggesting that they be divided into four categories: trees, shrubs, subshrubs, and herbs. We still use those categories today. However, 2,000 years passed after Theophrastus wrote his books before much more intellectual progress was made. Scholars such as Leonhart Fuch and John Ray in the 16th and 17th centuries fi-

nally arrived at our modern way of naming and ordering the plant kingdom.

Pavord's epilogue gives a nod to the work of 20th and 21st century scientists. New technological breakthroughs, such as the invention of the electron microscope and the discovery of DNA, have created a new ground shift in our understanding of how plants should be systematized. Today's botanists, who are trained as physicists, phytochemists, and molecular systematists, are again refining and redefining the way we order plants.

This richly illustrated book, which recently won a 2006 Annual Literature Award from the Council on Botanical and Horticultural Libraries, is lengthy and at times repetitive, but anyone who takes the time to read it will be rewarded with a deeper appreciation of humanity's intellectual journey toward understanding and categorizing the plant kingdom.

—Catriona Tudor Erler

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

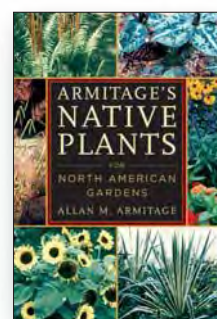
### Armitage's Native Plants for American Gardens

Allan M. Armitage. Timber Press, Portland, Oregon, 2006. 448 pages. Publisher's price, hardcover: \$49.95.

PEOPLE ARE drawn to native plants for many reasons, from aesthetics to conservation. If you love the beauty of North American plants, and wish to learn more about how to grow them, this book is sure to please. In a straightforward A-to-Z format, Armitage's conversational and opinionated prose introduces you to some of the showiest and easiest-to-grow plants that originate within what he refers to as "mainland America." A step ahead of other volumes that cover simi-

lar ground, Armitage includes annuals, bulbs, ferns, and grasses, as well as perennials for a total of 630 species.

Headings call out ecological and cultural information for easy reference. Propagation methods are highlighted as well. An additional header of particular interest describes the etymology of the botanical as well as the common names. Useful lists



of plant sources and societies and plants with particular traits such as deer resistance and drought tolerance round out the volume.

A high point of the book for some readers will surely be the up-to-date cultivar lists. There are, however, some problems with these. Several of the ferns and grasses covered, while native to North America, are also native to Europe or Asia. Most of their listed cultivars are of foreign origin, not selected from native American stock.

Overall, the quality of the photographs is high, though there are exceptions, and a handful of photos are mislabeled. As in all his books, Armitage takes a personal approach to taxonomy, acknowledging some revisions while ignoring others. As a result, names are not always up-to-date, but they are usually representative of those being used in the nursery industry.

"This book is not written for extreme native plant enthusiasts," explains Armitage. "In fact, I suspect the right wing of the 'Native Party' will not particularly like this book." The featured species are more representative of herbaceous plants that happen to be native rather than native plants that are herbaceous. He goes on to say that the book "is written for [people] who would love to try some native plants but don't know where to



start.” If you are one of those people, this book is for you.

—C. Colston Burrell

C. Colston Burrell is a plantsman, garden designer, and author of *Hellebores: A Comprehensive Guide* (Timber Press, 2006).

### Montrose: Life in a Garden

Nancy Goodwin with illustrations by Ippy Patterson. Duke University Press, Durham & London, 2005. 292 pages. Publisher's price, hardcover: \$34.95.

IS A GARDEN a place, an artistic arrangement of well-sited plants, or a unique expression of the gardener who created it? This engaging book, which reads like a memoir of a year in the life of Nancy Goodwin's 20-acre North Carolina garden, known as Montrose, leaves no doubt that a great garden is all of these things, and more. "I am tied to this place in every way," Goodwin writes. "This place is my life and its garden my obsession."

Fans of Goodwin's first plant loves—hellebores and cyclamens—may recall

Montrose as the name of the nursery business she ran there from 1984 to 1993. But when the demands of running a nursery left no time for developing the garden,

Goodwin followed her heart and put all of her energy into making Montrose into the place she dreamed it could be. Telling the garden's story in month-by-month format creates a sense of immediacy. This chronological structure also serves as a perfect platform for Goodwin's precise yet cleverly droll writing style.

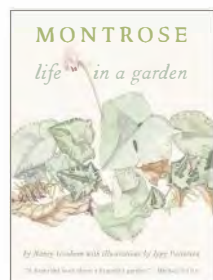
As the chapters unfold, so does the story of a 44-year marriage between a husband who dons protective goggles to help move a spiny old agave from the greenhouse to its place in the sun, and a wife who gradually grows away from her first vocation as a music teacher and blossoms into one of America's most gifted gardeners.

Goodwin works hard, often weeding until it's too dark to see, but long hours of toil are tempered by her delight with the thousands of little miracles that surround her. Among these are her plants, the family cats, and a small, devoted staff. Even the weeding itself brings her "an almost indescribable joy." As she writes, "I always feel a release of tension, a thrill when my hands and knees reach the soil, and satisfaction when I pull a weed up by the roots."

The pages are graced by more than 160 drawings by Ippy Patterson, an award-winning garden illustrator who lives only a short drive from Montrose. These masterful illustrations include a subtly-tinted silverbell bough (*Halesia carolina*), which aptly fills an entire page, and a drawing of bloodroot (*Sanguinaria canadensis*), which is a triumph.

—Barbara Pleasant

North Carolina garden writer Barbara Pleasant is the author of numerous books including *Garden Stone* (Storey Publishing, 2002).



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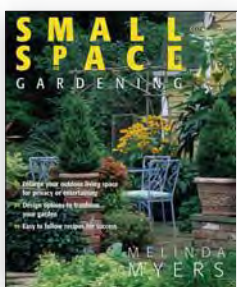




## Gardening in Small Spaces

**N**O MATTER where I've gardened—from a rooftop container garden to a modest suburban yard—I never seemed to have enough room for all that I wanted to grow. After coming to terms with the fact that my space for gardening always will be finite, I realized that the options and possibilities for filling that space are virtually limitless. However, when every inch in your garden counts, it pays to do a little research on how to use it to best advantage.

"Creating an attractive and functional small space hideaway has its special opportunities," writes Melinda Myers in *Small Space Gardening* (Cool Springs Press, 2006, \$18.99). "And also, needless to say, its special challenges," she adds.



In the book, Myers discusses strategies for maximizing your space such as the judicious use of containers, espalier, and selecting columnar or dwarf varieties of plants. She also discusses the basics of the design process, garden preparation, and planting how-to. The book concludes with a directory of plants—listed by common name—that

is divided into color-coded sections for flowers, groundcovers, ornamental grasses, shrubs, trees, and vines. Myers painstakingly selected these plants for size, seasons of interest, and heat and cold tolerance. A color photograph accompanies each entry as well as a brief description and suggestions for how to use it.

In *Small Garden* (DK Publishing, 2006, \$19.95), garden designer John Brookes explains, "The key to realizing the potential of your small space, in both visual and practical terms, is design—



this involves planning and styling your space so that it suits your way of life, as well as the character of your home and its surroundings." Chapters on style, design, structure, and planting illuminate all the important elements to consider. The chapter titled "Case Studies" looks at four small gardens the author has built, which "demonstrate the usability and charm of small spaces well de-

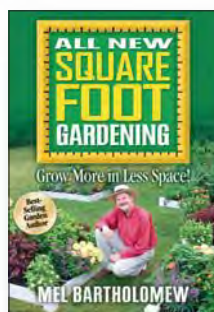
signed." The final chapter includes plant lists, categorized by their design uses—for example, "plants with form" and "plants for color." Color photographs on nearly every one of the book's 352 pages offer plenty of ideas for integrating hardscape, water features, lighting, furniture, and plants into a cohesive small garden.

*Intimate Gardens* by C. Colston Burrell with Lucy Hardiman (Brooklyn Botanic Garden, 2005, \$9.95) not only deals with creating gardens in small spaces, but also with defining intimate havens within larger areas. For either situation, many of the same design considerations apply. The book points out that

"Intimacy comes when a variety of elements coalesce into a harmonious composition. These elements include well-proportioned spaces, a comfortable sense of enclosure, and captivating plants." Design plans for a terrace garden, a woodland garden, and a courtyard garden help to illustrate these concepts. Just over half of this slim handbook is devoted to an "encyclopedia" of plants that are suited for intimate gardens, "carefully chosen to provide for a wide range of forms, colors, and textures."



How about a bumper crop of vegetables from a small garden? Mel Bartholomew will tell you how in *All New Square Foot Gardening* (Cool Springs Press, 2006, \$19.99). As the title implies, this is a revised version of a book published in 1981 that first laid out the concept of square-foot gardening.



By questioning the tradition of planting in rows, Bartholomew developed a method to make gardening easier and more efficient by planting in a four-foot-by-four-foot grid divided into square-foot sections. Since that time, Bartholomew has perfected his system in several ways, which he divulges in the updated edition. The book also includes instructions for planning, building, and planting a square-foot garden.

On the truly tiny end of the size spectrum, there's *Tabletop Gardens* by Rosemary McCreary (Storey Publishing, 2006, \$16.95). For those with only indoor space to spare, or for those who would like to bring the outdoors in, this book will inspire you to go "beyond the traditional houseplant to a broader sense of 'garden.'" According to McCreary, "Small-scale interior landscapes challenge our creativity and yield exciting plant combina-

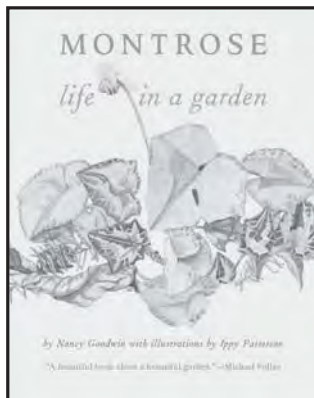


tions that are often impossible outdoors." Water gardens, herb gardens, and flower gardens are just some of the possibilities. You'll also find ideas for terrariums, dish gardens, and gravel gardens, all accompanied by artistic color photographs. Most of these "plantscapes" include a materials list, simple instructions, and tips for ongoing maintenance.

The final chapter addresses plant care in more detail, offering tips on providing the right amounts of nutrients, water, and light, and how to repot and propagate. ♡

—Viveka Neveln, Assistant Editor





# Montrose: Life in a Garden

NANCY GOODWIN

ILLUSTRATIONS BY IPPY PATTERSON

“A beautiful book about a beautiful garden.”

—MICHAEL POLLAN, author of *The Botany of Desire: A Plant’s-Eye View of the World*

Beautifully written and illustrated, *Montrose: Life in a Garden* is Nancy Goodwin’s affectionate biography of her renowned gardens in historic Hillsborough, North Carolina.

Following Goodwin’s activities throughout the year, readers will learn the fundamentals of maintaining a four-season garden in Zone 7 in the South. Award-winning garden illustrator Ippy Patterson has provided more than 160 lavish illustrations of the gardens at Montrose and these meticulously detailed drawings appear throughout the book.

312 pages, 168 color illustrations, hardback \$34.95



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## REGIONAL HAPPENINGS

### Horticultural Events from Around the Country

#### NORTHEAST

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

**RAP** THROUGH AUG. 27. **Garden Improvement.** Exhibit. Wave Hill. Bronx, New York. (718) 884-8952. [www.wavehill.org](http://www.wavehill.org).

JULY 22. **Woody Plant Propagating at Home.** Class. Berkshire Botanical Garden. Stockbridge, Massachusetts. (413) 298-3926. [www.berkshirebotanical.org](http://www.berkshirebotanical.org).

**RAP** JULY 26. **Luminous & Lively: Grasses for New England Gardens and Landscapes.** Class. Polly Hill Arboretum. West Tisbury, Massachusetts. (508) 693-9426. [www.pollyhillarboretum.org](http://www.pollyhillarboretum.org).

JULY 29 & 30. **Garden Walk Buffalo.** Buffalo, New York. (716) 879-0123. [www.GardenWalkBuffalo.com](http://www.GardenWalkBuffalo.com).

**RAP** AUG. 9. **How Many Plants Will Survive the 21st Century?** Lecture. Polly Hill Arboretum. West Tisbury, Massachusetts. (508) 693-9426. [www.pollyhillarboretum.org](http://www.pollyhillarboretum.org).

**RAP** AUG. 19. **Herbal Salads.** Demonstration. Wave Hill. Bronx, New York. (718) 884-8952. [www.wavehill.org](http://www.wavehill.org).

AUG. 27. **"Abuzz in the Meadow" Festival.** Garden in the Woods. Framingham, Massachusetts. (508) 877-7630. [www.newenglandwildflower.org](http://www.newenglandwildflower.org).

#### MID-ATLANTIC

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

JULY 21. **Moonlight Madness.** Walk. Reeves-Reed Arboretum. Summit, New Jersey. (908) 273-8787. [www.reeves-reedarboretum.org](http://www.reeves-reedarboretum.org).

JULY 22. **Woody Plant Propagation.** Class. Monticello. Charlottesville, Virginia. (434) 984-9822. [www.monticello.org](http://www.monticello.org).

JULY 26. **Orchid Repotting.** Class. Duke Farms. Hillsborough, New Jersey. (908) 243-3627. [www.dukefarms.org](http://www.dukefarms.org).

**RAP** JULY 28. **Plants that Sizzle, Not Fizzle.** Class. Green Spring Gardens. Alexandria, Virginia. (703) 642-5173. [www.greenspring.org](http://www.greenspring.org).

JULY 28. **Woody Plant Conference.** Scott Arboretum of Swarthmore College. Swarthmore, Pennsylvania. (610) 388-1000 ext.

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

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

507. [www.woodyplantconference.org](http://www.woodyplantconference.org).

JULY 29. **Grasses, Sedges and Rushes: A Primer.** Class. Bowman's Hill Wildflower Preserve. New Hope, Pennsylvania. (215) 862-2924. [www.bhwp.org](http://www.bhwp.org).

**RAP** AUG. 12. **Plant for the Planet!** Workshop. U.S. Botanic Garden. Washington, D.C. (202) 225-8333. [www.usbg.gov](http://www.usbg.gov).

AUG. 13. **Daylily Sale.** Brookside Gardens. Wheaton, Maryland. (301) 962-1400. [www.brooksidegardens.org](http://www.brooksidegardens.org).

AUG. 14. **A Walk with the Curator.** Scott Arboretum of Swarthmore College. Swarthmore, Pennsylvania. (610) 388-1000 ext. 507. [www.woodyplantconference.org](http://www.woodyplantconference.org).

AUG. 15. **Summer Fragrance: Herb Walk.** Brookside Gardens. Wheaton, Maryland. (301) 962-1400. [www.brooksidegardens.org](http://www.brooksidegardens.org).

AUG. 19. **Virginia Native Fruits.** Class. Monticello. Charlottesville, Virginia. (434) 984-9822. [www.monticello.org](http://www.monticello.org).

**RAP** AUG. 26. **Good Green Fun.** Children's Garden. Lewis Ginter Botanical Garden. Richmond, Virginia. (804) 262-9887. [www.lewisginter.org](http://www.lewisginter.org).

Looking ahead

**AHS** SEPT. 20–23. **Fashion in Bloom.** Preview of new plant introductions for 2007. Garden Centers of America. American Horticultural Society at River Farm. Alexandria, Virginia. (703) 768-5700. [www.ahs.org](http://www.ahs.org).

#### SOUTHEAST

JULY 19–25. **The International Waterlily and Water Gardening Society's 21st Annual Symposium.** Fort Lauderdale, Vero Beach, and Orlando, Florida. (941) 756-0880. [www.iwgs.org](http://www.iwgs.org).

**RAP** JULY 20. **Canning in the Garden.** Class. State Botanical Garden of Georgia. (706) 542-1244. [www.uga.edu/botgarden](http://www.uga.edu/botgarden).

**RAP** JULY 21 & AUG. 18. **Monthly Floral Design Demo.** Memphis Botanic Garden. Memphis, Tennessee. (901) 685-1566. [www.memphisbotanicgarden.com](http://www.memphisbotanicgarden.com).

### Celebrate Kitchen Gardens in August

INTERNATIONAL KITCHEN GARDEN DAY, a flexibly organized yet community-oriented event propounded by Kitchen Gardeners International (KGI), will occur this year on August 27. Roger Doiron, the founder of KGI, came up with the idea for Kitchen Garden Day as an answer to Snack Food Month, which is February.

"It struck me that if some of the largest manufacturers of processed foods could pool their resources to promote potato chips and fluorescent orange cheese snacks for an entire month," Doiron says, "the world's food gardeners should be able to find a way of uniting for at least a day to celebrate foods that are locally grown, healthy, and delicious."

Exactly how to celebrate these foods is largely up to participants the world over. KGI's website suggests a potluck featuring locally-grown foods, a planting or harvesting party, or touring a local farm or garden—anything that celebrates, educates, or brings people together for a healthy and tasty local gardening experience. Find out more at [www.kitchengardeners.org](http://www.kitchengardeners.org).

—Heather Robbins, Editorial Intern



**RAP** AUG. 12. **Gardening for Wildlife Ramble.** State Botanical Garden of Georgia. (706) 542-1244. [www.uga.edu/botgarden](http://www.uga.edu/botgarden).

**RAP** SEPT. 5. **Tips for Fall Planting.** Class. Daniel Stowe Botanical Garden. Belmont, North Carolina. (704) 825-4490. [www.dsbgo.org](http://www.dsbgo.org).

**Looking ahead**

**RAP** SEPT. 14. **Plant Walk with Dr. Paul Cappiello.** Yew Dell Gardens. Crestwood, Kentucky. (502) 241-4788. [www.yewdellgardens.org](http://www.yewdellgardens.org).

**NORTH CENTRAL**

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

JULY 27. **Designing a Children's Garden.** Garden walk. Reiman Gardens. Ames, Iowa. (515) 294-2710. [www.reimangardens.iastate.edu](http://www.reimangardens.iastate.edu).

JULY 31–AUG. 11. **2006 Michigan Garden Plant Tour.** Michigan State University Department of Horticulture. (517) 355-5191, ext. 1339. [www.hrt.msu.edu/planttour](http://www.hrt.msu.edu/planttour).

**RAP** AUG. 12 & 13. **Gardeners of the North Shore Show and Sale.** Chicago Botanic Garden. Glencoe, Illinois. (847) 835-5440. [www.chicagobotanic.org](http://www.chicagobotanic.org).

AUG. 18. **Gardening with the Experts: Water Gardening for Everyone.** Class. Minnetrista. Muncie, Indiana. (765) 213-3549. [www.minnetrista.net](http://www.minnetrista.net).

**RAP** AUG. 26 & 27. **Dahlia Show.** Olbrich Botanical Gardens. Madison, Wisconsin. (608) 233-2394. [www.olbrich.org](http://www.olbrich.org).

**Looking ahead**

SEPT. 28 & 29. **Perennial Plant Symposium "Where Human Nature Embraces Mother Nature"** (two sessions, with separate registration for each day). Chicago Botanic Garden. Glencoe, Illinois. (847) 835-8261. [www.chicagobotanic.org](http://www.chicagobotanic.org).

**SOUTH CENTRAL**

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

**AHS** JULY 27–29. **National Children & Youth Garden Symposium: Cultivating a Sense of Place.** American Horticultural Society. Missouri Botanical Garden. St. Louis, Missouri. (703) 768-5700. [www.ahs.org](http://www.ahs.org).

**RAP** AUG. 4. **Exotic Vegetables Seminar.** The Crosby Arboretum. Picayune, Mississippi. (601) 799-2311. [www.msstate.edu/dept/crec/camain](http://www.msstate.edu/dept/crec/camain).

**RAP** AUG. 12, 19, & 26. **Native Plant Propagation Workshop.** Lady Bird Johnson Wildflower Center. Austin, Texas. (512) 242-4200. [www.wildflower.org](http://www.wildflower.org).

## Science and Nature Harmonize in the Bronx



FOR MOST OF US, the Bronx conjures images of endless traffic jams, Yankee Stadium, Arthur Avenue's "Little Italy" or The Bronx Zoo. But few people are aware that a new major plant science center, one of the most advanced in the world, opened in May on the grounds of the venerable New York Botanical Garden (NYBG).

The first research lab built at NYBG in nearly 50 years, the Pfizer Plant Research Laboratory will focus on molecular systematics and plant genomics, cutting-edge technologies that use DNA data to answer questions about plant biodiversity and evolution. The 28,000-square-foot facility contains the latest in high-technology equipment, including robotic workstations, a DNA sequencer, and scanning electron microscope.

Ten full-time research scientists and 40 graduate students, along with visiting scholars from around the world, work in a flexible, open laboratory environment that fosters scientific interaction and collaboration. Research goals include unlocking as-yet-undiscovered medicinal



**Top: The new Pfizer Plant Research Laboratory at the New York Botanical Garden opened in May. Right: The main molecular laboratory features the latest high-tech equipment.**

benefits from the vast majority of plant species. For example, Dennis Stevenson, vice president for botanical science at NYBG, is working with cycads, the most ancient primitive plants that reproduce by seeds. Cycads produce a neurotoxin that in humans is strongly suspected of playing a causal role in neurological disorders such as Alzheimer's disease. Stevenson's team hopes to isolate and test resistance to this neurotoxin in cycads.

And for gardeners, molecular research may eventually shed light on such practical issues as keeping plants alive and blooming, promoting biodiversity in home gardens, introducing new and more adaptable species, promoting healthier soil, and keeping endangered species alive.

The Pfizer Lab itself is not open to the public, but NYBG's website ([www.nybg.org](http://www.nybg.org)) goes into great detail on the facility, the scientists, and the current research projects. And the LuEsther T. Mertz Library, the most important botanical and horticultural library in the world, is open to visitors. And NYBG's educational programs—including a top-notch graduate studies program, a Virtual Herbarium containing information on almost 800,000 specimens, and the Steere Herbarium housing 7.2 million specimens—are all available in varying degrees to the public.

And of course the glorious gardens themselves, including the recently restored 15-acre Benenson Ornamental Conifer collection and the nation's preeminent Victorian glasshouse, the Enid A. Haupt Conservatory, make NYBG one of the truly great botanical destinations in the country.

—Betsy Hays, special to *The American Gardener*



Looking ahead

**RAP** SEPT. 6, 13 & 20. **Janet Carson Landscape Design Workshop.** Garvan Woodland Gardens. Hot Springs National Park, Arkansas. (501) 262-9300. [www.garvengardens.org](http://www.garvengardens.org).

## SOUTHWEST

AZ, NM, CO, UT

**RAP** JULY 29. **Rocky Mountain Bonsai Society Japanese Garden Demonstration.** Denver Botanic Gardens. Denver, Colorado. (720) 865-3500. [www.botanicgardens.org](http://www.botanicgardens.org).

**RAP** AUG. 5. **Penstemon Festival.** Arboretum at Flagstaff. Flagstaff, Arizona. (928) 774-1442. [www.thearb.org](http://www.thearb.org).

**RAP** AUG. 8 & AUG. 27. **Desert Vegetable Gardening.** Class. Desert Botanical Garden. Phoenix, Arizona. (480) 941-1225. [www.dbg.org](http://www.dbg.org).

AUG. 11. **Southwest Horticulture Annual Day of Education.** Arizona Nursery Association. Paradise Valley Doubletree Resort. Scottsdale, Arizona. (480) 966-1610. [www.azna.org](http://www.azna.org).

**RAP** AUG. 26. **Native Seed Collecting.** Workshop. Red Butte Garden & Arboretum. Salt Lake City, Utah. (801) 581-4747. [www.redbuttegarden.org](http://www.redbuttegarden.org).

## WEST COAST

CA, NV, HI

JULY 28–AUG. 3. **Botany 2006.** Symposium. California State University. Chico, California. (614) 899-9356. [www.botany.org](http://www.botany.org).

AUG. 6. **Garden Tours.** Rancho Los Cerritos Historic Site. Long Beach, California. (562) 570-1755. [www.rancholoscerritos.org](http://www.rancholoscerritos.org).

AUG. 10–13. **Annual Conference.** American Community Gardening Association. Los Angeles, California. (877) 275-2242. [www.communitygarden.org](http://www.communitygarden.org).

**RAP** AUG. 11. **Night Walk.** Descanso Gardens. La Cañada Flintridge, California. (818) 949-7980. [www.DescansoGardens.org](http://www.DescansoGardens.org).

AUG. 14. **New Plant Introductions.** Lecture and plant forum. San Diego Horticultural Society. Encinitas, California. (619) 296-9215. [www.sdhortsoc.org](http://www.sdhortsoc.org).

**RAP** AUG 19. **Horticultural Therapy: Healing Gardens.** Class. San Francisco Botanical Garden Society. San Francisco, California. (415) 661-1316, ext 354. [www.sfbotanicalgarden.org](http://www.sfbotanicalgarden.org).

AUG. 26 & 27. **Plant Sale and Open House.** Occidental Arts and Ecology Center.

Occidental, California. (707) 874-1557 ext. 201. [www.oaec.org](http://www.oaec.org).

## NORTHWEST

AK, ID, MT, OR, WA, WY

**RAP** AUG. 5 & 6. **Flower Show.** Anchorage Garden Club. Alaska Botanical Garden. Anchorage, Alaska. (907) 646-0584. [www.alaskabg.org](http://www.alaskabg.org).

AUG. 18–20. **North American Heather Society Annual Conference.** Philomath, Oregon. (541) 929-6272. [www.northamericanheathersoc.org](http://www.northamericanheathersoc.org).

AUG. 19. **Heather Show and Plant Sale.** North American Heather Society. Salem, Oregon. (541) 929-6272. [www.northamericanheathersoc.org](http://www.northamericanheathersoc.org).

AUG. 27–31. **Whitebark Pine: A Pacific Perspective.** Conference. Southern Oregon University. Ashland, Oregon. (541) 858-6126. [www.fs.fed.us](http://www.fs.fed.us).

## CANADA

**RAP** AUG. 7 & 17. **Woodland Garden Tour.** Royal Botanical Gardens. Hamilton, Ontario. (905) 527-1158. [www.rbg.ca](http://www.rbg.ca).

PHOTO BY JAMES TRACY FROM 2006 GARDENER'S CALENDAR



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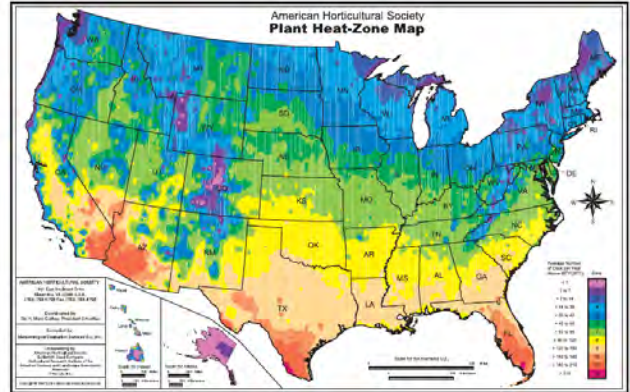


# PRONUNCIATIONS AND PLANTING ZONES

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.

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

To purchase a two-by-three-foot glossy AHS Plant Heat Zone Map for \$9.95, call (800) 777-7931 or visit [www.ahs.org](http://www.ahs.org).



## A-C

- Acer glabrum** AY-ser GLAB-rum (USDA 4–8, AHS 8–3)  
**Asclepias tuberosa** as-KLEE-pee-us too-bur-O-suh (3–9, 9–2)  
**Agastache cana** ah-guh-STAH-she KAN-uh (6–11, 12–1)  
**Amelanchier alnifolia** am-eh-LANG-kee-ur al-nih-FO-lee-uh (4–9, 8–3)  
**Arctostaphylos densiflora** ark-toh-STAFF-ih-loss dens-ih-FLOR-uh (7–9, 9–7)  
**A. uva-ursi** A. YOO-vuh-UR-sy (2–8, 9–3)  
**Atriplex lentifomis** AT-rih-pleks len-tih-FOR-mis (6–10, 10–6)  
**Azara microphylla** uh-ZAR-uh my-kro-FIL-luh (8–10, 12–10)  
**Betula papyrifera** BET-yew-luh pap-ih-RIF-ur-uh (2–7, 7–1)  
**Buxus sempervirens** BUCKS-us sem-pur-VY-renz (6–8, 8–6)  
**Camellia sasanqua** kuh-MEEL-yuh sah-SAHNG-kwuh (7–9, 9–6)  
**Carpinus betulus** kar-PIE-nus BET-yew-lus (4–8, 8–1)  
**Ceanothus americanus** see-uh-NO-thus uh-mair-ih-KAN-us (4–8, 8–1)  
**Celtis occidentalis** SEL-tiss ahk-sih-den-TAL-iss (2–9, 9–1)  
**Cercocarpus montanus** sur-koh-KAR-pus mon-TAN-us (4–8, 8–3)  
**Cornus stolonifera** KOR-nus sto-lon-IF-ur-uh (3–8, 8–1)  
**C. sanguinea** C. sang-GWIN-ee-uh (4–7, 7–1)

## D-I

- Dodonaea viscosa** doh-doh-NEE-uh vis-KOH-suh (9–15, 12–10)  
**Eriogonum umbellatum** air-ee-OG-onum um-bel-LAY-tum (3–8, 8–4)  
**Forestiera pubescens** for-es-tee-AIR-uh pyew-BESS-enz (6–10, 10–7)

- Gaillardia aristata** gay-LARD-ee-uh ahr-iss-TAY-tuh (3–8, 8–1)  
**Geranium viscosissimum** juh-RAY-nee-um vis-ko-SISS-ih-mum (4–8, 8–5)  
**Hamelia patens** huh-MEE-lee-uh PAY-tenz (8–12, 11–8)  
**Heteromeles arbutifolia** het-ur-o-ME-leez ar-byew-tih-FO-lee-uh (8–11, 12–8)  
**Ilex crenata** EYE-leks kreh-NAY-tuh (5–7, 7–5)  
**I. glabra** I. GLAB-ruh (5–9, 9–1)  
**I. verticillata** I. vur-tih-sih-LAY-tuh (5–8, 8–5)  
**Iris missouriensis** EYE-ris mih-zur-ee-EN-sis (3–9, 9–1)

## J-L

- Juniperus scopulorum** joo-NIP-er-iss skop-yew-LOR-um (3–7, 7–1)  
**Leucophyllum zygophyllum** loo-ko-FIL-um zy-go-FIL-um (8–9, 10–7)  
**Lindera aggregata** lin-DAIR-uh ag-ruh-GAY-tuh (7–8, 9–7)  
**L. benzoin** L. BEN-zo-in (4–9, 8–1)  
**L. communis** L. com-YEW-niss (6–8, 8–6)  
**L. erythrocarpa** L. air-ih-thro-KAR-puh (6–8, 9–6)  
**L. floribunda** L. flor-ih-BUN-duh (7–8, 9–7)  
**L. fragrans** L. FRAY-granz (6–7, 7–6)  
**L. glauca** L. GLAW-kuh (6–8, 8–5)  
**L. megaphylla** L. meh-guh-FIL-uh (6–8, 8–6)  
**L. melissifolia** L. mel-iss-ih-FO-lee-uh (7–9, 9–6)  
**L. obtusiloba** L. ahb-TOO-sih-lo-buh (6–9, 8–1)  
**L. reflexa** L. ruh-FLEK-suh (7–8, 9–7)  
**L. salicifolia** L. sal-iss-ih-FO-lee-uh (6–8, 8–5)

- L. subcoriacea** L. sub-kor-ee-AY-see-uh (7–8, 8–6)  
**L. triloba** L. try-LO-buh (6–8, 8–6)

## M-Q

- Mahonia aquifolium** mah-HO-nee-uh ah-kwi-FO-lee-um (6–9, 9–6)  
**M. nervosa** M. ner-VO-suh (5–7, 7–5)  
**M. repens** M. REP-enz (4–8, 8–3)  
**Myrica californica** my-RIH-kuh kal-ih-FORN-ih-kuh (7–10, 9–7)  
**Penstemon palmerii** PEN-steh-mon pawl-MER-eye (3–11, 12–1)  
**Philadelphus lewisii** fil-uh-DEL-fus loo-ISS-ee-eye (5–8, 8–1)  
**Phillyrea angustifolia** fih-LEE-ree-uh an-gus-ti-FO-lee-uh (7–9, 9–7)  
**Picea engelmannii** PY-see-uh eng-gul-MAN-ee-eye (3–6, 6–1)  
**P. pungens** P. PUN-jenz (3–8, 8–1)  
**Pinus aristata** PY-nus ar-iss-TAY-tuh (2–10, 9–1)  
**P. flexilis** P. FLEX-ih-liiss (4–6, 6–3)  
**P. ponderosa** P. pon-deh-RO-suh (5–8, 8–5)  
**Populus tremuloides** POP-yew-lus trem-yew-LOY-deez (1–7, 8–1)  
**Prunus caroliniana** PREW-nus kair-o-lin-ee-AN-uh (4–10, 10–1)  
**P. ilicifolia** P. il-ih-sih-FO-lee-uh (6–10, 10–7)  
**P. lyonii** P. lie-O-nee-eye (7–10, 10–7)  
**P. virginiana var. melanocarpa** P. vir-jin-ee-AN-uh var. mel-an-o-KAR-puh (3–8, 8–1)  
**Pseudotsuga menziesii** soo-doh-SOO-guh men-ZEES-ee-eye (5–7, 7–5)  
**Quercus agrifolia** KWER-kus ag-rih-FO-lee-uh (9–11, 12–9)

## R-Z

- Ranunculus adoneus** rah-NUNG-kyew-lus uh-DON-ay-us (3–5, 5–1)  
**R. jovis** R. JO-viss (3–6, 6–1)  
**Rhamnus californica** RAM-nus kal-ih-FORN-ih-kuh (7–9, 9–7)  
**R. frangula** R. FRANG-ew-luh (3–8, 8–1)  
**Rhus glabra** RUS GLAB-ruh (3–9, 9–3)  
**R. integrifolia** R. in-teg-rih-FO-lee-uh (9–10, 10–8)  
**Ribes americanum** RY-beez uh-mair-ih-KAN-um (3–7, 7–1)  
**R. aureum** R. AW-ree-um (5–8, 8–5)  
**Rosa rugosa** RO-zuh roo-GO-suh (2–9, 9–1)  
**R. woodsii** R. WOODS-ee-eye (4–9, 9–1)  
**Sambucus mexicana** sam-BOO-kus mex-ih-KAN-uh (6–10, 10–6)  
**S. nigra subsp. canadensis** S. NY-gruh subsp. kan-uh-DEN-siss (4–7, 7–1)  
**S. racemosa** S. ras-eh-MO-suh (3–7, 7–1)  
**Silphium gracile** SIL-fee-um GRASS-ih-le (5–9, 9–5)  
**S. integrifolium** S. in-teg-ruh-FO-lee-um (4–8, 7–1)  
**S. laciniatum** S. lah-syn-ee-AY-tuh (4–9, 9–5)  
**S. perfoliatum** S. per-fo-lee-AY-tum (4–9, 9–5)  
**S. terebinthinaceum** S. tair-uh-bin-thin-AY-see-um (3–9, 9–1)  
**Ternstroemia gymnanthera** tern-STRO-me-uh jim-nan-THUR-uh (8–10, 10–8)  
**Vauquelinia californica** vaw-kwe-LIN-ee-uh kal-ih-FORN-ih-kuh (7–10, 10–7)  
**Viola biflora** VY-o-luh by-FLOR-uh (4–8, 8–1)





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