



The American GARDENER[®]

The Magazine of the American Horticultural Society

May / June 2008

rewards of a **Home Orchard**

**Impatiens:
Beyond Busy Lizzies**

A Love for Lilies

**Hardy Geraniums for
Carefree Color**



Your plant's nutritionist. (Actual size)

Introducing Osmocote® *Plus* Multi-Purpose Plant Food. All the nutrition your plants need is packed into this tiny granule. New Osmocote® *Plus* is formulated with the 12 nutrients that help plants flourish and a Smart-Release® coating that knows exactly when to feed. It nourishes up to six full months, won't wash away and won't burn. Now, no matter what you grow, or where you grow it, Osmocote® *Plus* is the only plant food you'll need. Let's just say, we've got plant nutrition down to an exact science.

It knows.



PlantersPlace.com/Plus

© 2008 The Scotts Company LLC. World rights reserved.

contents

Volume 87, Number 3 · May / June 2008

FEATURES



page 27

16 CAREFREE CRANESBILLS

BY RICHARD HAWKE

With their long blooming season and easy culture, hardy geraniums are tough to beat.

22 FRUIT TREES FOR YOUR BACKYARD

BY DOREEN G. HOWARD

Use these tips to grow your own delectable apples, pears, peaches, and cherries.

27 DESIGNING WITH VINES

BY PAULA REFI

Take advantage of the vertical space in your garden by integrating colorful and versatile vines.

32 LILIES, GLORIOUS LILIES

BY BRIAN BELL

Growing and breeding lilies is the passion of Dave Sims, whose Idaho garden is a tribute to the diversity and potential of this genus.

38 IMPATIENS: BEYOND BUSY LIZZIES

BY JO ANN GARDNER

If the only *Impatiens* you've grown are busy lizzies, you've barely scratched the surface of this large and intriguing genus of shade-loving plants.



page 38

DEPARTMENTS

5 NOTES FROM RIVER FARM

6 MEMBERS' FORUM

7 NEWS FROM AHS

Green Garage is part of U.S. Botanic Garden exhibition, Garden School on trees a success, winners of the AHS Environmental Award at Philadelphia and San Francisco flower shows, upcoming webinars on designing with color and woodland gardens.

12 AHS NEWS SPECIAL: 2008 NATIONAL CHILDREN & YOUTH GARDEN SYMPOSIUM

An overview of what is in store for this year's event in the Philadelphia area.

44 ONE ON ONE WITH...

Harold Pellett, plant breeder.

46 GARDENER'S NOTEBOOK

Scientists confirm South American origins of "European" potato, Australian invasive-weed-screening system shows promise for North America, top Shasta daisies for northern gardens, 2008 All-America Rose Selections, interest in edible gardening is growing, Center for Public Horticulture to open at the University of Delaware.

50 GREEN GARAGE®

Mosquito and tick protection.

52 BOOK REVIEWS

Viburnums, *Big Book of Garden Designs*, and *Professional Planting Design*.

Special focus: Regional gardening books.

56 REGIONAL HAPPENINGS

60 PLANT IN THE SPOTLIGHT

Rhododendron occidentale.

62 HARDINESS AND HEAT ZONES AND PRONUNCIATIONS



page 12



AMERICAN HORTICULTURAL SOCIETY

7931 East Boulevard Drive Alexandria, VA 22308-1300
(800) 777-7931 fax (703) 768-8700 www.ahs.org

Making America a Nation of Gardeners, a Land of Gardens

American Horticultural Society

EXECUTIVE DIRECTOR Tom Underwood

Board of Directors

CHAIRMAN Susie Usrey *Dayton, Oregon*
FIRST VICE CHAIRMAN Don E. Riddle, Jr. *Davidsonville, Maryland*
SECOND VICE CHAIRMAN Leslie Ariail *Alexandria, Virginia*
SECRETARY Albin MacDonough Plant *Baltimore, Maryland*
TREASURER Arnold Steiner *Birmingham, Alabama*
IMMEDIATE PAST CHAIR Arabella S. Dane *Center Harbor, New Hampshire*

Allan M. Armitage *Athens, Georgia* ■ Suzanne Bales *Oyster Bay, New York* ■ William E. Barrick, Ph.D. *Theodore, Alabama* ■ Kurt Bluemel *Baldwin, Maryland* ■ Katherine Stark Bull *Washington, D.C.*
John Alex Floyd, Jr. *Trussville, Alabama* ■ Carole Hofley *Wilson, Wyoming*
Margaret Kulp *Louisville, Kentucky* ■ Carole Lewis *Coral Gables, Florida* ■ Melissa R. Marshall *Pittsburgh, Pennsylvania* ■ Carol C. Morrison *Palatine, Illinois* ■ Shirley Nicolai *Fort Washington, Maryland*
J. Landon Reeve IV *Woodbine, Maryland* ■ Harry A. Risetto, Esq. *Falls Church, Virginia*
Michel Sallin *Groveland, Florida* ■ Jeanne Shields *Greenville, Delaware* ■ Steven Still *Hilliard, Ohio*
■ Howard McK. Tucker *Alexandria, Virginia* ■ Robert D. Volk *San Marino, California*
Daryl Williams *Lake Buena Vista, Florida*

PRESIDENT EMERITUS Katy Moss Warner

2008 Advisory Council

Beverly Hanselman, *Nashville, Tennessee* – Chair

Clarissa Bonde, *Washington, D.C.*
Walter Bull, *Columbia, South Carolina*
Anne Bucher, *Silver Spring, Maryland*
Elaine Burden, *Middleburg, Virginia*
Patty Bush, *St. Louis, Missouri*
Skip Calvert, *Alexandria, Virginia*
Dr. H. Marc Cathey, *Davidson, North Carolina*
Russell Clark, *Boston, Massachusetts*
Bartie Cole, *Owings Mills, Maryland*
Jim Corfield, *Geneva, Illinois*
Edward N. Dane, *Center Harbor, New Hampshire*
Ben Griswold, *Glyndon, Maryland*
Carolyn Marsh Lindsay, *Ponte Vedra, Florida*
Mickey Lynch, *Dunmore, Pennsylvania*
Bob Malesardi, *Easton, Maryland*
Robert and Joanna Martin, *Menlo Park, California*
Barbara McClendon, *Alexandria, Virginia*
G. Ray Miller, *Brandon, Florida*

Egon Molbak, *Bellevue, Washington*
Dean Norton, *Mt. Vernon, Virginia*
Nancy Keen Palmer, *Nashville, Tennessee*
Bob Patterson, *Washington, D.C.*
Dr. Julia W. Rappaport, *Santa Ana, California*
Deen Day Sanders, *Norcross, Georgia*
Josephine Shanks, *Houston, Texas*
Barbara Shea, *Owings Mills, Maryland*
Holly Shimizu, *Glen Echo, Maryland*
Charles Henry Smith, Jr., *Middleburg, Virginia*
Tom Szaky, *Trenton, New Jersey*
Nancy Thomas, *Houston, Texas*
Bryan Thomlison, *Haddonfield, New Jersey*
Pauline Vollmer, *Baltimore, Maryland*
Joyce and Harvey White, *Nashville, Tennessee*
Joannah Williams, *Sebring, Florida*
Sheryl Wood, *Middleburg, Virginia*

Education Sponsor

OXO International

Corporate Partners

The Care of Trees ■ Chapel Valley Landscape Company
Homestead Gardens ■ Monrovia ■ Osmocote ■ TerraCycle, Inc.

Horticultural Partners

America in Bloom Symposium & Awards Program ■ Bellingrath Gardens and Home ■ Colonial Williamsburg Foundation Garden Symposium ■ Cox Arboretum MetroPark ■ Epcot International Flower & Garden Festival ■ The Gardeners of America/Men's Garden Clubs of America ■ The Homestead in the Garden Symposium ■ Inniswood Garden Society ■ Leonard Haerter Travel Company ■ Magic of Landscapes ■ Morris Arboretum ■ Oklahoma Botanical Garden & Arboretum ■ Oklahoma Horticultural Society

President's Council

CHAMPION'S CIRCLE Mr. and Mrs. John H. Ariail, Jr. ■ Ms. Judy Daniel ■ Mr. Franklin Y. Hundley ■ Mr. and Mrs. Robert E. Kulp, Jr. ■ Ms. Melissa Marshall MTR Landscape Architects, LLC ■ Mr. and Mrs. Harry A. Risetto, Esq. ■ Mr. Arnold Steiner ■ Mr. and Mrs. W. Bruce Usrey ■ Mrs. Pauline E. Vollmer

LIBERTY HYDE BAILEY CIRCLE Mr. Richard C. and Mrs. Katherine Stark Bull ■ Mrs. Susan M. Cargill ■ Mr. and Mrs. Edward N. Dane ■ Mrs. Elisabeth C. Dudley ■ Mrs. Marion Greene ■ Ms. Minako Henderson ■ Mr. Deane H. Hundley ■ Mr. and Mrs. J. Landon Reeve IV ■ Ms. Katy Moss Warner ■ Mr. and Mrs. Klaus Zech

HAUPT CIRCLE Nancy J. Becker, M.D. ■ Mr. and Mrs. C. William Black ■ Mr. and Mrs. Kurt Bluemel ■ Mr. and Mrs. Robert L. Bogle ■ Mr. Gerald T. Halpin ■ Mrs. Richard W. Hamming ■ Mr. and Mrs. Richard W. Hanselman ■ Mrs. Carole S. Hofley ■ Ms. JoAnn Luecke ■ Mr. and Mrs. Malcolm Matheson, Jr. ■ Mrs. Rosalyn Milbrandt ■ Dr. and Mrs. David E. Morrison ■ Mr. and Mrs. James T. Norman ■ Mr. and Mrs. Ken Mountcastle

COUNCIL MEMBER'S CIRCLE Mr. and Mrs. Carter Bales ■ Mrs. Katherine Belk ■ Mr. and Mrs. Anthony Bigos ■ Mrs. George P. Bissell, Jr. ■ Dr. Sherran Blair ■ Count and Countess Peder Bonde ■ Mr. and Mrs. William L. Carr, III ■ Anne S. Chatham ■ Mr. and Mrs. Nicholas Demisay ■ Mr. and Mrs. Robert Duemling ■ Dr. and Mrs. John A. Floyd, Jr. ■ Mrs. Carolyn V. Foil ■ Ms. Marguerite Peet Foster ■ Mr. and Mrs. Joel Goldsmith ■ Dr. and Mrs. William O. Hargrove ■ Mr. and Mrs. Richard F. Hohlt ■ Mr. Brian Holley ■ Mr. and Mrs. Allan L. Holmstrom ■ Mrs. Elizabeth Hooff ■ Mr. Philip Huey ■ Mrs. Deborah Kern ■ Ms. Mary A. Lambert ■ Mrs. Marta Lawrence ■ Mr. and Mrs. Robert B. Lindsay ■ Mrs. Dorothy Marston ■ Mrs. Barbara McClendon ■ Ms. Lillian McKay ■ Mrs. Paul Mellon ■ Mr. and Mrs. Egon Molbak ■ Mrs. Shirley Ann Nicolai ■ Ms. Patricia Painter ■ Mr. and Mrs. Albin MacDonough Plant ■ Dr. Julia Rappaport ■ Mr. and Mrs. James A. Runde ■ Mrs. Deen Day Sanders ■ Mrs. Josephine Shanks ■ Jeanne Shields ■ Mr. and Mrs. Emanuel Shemin ■ Mr. R. P. Simmons ■ Mrs. P.M. Spreuer ■ Dr. and Mrs. George E. Staehle ■ Mr. Harold Stahly ■ Mr. and Mrs. John B. Strasenburgh ■ Mr. Joe Viar ■ Ms. Angela M. Vikesland ■ Mr. and Mrs. Robert D. Volk ■ Mr. and Mrs. Dennis White ■ Mr. and Mrs. Harvey C. White ■ Mr. and Mrs. John W. White, Sr.

HONORARY PRESIDENT'S COUNCIL Mrs. Enid Haupt ■ Mrs. John A. Lutz ■ Mr. and Mrs. Bruce Miller

To access the members-only portion of the AHS website at www.ahs.org, the username is **ahs** and the password is **sprout**.

The American GARDENER

EDITOR

David J. Ellis

MANAGING EDITOR AND ART DIRECTOR

Mary Yee

ASSOCIATE EDITOR

Viveka Neveln

EDITORIAL INTERN

John Fiege

CONTRIBUTING EDITOR

Rita Pelczar

CONTRIBUTING WRITER

Carole Ottesen

EDITORIAL ADVISORY BOARD

CHAIR

Richard E. Bir

Brevard, North Carolina

Allan M. Armitage

Athens, Georgia

Nina L. Bassuk

Ithaca, New York

Steve Bender

Birmingham, Alabama

John E. Bryan

San Francisco, California

John L. Creech

Columbus, North Carolina

Panayoti Kelaidis

Denver, Colorado

Richard W. Lighty

Kennett Square, Pennsylvania

Elvin McDonald

West Des Moines, Iowa

CONTACT US

The American Gardener

7931 East Boulevard Drive

Alexandria, VA 22308

(703) 768-5700

EDITORIAL

E-MAIL: editor@ahs.org

ADVERTISING & CORPORATE PARTNERSHIPS

E-MAIL: advertising@ahs.org

The American Gardener (ISSN 1087-9978) is published bimonthly (January/February, March/April, May/June, July/August, September/October, November/December) by the American Horticultural Society, 7931 East Boulevard Drive, Alexandria, VA 22308-1300, (703) 768-5700. Membership in the Society includes a subscription to *The American Gardener*. Annual dues are \$35; two years, \$60. International dues are \$50. \$10 of annual dues goes toward magazine subscription. Periodicals postage paid at Alexandria, Virginia, and at additional mailing offices. Postmaster: Please send Form 3579 to *The American Gardener*, 7931 East Boulevard Drive, Alexandria, VA 22308-1300.

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

Copyright ©2008 by the American Horticultural Society.

♻️ Printed in the U.S.A. on recycled paper.

NOTES FROM RIVER FARM

ONE OF THE MOST POPULAR destinations at River Farm is the children's garden. Complete with its boat garden, maze, and imaginary bat cave, this garden has delighted children and adults alike for 15 years. As gardens go, it is not fancy or elaborate, but nonetheless it has had a tremendous and positive impact on the lives of thousands of young people.

Across America, parents, teachers, and informal educators are discovering the important role that gardens and outdoor experiences can play in fostering positive environmental values and kindling a sense of wonder and curiosity in children. Teachers are using hands-on experiences in gardens to supplement traditional classroom studies. Parents are appreciating the opportunity for physical activity that gardens provide. Youth leaders and public garden educators are promoting the benefits of vegetable gardening to encourage healthy food choices and social responsibility.

The American Horticultural Society is proud to have been a leader in promoting children and youth gardening since 1993 when the first National Children and Youth Garden Symposium was held in Chevy Chase, Maryland. This summer, hundreds of educators will once again converge for three days of learning, sharing, and inspiration on the University of Delaware's campus in Newark. We are tremendously honored to have four outstanding institutions in the greater Philadelphia area hosting this year's symposium—Camden Children's Garden, Longwood Gardens, Pennsylvania Horticultural Society, and Winterthur Museum & Country Estate. Look for a preview of the symposium on page 12.

But the National Children & Youth Garden Symposium is only one of several wonderful AHS programs on the horizon. In early June, we will gather at River Farm for our Great American Gardeners Awards ceremony. At this annual event, we recognize individuals and organizations that are making outstanding contributions to American horticulture and their communities. Later in the month, the AHS travels to Denver, Colorado, where "Gardening with Native Plants" will be the topic for our second AHS Garden School of the year (see page 7 for more details).

We hope that you will plan to join us at one of these upcoming events. In the meantime, we invite you to spend some time exploring the pages of this issue of *The American Gardener* where you will discover how to grow your own tree fruit and integrate vines into your garden. You'll also learn about intriguing impatiens and hardy low-maintenance geraniums that will provide a long season of color. You'll even meet a lily grower and collector in Idaho whose passion for this genus knows no bounds.

As spring unfolds at River Farm and across the country, we encourage you to take advantage of this special time of year to introduce someone new to gardening. They will surely thank you for the richness and satisfaction that the pursuit of gardening will bring to their lives.

Happy gardening!

Susie Usrey, Chair, AHS Board of Directors
Tom Underwood, Executive Director



MEMBERS' FORUM

SOURCES FOR SUN COLEUS

Where can I find seeds for the sun-tolerant coleus selections described in the excerpt of Ray Rogers's coleus book published in the January/February issue?

*Steve Aegerter
Denver, Colorado*

Editor's response: The sun-tolerant coleus cultivars are cutting-propagated to retain their leaf patterning, so you won't be able to grow them from seed. Ask for them by name at your local garden center or search for sources online. A good place to start is the Coleus Finder (www.coleusfinder.org).

CONIFERS GET THEIR DUE

I was particularly pleased with the profile of Marvin Snyder's conifer collection ("Conifer Heaven in the Heartland," January/February 2008). As a long-time

American Conifer Society member and past Northeast Region president, it is gratifying to see conifers take center stage.

Marvin points out that miniature conifers grow less than one inch per year. I might also add that "dwarf" conifers grow a bit faster at one to six inches a year. Both sizes are suitable for the small garden and their beauty is revealed in the winter when all else is dormant.

*Walter Cullerton
Pineville, Pennsylvania*

NEED HELP LOCATING PLANTS

Is there an American version of the *RHS Plant Finder* that is geared to helping home gardeners locate plant sources?

*Hank Vogt
Tallahassee, Florida*

Editor's response: The closest thing to the Plant Finder in North America is *The*

Plant Locator: Western Edition, compiled by Susan Hill and Susan Narizny (Timber Press, 2004), which focuses on western nursery sources. An excellent resource, offered through the Andersen Horticultural Library at the University of Minnesota Landscape Arboretum, is an online database of nursery sources for plants called Plant Information Online (<https://plantinfo.umn.edu/arboretum/default.asp>.) Another online resource is www.plantscout.com, part of the Dave's Garden website.

CORRECTION

Mavis Augustine Torke rendered the illustrations on pages 37 and 39 of the composting article in the March/April issue. 🌿

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

Join us at The Homestead for a Spectacular
10th Annual "In The Garden Weekend"
August 22 - 24, 2008



In the Garden Package

Starting at \$479* (per person for two nights)
Taxes and 15% daily resort charge not included.

Package Includes: Luxurious Accommodations, Breakfast & Dinner Daily, Friday Welcome Reception, Saturday Luncheon, Fascinating Lectures & Demonstrations by Top Gardening Professionals, Wine Tasting & Membership to the American Horticultural Society.

Call us at 800.838.1766 to book your package now!

*Rate is per room, per night, based on double occupancy. Two night minimum stay required.
Valid August 22-24, 2008. Based on availability and some restrictions may apply.



Welcoming Guests Back Since 1766

Chapel Valley
Landscape Company



For 40 years, distinctive, award-winning landscapes have been the hallmark of Chapel Valley Landscape Company's commitment to creativity, quality and service. We design, install and maintain landscapes that make a positive first impression. Call us today to discuss your plans using our comprehensive landscape services.



Maryland 410.442.2310 | Virginia 703.406.0802 | Washington, D.C. 301.924.5400
www.chapelvalley.com

Green Garage at U.S. Botanic Garden's Sustainability Exhibition

AS PART OF the United States Botanic Garden's (USBG) summer exhibition, "One Planet—Ours! Sustainability for the 22nd Century," the American Horticultural Society will have its award-winning Green Garage® on display on the National Mall from May 24 to October 13. In keeping with the exhibition's theme, the AHS's Green Garage display will feature a full-scale model of a home garage filled with tools and supplies for environmentally responsible gardening. The garage will be surrounded by colorful containers provided by **Merrifield Garden Center** in Merrifield, Virginia, and other plants from **Monrovia** nursery based in Azusa, California. It will be topped with a water-conserving green roof created by the **Furbish Company** in Baltimore, Maryland.



The Green Garage display will be part of an exhibition in Washington, D.C., this summer.

"The Green Garage, which has previously appeared at the Philadelphia Flower Show and the Northwest Flower & Garden Show in Seattle, resonates with people because it provides an accessible way to learn about sustainable gardening options," says AHS Executive Director **Tom Underwood**. "This display demonstrates that it is possible to have not only a beautiful garden, but an earth-friendly one as well."

June 21, July 19, and August 16 will be Family Day at the USBG exhibition with special events for children. Merrifield will sponsor educational activities at the Green Garage, along with the AHS's Education Sponsor **OXO Good Grips**. For more information, visit www.ahs.org or call (703) 768-5700.

2008 AHS Garden Schools Celebrate Trees and Native Plants

MORE THAN 40 gardeners and professionals attended the AHS's first 2008 Garden School, "Trees of the American Landscape," on April 10 and 11 at George Washington's Mount Vernon Estate & Gardens in Alexandria, Virginia. **Dean Norton**, director of horticulture at Mount Vernon, served as guest horticulturist. "Trees are a different beast than other woody plants," he stated in his opening address, emphasizing that "just like giving your children a good upbringing and education, trees require special attention, especially when young."

Other noted tree experts spoke about the many benefits trees in the landscape provide, important how-tos of tree care such as proper mulching and pruning, the effects climate change may have on trees, new tree options resulting from plant exploration, and the difference community involvement can make in preserving and protecting trees. Participants also toured Mount Vernon to view its historic trees and attended a field study at the American Horticultural Society's River Farm headquarters that included presentations on evaluating root health, soil biology, tree integrity, and juvenile pruning.

The next Garden School, "Gardening with Native Plants," will take place at the Denver Botanic Gardens (DBG) in Colorado on June 19 and 20, timed to coincide with the state's peak wildflower bloom. **Scott Calhoun**, an award-winning garden writer and garden designer, will serve as guest horticulturist for this event that focuses on plants native to the American West and Southwest.

Other speakers are DBG's own **Panayoti Kelaidis**, a noted plant explorer and rock garden expert; **John Greenlee**, a California nurseryman and ornamental grass expert; **Janet Rademacher** of Mountain States Wholesale Nursery in Arizona, which specializes in desert-adapted plants for the Southwest; **Robert Nold**, author of acclaimed books on native plants; and **David Salman** of High Country Gardens, which specializes in drought tolerant plants for western gardens.

Participants also will tour the 23-acre Denver Botanic Gardens, which features one of the finest collections of Rocky Mountain and Great Plains native plants in cultivation.

For more information, call (703) 768-5700 ext. 137 or visit www.ahs.org and click on "Events."



Dean Norton, director of horticulture at Mount Vernon, leads a tour of the historic property's trees for Garden School participants.



AHS NATIONAL EVENTS AND PROGRAMS

2008 CALENDAR

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

- MAY 18. **River Farm Family Picnic.** George Washington's River Farm, Alexandria, Virginia.
- MAY 24–OCT. 13. **Green Garage® Exhibit at United States Botanic Garden.** Washington, D.C.
- MAY 27–30. **AHS President's Council Trip.** Washington, D.C.
- JUNE 6. **Great American Gardeners Awards Ceremony and Banquet.** George Washington's River Farm, Alexandria, Virginia.
- JUNE 19 & 20. **AHS Garden School: Gardening with Native Plants.** Denver Botanic Gardens, Denver, Colorado.



Garden School at Denver Botanic Gardens, June 19 & 20

COURTESY OF DENVER BOTANIC GARDEN

- JULY 8. **Webinar: Designing with Color and Texture For Visionary Effects** by Tracy DiSabato-Aust.
- JULY 24–26. **National Children & Youth Garden Symposium: Growing Fertile Minds and Communities.** Greater Philadelphia Area.
- AUG. 22–24. **The Homestead's 10th Annual "In The Garden With the Experts" Symposium.** The Homestead, Hot Springs, Virginia.
- SEPT. 20. **AHS Annual Gala.** George Washington's River Farm, Alexandria, Virginia.
- OCT. 16. **Webinar: Design and Plants for Woodland Gardens** by C. Colston Burrell.
- OCT. 23. **Dr. H. Marc Cathey Day.** George Washington's River Farm, Alexandria, Virginia.
- DEC. 1–23. **Holiday Trees Display.** George Washington's River Farm, Alexandria, Virginia.
- DEC. 11. **Annual River Farm Holiday Reception.** George Washington's River Farm, Alexandria, Virginia.

Flower Shows Receive AHS Environmental Award

THIS YEAR, exhibits at 27 flower shows around the country received the AHS Environmental Award, given in recognition of displays that best demonstrate the relationship between horticulture and the environment at a flower show.

At the Philadelphia Flower Show from March 2 to 9, the award recipient was the **Philadelphia Water Department** for their display "Jazz Up Your Roof," a title that complemented the show's



"Jazz Up Your Roof" received the AHS Environmental Award at the Philadelphia Flower Show in early March.

2008 theme of New Orleans. This display featured a roof planted with drought-resistant plants such as sedums, delospermas, and various grasses. Besides diminishing runoff into streams and providing insulation, these roofs also provide possibilities for bringing gardening to new heights.

The winner at the San Francisco Flower & Garden Show in California from March 12 to 16 was "Living on the Edge," which was collaboratively designed and built by **Greenworks**,



"Living on the Edge," a display by three California landscaping companies, was recognized at the San Francisco Flower & Garden Show.

TOP: JOHN FIEGE. BOTTOM: COURTESY OF DAVIS DALBOK

Living Green, and **Rock & Rose Landscapes**—all California-based companies. Sponsored by *Garden Design* magazine, the display featured a multi-level terrace with succulents and other drought-tolerant plants. “We put all of the horticultural knowledge and integrity that we could muster into creating a garden that was not only beautiful, but one that respected our place in nature,” says Rock & Rose Landscapes General Manager **Mike Boss**. “This award speaks eloquently to our intent, and we display it proudly.”

Other winners of the 2008 AHS Environmental Award will be posted on the AHS website (www.ahs.org) when they become available.

Online Seminars for AHS Members

WILLIAM CULLINA, director of horticultural research for the New England Wild Flower Society and garden book author, presented this year’s first AHS members only online seminar—known as a webinar—on March 20. About 200 AHS members from 38 states and two Canadian provinces were treated to a fascinating presentation on native ferns, moss, and grasses, which is the subject of Cullina’s latest book. Afterwards he took questions from the enthusiastic audience on everything from propagation to the ethics of planting cultivars of native species.

“I love the diversity of topics,” says AHS member **Becky Scarboro**, who attended Cullina’s webinar as well as the first two AHS webinars given last year by University of Georgia hor-

ticulture professor and author **Allan Armitage**. She also appreciates the opportunity to “hear from horticultural experts without having to leave home.”

Dan Hinkley, plantsman and former owner of Heronswood Nursery in Kingston, Washington, presented the next webinar



Tracy DiSabato-Aust

on May 8 on woody plants for American gardens. He discussed many of his favorites, “both well known though too infrequently seen, as well as some new introductions that have enormous potential in the landscape.”

“Designing with Color and Texture For Visionary Effects” will be the topic of the next webinar on July 8, presented by landscape designer and author **Tracy DiSabato-Aust**. Space is limited and registration will open on June 10 through the members-only area of the AHS website.

On October 16, award-winning author and plantsman **C. Colston Burrell** will present “Design and Plants for Woodland Gardens.”

This webinar series is exclusively offered as an AHS member benefit. Visit the members-only area of the AHS website for more webinar information or to sign up to receive e-mailed updates.



C. Colston Burrell

Explore noteworthy landscapes while learning about native plants of the American West and Southwest during the peak of wildflower bloom.

AHS GARDEN SCHOOL

Gardening with Native Plants

JUNE 19 & 20, 2008

DENVER BOTANIC GARDENS
DENVER, COLORADO

Featuring Guest Horticulturist **Scott Calhoun**, garden designer and author and a special evening with **Robert Nold** author of *High and Dry: Gardening with Cold-Hardy Dryland Plants* along with four other noted native plant experts.

Visit www.ahs.org or call (703) 768-5700 ext. 137 for more information or to register.

Scott Calhoun

New Lecture Series at River Farm

THE AHS IS pleased to offer a new program: Saturdays at River Farm. On the third Saturday of each month from May to September at 10:30 a.m., visitors are invited to the AHS's headquarters in Alexandria, Virginia, to attend a presentation by experts on a variety of educational topics.

Save the Date: AHS Gala in September

On Saturday, September 20, 2008, the AHS will hold its annual fundraising gala, "America's Garden Celebration: Local Harvest, Bountiful Earth," at its River Farm headquarters in Alexandria, Virginia. "This fun and festive evening will emphasize sustainable gardening and eating, reflected in a menu that will be largely comprised of local ingredients," says **Sarah Christie**, AHS events coordinator. All proceeds from the gala support the stewardship of River Farm and the Society's educational programs. Look for more information soon.



Kicking off this series on May 17, **Glenda Booth**, president of Friends of Dyke Marsh, will discuss the preservation and restoration of one of the few freshwater tidal marshes still remaining along the Potomac River. She will focus on the importance of Dyke Marsh to the area's ecosystem and the wildlife that resides in this wetland located just a few miles north of River Farm.

Next, on June 21 in honor of the second annual National Pollinator Week (June 22–28) local bee expert **Carl Johnson** will talk about local bee populations and what they can teach us about bees around the world. On July 19, environmental education expert **Joe Keyser** will tackle water conservation and water retention strategies such as using rain barrels and planting rain gardens.

For a full lecture schedule, visit www.ahs.org and click on "River Farm." Pre-registration is required and tickets are \$12 for AHS members or \$15 for non-members. Space is limited so reserve your seat by calling (703) 768-5700.

In Memoriam: Floral Designer Frances Jones Poetker

FRANCES JONES POETKER, floral designer, author, and lecturer, died on March 4 at the age of 95, leaving behind a rich legacy. In her honor, since 1988 the AHS has presented an eponymous award given to recognize "significant contributions to floral design in publications, on the platform, and to the public," as part of its Great American Gardeners Awards program.

Gifts of Note

In addition to vital support through membership dues, the American Horticultural Society relies on grants, bequests, and other gifts to support its programs. We would like to thank the following donors for gifts received between February 1, 2008 and March 31, 2008.

Mrs. Sallie S. Barnes
Mr. and Mrs. Robert S. Carbonara
Mr. and Mrs. Elias Cassis
Mr. and Mrs. Edward N. Dane
Mrs. Joan Goltzman
Mr. and Mrs. Douglas Gross
Mr. Edwin L. Heminger
Mr. Paul A. and Ms. Nancy B. Hess
Mr. and Mrs. Joseph Holliday
Mr. and Mrs. Robert E. Kulp, Jr.
Ms. Bridget Maginn
Ms. Mary Malouin
Ms. Nan T. McEvoy
Mr. and Mrs. Egon Molbak
Mr. William C. Nill
Mr. and Mrs. Charles Root
Mr. and Mrs. Emanuel Shemin
Mr. and Mrs. John B. Strassenburgh
Mr. Howard McK. Tucker and Ms. Megan Evans
Estate of Mr. Dudley G. Watkins

In memory of Hedy Campbell
Ms. Lenore Koch

In memory of Mr. and Mrs. Malcolm Matheson, Jr.
Ms. Beverly B. Erdreich
Ms. Lousie P. Ten Eych
Mr. and Mrs. John O. Hedden
Mrs. Elizabeth Dunn Hooff

In memory of Janice Pfaff
Ms. Rachel Gardenmayer

In memory of Dorothy H. Webrwein
Ms. Mary Werny

If you would like to support the American Horticultural Society as part of your estate planning, as a tribute to a loved one, or as part of your annual commitment to charitable giving, please contact Laura Alexander, (703) 768-5700 ext. 127 or lalexander@ahs.org.

After earning degrees in botany and plant ecology in the 1930s, Poetker owned and operated her family business, Jones The Florist in Cincinnati, Ohio, for more than 40 years. Additionally, she was the spokesperson of the Florists' Transworld Delivery (FTD) for 14 years and was the first woman to sit on the board of the Society of American Florists (SAF). She wrote a column, "Fun with Flowers," that was syndicated by 68 major newspapers, and co-wrote *Wild Wealth*, an award-winning book on gardening with wildflowers that was published in 1971 by the Bobbs-Merrill Company, Inc. She also served on the AHS Board for nine years.

Among her numerous accolades, Poetker was inducted into SAF's Floriculture Hall of Fame in 1967 and received its Silvia Award for floral excellence in 1975.

Summer Exhibit of Local Artists

UNTIL JUNE 28, "Rhapsody In Bloom," a collection of watercolors and fine art photography by artists **Kathleen** and **Tom Ball**, will be on display at the AHS's River Farm headquarters in Alexandria, Virginia. The show features more than 50 works of landscape and close-up images of the mid-Atlantic region's natural beauty.

Upcoming art exhibits at River Farm will include silk floral paintings by internationally acclaimed botanical artist **Jamie Kirkell** from August 29 to January 4.

News written by Associate Editor Viveka Neveln and Editorial Intern John Fiege.

Spring Arrives at River Farm



Tulips and pansies bloom in River Farm's annual border, welcoming spring with a palette of fresh, soothing colors.



PHOTO BY ANNE C. ALLEN FROM 2008 GARDENER'S CALENDAR

2008 "Gardener's" Calendar

There are 13 prize-winning colors taken by TGOA/MGCA members, including AHS members who are also members of TGOA/MGCA

\$6.95 (\$59.00 for 10) Postpaid

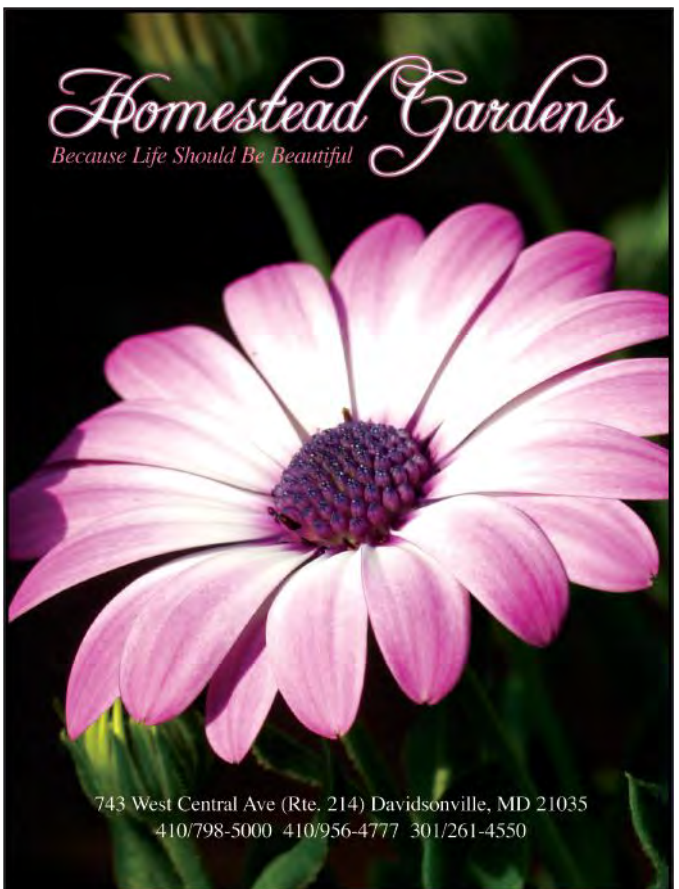
To order: call 515-278-0295 or e-mail mgcamb@dwx.com

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

Box 241, Johnston, Iowa 50121-0241

(515) 278-0295

www.tgoa-mgca.org



743 West Central Ave (Rte. 214) Davidsonville, MD 21035
410/798-5000 410/956-4777 301/261-4550

2008 AHS NATIONAL CHILDREN & YOUTH GARDEN SYMPOSIUM

Youth Garden Movement Finds Fertile Ground in Philadelphia

by Denise Cowie

IN 1993, **Mike Devlin** and his wife, **Valerie Frick**—both avid community gardeners in Camden, New Jersey—attended the first national symposium on children’s gardening convened by the American Horticultural Society (AHS). The symposium, known then as the Youth Garden Symposium, turned out to be a life-changing experience for them. “We looked at each other and said ‘Wow!’,” recalls Devlin, a lawyer who at

Vibrant new children’s gardens and gardening programs in the Greater Philadelphia area offer inspiration to attendees of the upcoming AHS National Children & Youth Garden Symposium.

the time was on the Camden City Council as well as president of the Camden City Garden Club. “We were inspired by the conference, and by Jane Taylor’s keynote speech about her Michigan 4-H Children’s Garden in East Lansing.”

The club had already introduced the idea of gardening into Camden City schools with a Grow Lab program. But Devlin and Frick returned from the symposium brimming with ideas for creating a children’s garden as an urban oasis for the youth of Camden, a city often described as one of the poorest and most dangerous in the country.

It took more than five years of planning, fundraising, and drum-beating by a lot of people, but in 1999 the four-and-a-half-acre Camden Children’s Garden opened on the waterfront across the Delaware River from Philadelphia. Devlin became the garden’s executive director. Frick, a teacher, designed its educational programs.

Since then, thousands of children have played in its themed gardens, and



Among the attractions at the Camden Children’s Garden is the Dinosaur Garden, top, and the Butterfly House, above.

hundreds of Camden kids who didn’t know where tomatoes and lettuce came from have learned that they can actually grow their own nutritious food.

Now the garden has an opportunity to be an inspiration to others.

GATHERING IN PHILADELPHIA

From July 24 to 26, the Camden Children’s Garden will be one of four local hosts welcoming hundreds of educators, garden designers, community leaders, and children’s advocates to the AHS’s 16th annual National Children & Youth Garden Symposium, “Growing Fertile Minds and Communities,” which will be held in the Greater Philadelphia area.

The symposium’s mission is to promote programs for children and youth that involve plants, gardening, and na-



Longwood Gardens will be among several destinations during the symposium.

ture, and to share ideas about how to engage young people's interest and imagination. "The caliber of this year's speakers is exceptional," says **Stephanie Jutila**, manager of the AHS's educational programs. "The symposium will feature 36 interactive educational sessions representing presenters and youth gardening initiatives in 23 states and three foreign countries."

In addition to the educational sessions, there will be two keynote presentations. The opening one will be given by **Jane Kirkland**, who has become identified with the get-in-touch-with-nature movement through her prize-winning *Take a Walk*® books for children and their families. Award-winning singer/songwriter **Erica Wheeler** will give the other keynote that will use song to illustrate the emotional connection people have with their environment.

Most of the symposium will take place at the University of Delaware campus, but field trips will introduce participants to a broad range of regional garden programs for children. Among these will be visits to host sites Longwood Gardens in Kennett Square, Pennsylvania; Winterthur Museum & Country Estate in nearby northern Delaware; and the previously mentioned Camden Children's Garden in New Jersey. Also sharing its

expertise as a host will be the Pennsylvania Horticultural Society (PHS) in Philadelphia, whose innovative projects such as Green City Youth and Kids Grow Expo connect young people to the natural environment through gardening.

THE ENCHANTED WOODS AT WINTERTHUR

"The opportunity for children to explore, to have adventures through the garden, is very important," says **Chris Strand**, director of the garden and estate at Winterthur. "These create early experiences that we remember as we grow up, and become part of the way we look at the natural world."



The Faerie Cottage in the Enchanted Woods at Winterthur Museum & Country Estate is scaled for children's enjoyment.

Symposium Registration

Online registration for the AHS 2008 National Children & Youth Garden Symposium is available by visiting the AHS website (www.ahs.org). Attendees can also register by phone at (703) 768-5700, ext. 132.

Living Sculpture Workshop

Marcia Eames-Sheavly, a senior Extension associate at Cornell University in Ithaca, New York, and several of her colleagues will conduct a pre-symposium workshop that features an innovative combination of art and horticulture. On July 23 at Longwood Gardens, participants can learn how to create living sculpture in the garden using sod.

Eames-Sheavly defines living sculpture as "sculpture created with living, growing, or recently harvested plants." As part of Cornell's Garden Based Learning Program, Eames-Sheavly has engaged students and entire communities in sod sculpture projects, including a sod sofa created for a children's village and a sod cow. The shape of the sculpture is molded in soil, which is then covered with swathes of living turf and kept alive by appropriate applications of water and nutrients.

Those interested in participating in the workshop must sign up when registering for the Symposium (see registration information above). —D.C.

Engaging imaginations is easy in Winterthur's children's garden called the Enchanted Woods™. Kids in the six-to-seven age range "are open to that sense of wonder, and it can grab their attention," Strand says of the Enchanted Woods™, a three-acre fairy-themed outdoor garden located under a canopy of mature oaks.

The garden was designed by **W. Gary Smith**, who will participate in a panel on children's garden design at the symposium. At Winterthur, he used real stone, wood, and other materials from the historic property to build a Faerie Cottage, a Tulip Tree House, a Birds' Nest, and other attractions in a woodland community scaled for children. Recently, when a large tree fell on the grounds, Smith and Strand decided to salvage it, trim it

down, and re-erect it in the children's garden—but upside down, so that young visitors could experience what the branches of a tree are like.

“I think one reason garden activities can be successful is that they can be so very different,” says Strand. He believes that, when you garden with children, it's important to let them have responsibility and do the work. “Don't do it all for them,” he says, “and don't over-explain. Let their imaginations color in the details, so they have the latitude to be free and explore. Learning comes out of first-hand experiences.”

LONGWOOD'S INDOOR CHILDREN'S GARDEN

Last fall, Longwood unveiled a new Indoor Children's Garden that is a child-scale world of mazes, grottoes, towers, and numerous water features—water bubbles, ripples, spits, or drips from more than 100 nozzles throughout the 4,000-square-foot garden.

“We always knew kids loved water, and I was really pleased with how many different ways we learned to manipulate water playfully,” says **Tres Fromme**, the design specialist on the team that created the children's garden along one side of Longwood's East Conservatory.

Fromme, who now works for Mesa Design Group in Dallas, Texas, will take part in two presentations at the symposium. He says he was inspired by the gardens of Italy, and that classical influence is evident not only in the fountains but in the sculpted birds, turtles, fish, and other creatures that populate the space.

“There are many layers of detail, creative details,” says Fromme. “Interesting spaces for children to explore—under and over, up stairs, through tunnels—and they find the details, they discover things.”

Of course there are plants in the children's garden, too: nearly 50 different varieties chosen for their texture, color, and fragrance, plus disease and pest resistance.

“This is strictly an experiential children's garden,” says **Sharon Loving**, Longwood's horticulture department head, who was co-leader of the project that was 10 years in the making. “Many children in an urban environment may never have the chance to walk in the woods and experience nature. Children's gardens offer an opportunity for these children to be in a setting where they are surrounded not only by plants but also by beauty. We see this as



Above: At Longwood Gardens, children can enjoy splashing in the indoor mosaic fountain. **Top:** The Pennsylvania Horticultural Society's Philadelphia Green is a program that encourages urban greening projects at the community and school level.

an opportunity to ‘hook’ their interest in the green world around them.”

PENNSYLVANIA HORTICULTURAL SOCIETY

The 181-year-old society, based in Philadelphia, has long been involved with children's programs, including Kids Grow Expo, a one-day flower show in which 500 to 600 children compete. Among the society's current projects are the innovative Green City Youth and Green City Teachers programs.

Now in its third year, Green City Youth reaches out to urban youth, through city schools, to teach them that

they can have a positive impact on their environment and their neighborhoods.

“We wanted to connect the children with neighborhood and community leaders who had made a change for the better, so they could see that they could have an impact,” says **Eva Ray**, the director of education for PHS.

Under the leadership of **Larry Stier**, a former teacher turned PHS educator, the kids take photographs of their environment, then use those photos to talk about what “green” means to them and how it makes a difference. They practice “community greening through the lens of service learning,” says Stier. The children choose projects to work on—container plantings for their block, for instance, or planting trees or doing ornamental plantings in their schoolyard.

Stier also takes the students to a local wildlife preserve, to show them what their neighborhoods once looked like. “For many of them, this is their first walk in this kind of environment,” he says.

After the youth program was flourishing, the Burpee Foundation gave PHS a grant to establish Green City Teachers, a program run by community educator **Sally McCabe** that shows teachers how to introduce horticulture and environmental topics into the curriculum.

Stier and McCabe will make a joint presentation about PHS children's programs during the symposium.

A former garden columnist for the Philadelphia Inquirer, Denise Cowie writes for the Greater Philadelphia Gardens website.

Growing Fertile Minds and Communities

The American Horticultural Society's 16th Annual

National Children & Youth Garden Symposium

July 24–26, 2008

Greater Philadelphia Area



Hosted by:

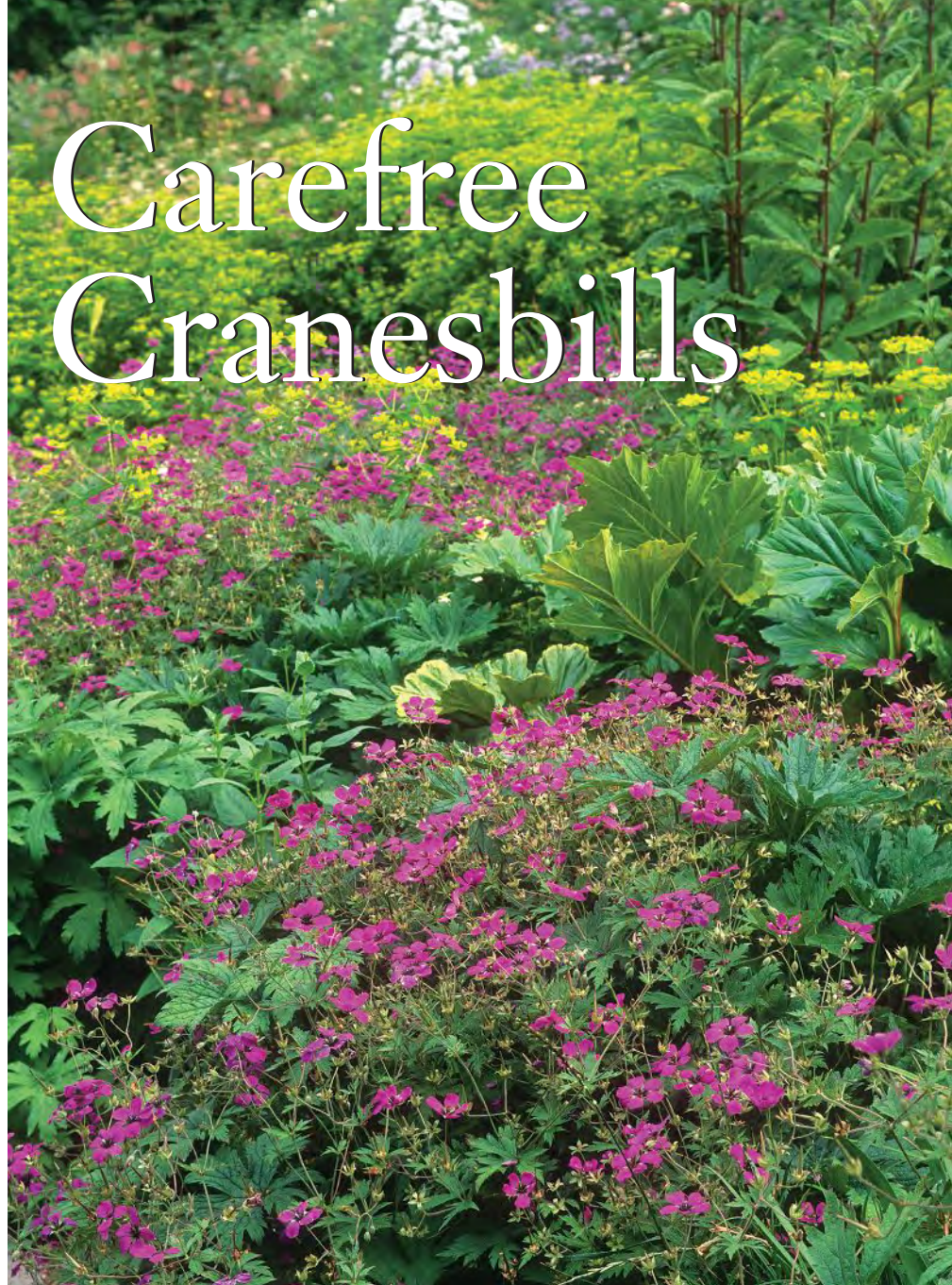
Camden Children's Garden

Longwood Gardens

Pennsylvania Horticultural Society

Winterthur Museum & Country Estate

For more information or to be added to the mailing list,
visit www.ahs.org or call 703-768-5700 x 132.



Carefree Cranesbills

With their long blooming season and easy culture, hardy geraniums are tough to beat.

BY RICHARD HAWKE

AN EXPLOSION OF new cranesbill varieties has hit the market over the past 10 years. This isn't surprising, given the attributes these stalwart perennials display, including a lengthy blooming period, attractive foliage, and a robust and adaptable nature, not to mention their propensity to hybridize in cultivation. And today's selec-

tions defy the Victorian complaint that cranesbills were too wild or coarse for the garden; many new varieties boast improved growth habits, an even more floriferous nature, and a tantalizing array of flower and foliage colors.

Cranesbills or hardy geraniums, the common names that refer to approximately 300 species of the genus *Geranium*,

are widely distributed in temperate regions of the world. Although they share familial similarities, cranesbills are varied enough in their ornamental traits and cultural needs that even a small garden can feature several different selections without appearing to lack diversity.

Since 1997, I have grown and evaluated almost 150 different cranesbills at the

Top left: *Geranium sanguineum* 'Canon Miles' forms tidy 12-inch mounds. **Bottom left:** *G. cinereum* 'Lawrence Flatman' tolerates both full sun and part shade. **Right:** *G. psilostemon*, which grows to four feet wide and tall, has foliage that turns red and yellow in the fall.

TOP LEFT: RICHARD HAWKE; BOTTOM LEFT: LYNNE HARRISON; RIGHT: MARK TURNER



Rozanne's vivid blue flowers make a striking contrast with a yellow-leaved New Zealand flax.

Chicago Botanic Garden (USDA Hardiness Zone 5b, AHS Heat Zone 5). We have identified the best for northern gardens based on their superior ornamental qualities, cultural adaptability, pest-free nature, and winter hardiness. Many of these varieties thrive in other regions as well. (For varieties recommended for other parts of the country, see "Regional Favorites," page 19.)

GETTING TO KNOW CRANESBILLS

Cranesbills flaunt their flowers in shades of blue, purple, magenta, pink, and white; darker or contrasting veins commonly streak the petals, an adaptation that helps attract pollinating insects. Acting as a landing strip of sorts, the lines guide insects to the nectaries located at the base of each petal. Each saucer-shaped blossom has five petals, often notched at the tip, and some sport a white or dark eye. Flowers range from one-half to two inches wide, and, de-

pending on the selection, bloom over a period of about four weeks to five months, from late spring into autumn. Those with especially long bloom periods include some of the newest selections such as 'Jolly Bee', 'Nimbus', 'Orion', Rozanne, and 'Tiny Monster'.

Both the botanical and common names arise from the resemblance of the fruit to the beak or bill of a crane; *Geranium* derives from *geranos*—"crane" in Greek. The distinctive fruits burst open upon ripening, dispersing seeds up to several feet away. For some species, including *G. xoxonianum* and *G. pratense*, this may result in an abundance of seedlings and a tendency to be weedy. Cranepsbills are notoriously promiscuous and will hybridize with other cranesbills nearby in the garden.

Cranepsbill leaves are palmately lobed and often deeply dissected. Shades of green to gray-green predominate but plum-purple and golden green selections exist; other selections are variegated,

blotched, or banded with cream or purple. In autumn, the foliage of many cranesbills turns purple, red, orange, or yellow. Some species have aromatic foliage, but depending on your sense of smell, the fragrance may be described as minty, medicinal, or malodorous.

Cranepsbills offer a diversity of habits too—from mounding to trailing, clump-forming to spreading, from a few inches to several feet tall. Because they blend and weave comfortably with other plants, cranesbills make good garden companions. The following selections are a sampling of the many cranesbills we found to be exceptional in our trials.

SUNNY SELECTIONS

A new generation of blue-flowered cranesbills is taking the gardening world by storm, with award-winning Rozanne ('Gerwat', Zones 5–8, 12–2) and lookalike 'Jolly Bee' (Zones 4–8, 8–1) among the best. Most blue-flowered cranesbills contain a hint of pink, but these selections come pretty close to true blue. In side-by-side trials their differences are negligible; both feature large two-inch blue flowers with white centers and purple veins, from early June to frost. Their vigorous sprawling habits, 18 inches tall and 48 inches wide, are similar too.

For many years, 'Johnson's Blue' (Zones 4–8, 8–1) was the most popular blue-flowered cranesbill. Unfortunately, it has the bad habit of toppling over during flowering, which diminishes the floral display. 'Johnson's Blue' has been superseded by 'Brookside' (Zones 5–8, 8–1), a vigor-



The selection Blue Sunrise features chartreuse foliage that fades to yellow.

ous selection that grows 24 inches tall with a 36-inch spread. It grows more upright in full sun, producing deep blue flowers, each with a small white eye and reddish veins, from late May into mid-August in northern Illinois.

Blue Sunrise ('Blogold', Zones 5–8, 8–5) is a colorful selection that features dissected golden chartreuse leaves in spring. This color fades to yellow-green just as the lavender-blue flowers open in late June and continue to late July. The combination of yellow and blue is especially brilliant in a sunny site, but Blue Sunrise grows admirably in part shade. This well-mannered cranesbill reaches 24 inches tall and 36 inches wide.

Long-blooming 'Orion' (Zones 5–8, 8–5) displays copious deep purple-blue blossoms from late spring into late summer. 'Orion' has a robust, spreading habit, 24 inches tall and 30 inches wide at peak bloom in mid-June, sprawling to twice that width before the last flowers fade. Although 'Orion' is a seedling of 'Brookside', it has more in common with 'Nimbus' (Zones 5–8, 8–5), another notably floriferous cranesbill. 'Nimbus' is also long-blooming and, like 'Orion', its purple-blue flowers become paler in hot sunny gardens. 'Nimbus' is a vigorous plant, reaching 24 inches tall and 36 inches wide in sun and a bit taller in part shade.

When asked to recommend perennials for a garden, my first response is almost always bigroot cranesbill (*Geranium macrorrhizum*, Zones 4–8, 8–1). It is a reliable, versatile plant for shade or sun, with handsome green leaves and a refined habit, up to 18 inches tall and wide-spreading. Abundant magenta-pink to white flowers with colorful inflated calyces appear in May and June. Its aromatic leaves take on red, orange, and burgundy tones in fall and may be semi-evergreen in mild winters. Bigroot cranesbill is drought-tolerant and, unlike many cranesbills, remains tidy and healthy without deadheading or shearing. 'Czakov' has flowers of the deepest magenta on stems to 12 inches tall. 'Ingwersen's Variety' is slightly larger with light pink flowers, while 'Variegatum' features rose-pink flowers and variegated leaves of cream, gray, and green on 18-inch stems. Ground-hugging 'Lohfelden' has very pale pink flowers and a shorter habit reminiscent of *G. ×cantabrigiense*.



Attractive, reliable, and adaptable bigroot cranesbill belongs in every garden.

Geranium ×cantabrigiense (Zones 5–8, 8–5) looks like a diminutive *G. macrorrhizum* (which is, in fact, one of its parents) and is every bit as tough. In May and June, magenta flowers are borne in profusion above the aromatic foliage, which changes to red, burgundy, or orange in fall. Its low, spreading habit—nine to 12 inches tall and

30 inches wide—makes it a perfect choice for a groundcover or edging plant. One of the very best cultivars is 'St. Ola', with white flowers on stems 10 inches tall and over three feet wide. Pale pink 'Biokovo' and dark pink 'Karmina' are probably the most commonly grown; 'Jans' is a newer cultivar with the palest pink flowers.



The spreading habit of *G. ×cantabrigiense* makes it a good choice for a groundcover.

My introduction to hardy geraniums was bloody cranesbill, *Geranium sanguineum* var. *striatum* (Zones 3–8, 8–1), a sturdy species indigenous to Europe, the Caucasus, and northern Turkey. Flowers are predominately red-purple to magenta with shades of pink and white possible, blooming from May into July with sporadic rebloom until frost. Bloody cranesbill varies in habit and size, from six to 24 inches tall and three feet wide, making it a good choice for a groundcover or the front of the border. The deeply lobed green leaves may take on red and purple tones in fall. I'm impressed by 'Rod Leeds', a particularly robust plant that grows to 24 inches tall and five feet wide with one-and-one-half-inch-wide magenta flowers and extra large, dark green leaves—about twice the size of typical leaves. Other top-notch cultivars include 'Canon Miles', a perfect 12-inch-tall mound with purple-pink flowers; light pink-flowered 'Connie

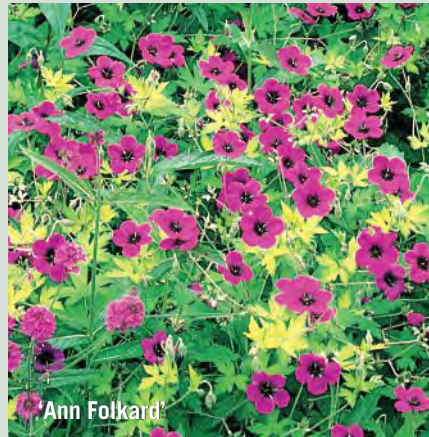
REGIONAL FAVORITES

To help identify selections that thrive in areas other than the upper Midwest, I asked knowledgeable cranesbill growers from several geographic regions to recommend the best varieties for their climate and soils.

Without exception, the experts cited Rozanne among their top picks due to its floriferousness, robust habit, long bloom period, sterile flowers, easy culture, and drought tolerance. In recognition of these merits, the Perennial Plant Association named Rozanne the 2008 Perennial Plant of the Year. It also received the prestigious Award of Garden Merit (AGM) from the Royal Horticultural Society.

In addition to this stellar cultivar, here are the experts' comments on other geraniums that thrive in their region.

Mid-Atlantic: For eastern gardens, Stephanie Cohen, author and lecturer from Pennsylvania, likes long-blooming 'Dilys' with magenta flowers on trailing stems that look best draped on a spring-flowering shrub. She values white-flowered *G. macrorrhizum* 'Spessart' for drought tolerance, easy culture, and suitability as a container plant. She loves the black-eyed magenta blossoms of *G. psilostemon* and 'Ann Folkard', which are quite happy in a good, moisture-retentive soil.



New England: In trials at the University of Vermont, horticulturist Leonard Perry identified a number of favorites, including *G. phaeum* 'Chocolate Chip', which has great dark purple flowers in late May; 'Patricia', with eye-catching bright pink flowers; and long-blooming *G. wlassovianum*, with nice red fall color, wide-spreading habit, and drought tolerance.



Southeast: Allen Bush of Jelitto Seeds in Louisville, Kentucky, says *G. wlassovianum* is a lovely, tough performer, which has proven tolerant of heat and humidity for 10 years. He is fond of violet-blue-flowered 'Spinners', especially in early spring, and appreciates its handsome, deeply divided leaves. He likes *G. macrorrhizum*, too, but specifically 'Ingwersen's Variety' as a groundcover for evenly moist soils in part shade. The leaves have a pleasant minty fragrance and turn shades of red in autumn.



Deep South: Jimmy Turner, director of research at Dallas Arboretum, is actively evaluating hardy geraniums. His picks so far for top-performers in the Texas heat include 'Tiny Monster', a hybrid (*G. san-*

guineum × *G. psilostemon*) that has grown well in full sun to light afternoon shade for the past eight years; *G. xcantabrigiense* and *G. macrorrhizum* are both good choices, but only in shade; and 'Jolly Bee', which, although it suffers in the heat, has persisted in his gardens.

California: Robin Parer, owner of Geraniaceae nursery near San Francisco, recommends a variety of cranesbills for western gardens. Creamy white-flowered *G. xcantabrigiense* 'St. Ola' is an evergreen groundcover in California and not as rampant as 'Biokovo'; 'Springtime', a selection of *G. phaeum*, grows well in hot summers in shady spots; its leaves are a beautiful mix of yellow, pink, and light green. Parer likes the large blue flowers of 'Orion' and values its heat tolerance in morning sun and adaptability to a wide variety of soils.

Pacific Northwest: Maurice Horn, co-owner of Joy Creek Nursery near Portland, Oregon, highlights cranesbills he's grown personally and that are also recommended by Great Plant Picks, a plant award program for the Pacific Northwest. Silvery-leaved 'Mavis Simpson' does exceptionally well, tolerating wet winters (as long as the soil drains) and warm, dry summers. Its rosy pink flowers are sterile and bloom for an extremely long time. He loves the robustness of 'Ann Folkard', which performs well as long as it has good drainage. The chartreuse to yellow foliage is lovely in contrast with the magenta flowers, he says. And he also likes *G. cinereum* 'Laurence Flatman', a very tough plant that tolerates full sun to part shade and poor soils that drain well. "It is ever so polite and has never seeded in the garden," he adds. —R.H.

Resources

The AHS Encyclopedia of Perennials by Graham Rice and Kurt Bluemel. DK Publishing, New York, New York, 2006.

The Gardener's Guide to Growing Hardy Geraniums by Trevor Bath and Joy Jones. Timber Press, Portland, Oregon, 2004.

Hardy Geraniums: The Complete Guide to the Genus by Peter Yeo. Timber Press, Portland, Oregon, 2002.

"Plant Evaluation Notes: Hardy Geraniums for Northern Gardens" by Richard Hawke. Chicago Botanic Garden, Glencoe, Illinois, 2004.
www.chicagobotanic.org/downloads/planteval_notes/no22_geraniums.pdf.

Sources

Avant Gardens, Dartmouth, MA. (508) 998-8819. www.avantgardens.ne.com. Catalog \$3; free online.

Bluestone Perennials, Madison, OH. (800) 852-5243. www.bluestoneperennials.com. Catalog free or online.

Digging Dog Nursery, Albion, CA. (707) 937-1130. www.diggingdog.com. Catalog online.

Fieldstone Gardens, Vassalboro, ME. (207) 923-3836. www.fieldstonegardens.com. Catalog \$2.50; free online.

Forestfarm, Williams, OR. (541) 846-7269. www.forestfarm.com. Catalog \$5; free online.

Geraniaceae, Kentfield, CA. (415) 461-4168. www.geraniaceae.com. Catalog online.

Joy Creek Nursery, Scappoose, OR. (503) 543-7474. www.joycreek.com. Catalog \$4; free online.



The darker lines on the petals of *G. wlassovianum* help attract pollinators to the flowers.

Hansen', which grows 20 inches tall and wide; and 'Kristin Jakob', with bright purple-magenta flowers on stems to 14 inches tall and 36 inches wide.

Geranium wlassovianum (Zones 4–8, 8–1) is an unassuming cranesbill with a good character and long-blooming habit. From mid-June into autumn, this Asian native bears purple flowers with a white eye and violet veins. It has a bushy habit with stems to 20 inches tall and 36 inches wide. In the fall, leaves turn a brilliant mix of purple and red. We grow it with great success in full sun but it also tolerates part shade and drier soils.

Blue-flowered, sun-loving cranesbills such as Rozanne, 'Buxton's Variety', or 'Brookside' blend nicely with the soft yellow flowers of *Achillea* 'Anthea' or *Coreopsis verticillata* 'Moonbeam', while their long-blooming nature makes them a good choice for seasonal displays in hanging baskets and window boxes. Other companions for cranesbills in sunny gardens include blue oat grass (*Helictotrichon* spp.), prairie dropseed (*Sporobolus* spp.), lamb's ears (*Stachys* spp.), lady's mantle (*Alchemilla* spp.), catmint (*Nepeta* spp.), aster, and wormwood (*Artemisia* spp.).

SHADE LOVERS

Flowering plants that excel in shade are like gold to gardeners. Spotted cranesbill, *Geranium maculatum* (Zones 4–8, 8–1), is one of those plants. The rosy-pink to white flowers of this eastern United

States native are at their peak in May. 'Elizabeth Ann' and 'Espresso' are similar plants with coffee-colored foliage and bountiful lavender-pink flowers. 'Espresso' has darker chocolate-burgundy leaves that fade to dark bronze after flowering, while 'Elizabeth Ann' fades to olive drab. 'Elizabeth Ann' has slightly larger flowers that are significantly darker in color than 'Espresso'. Both cultivars are 18 inches tall and upright in habit. Although adapted to shady sites, their leaf color will be better with morning sunlight.

Mourning widow or dusky cranesbill are common names that refer to the cu-



Geranium phaeum produces intriguing dark flowers with contrasting light centers.



G. ×cantabrigiense, right foreground, combine well with pinks (*Dianthus* spp.), hostas, and columbines (*Aquilegia* spp.) in this shade garden.

rious dark blossoms of the European species, *G. phaeum* (Zones 4–8, 8–1). Flowers also bloom in a range of colors, from white to pink to violet and deep maroon; they appear from mid-May to mid-June. Although their spread may reach 30 inches, it was about half that in our trials. Dusky cranesbill is a good

choice for moist shade but will appreciate morning sun. The leaves of maroon-flowered ‘Samobor’ are broadly stained with a dark purple band. ‘Lily Lovell’ has spotless leaves and large, violet flowers in May and June. Both spotted and dusky cranesbills combine well with other shade-loving perennials such as coral bells (*Heuchera* spp.), hosta, and lungwort (*Pulmonaria* spp.).



Dark markings on the leaves of *Geranium phaeum* ‘Samobor’ give it extra appeal.

HOW TO GROW CRANESBILLS

Cranesbills are generally easy-care plants that thrive in a variety of light conditions and in most soils, except extremes of wetness or dryness. Moist, organic soils are best for most types. Even drought-tolerant species such as *Geranium macrorrhizum* and *G. phaeum* will benefit from consistent moisture.

Many sun-loving cranesbills will tolerate a bit of shade, but too much will result in lanky plants and fewer flowers. This can be true for shade-lovers, too; placing them in morning sun helps promote flower production and bushier habits. For optimum growth in hot regions, site cranesbills where they will receive afternoon shade.

If cranesbills become floppy as the bloom cycle ends, shear their stems to the ground to rejuvenate them. New basal leaves will typically grow within two weeks. Exceptions to this rule are *G. macrorrhizum*, *G. ×cantabrigiense*, *G. wlassovianum*, and *G. sanguineum*, which do not generally require shearing. Shearing will also reduce self-sowing.

Cranesbills are rarely troubled by pests and diseases. Powdery mildew, leaf spotting, Japanese beetles, and rabbits are occasional problems. In our trials, cultivars of *G. pratense* were solely affected by powdery mildew; while Japanese beetles damaged the leaves of *G. ×oxonianum* cultivars.

Equally at home in formal gardens or naturalistic landscapes such as meadows and woodlands, cranesbills can be grown as individual specimens or in small groups in the border. They also make colorful groundcovers beneath trees, shrubs, and roses. With such a wide range of uses, you’re sure to find a spot for these adaptable perennials in your landscape. 🌿

Richard Hawke is plant evaluations manager for the Chicago Botanic Garden in Glencoe, Illinois.

Fruit Trees for your backyard

Use these tips to grow your own delectable apples, pears, peaches, and cherries.

BY DOREEN G. HOWARD

I'VE SUFFERED FROM fruit-tree envy most of my adult life, because I mostly resided in places with hot climates like steamy Houston where apples, cherries, and apricots struggle. I grew peaches there—two trees bordered my small kitchen garden. But what I really wanted was a crisp apple or a juicy Asian pear plucked straight from the tree.

When I moved to the Upper Midwest a decade ago, I got my chance. I planted a plethora of apples, succulent cherries, and Asian pears in my backyard. But very quickly I discovered that peaches were a lost cause in bitterly cold USDA Hardiness Zone 4. Growing fruit successfully is all about location. It goes beyond simply planting trees in well-drained soil in full

sun; many other factors come into play, including hardiness, chilling requirements, diseases and pests, and necessary pollinators.

HARDINESS AND CHILL REQUIREMENTS

A logical place to begin is selecting varieties that are hardy in your climate. Next, since apples, pears, cherries, and peaches require a certain amount of winter chilling in order for their flower and leaf buds to break dormancy, the chilling requirement must be considered. Each variety has its own requirement for “chill hours” which are basically the number of hours when the temperature remains below 45 and above 32 degrees Fahrenheit between November and February. The hours are measured cumulatively; they don't need to be continuous. Fruit specialists continue to refine methods to more accurately calculate chill hours.

A tree that requires more chilling than you're likely to experience will probably fail to produce fruit—and may die. A tree with too short a chilling requirement for your area may break dormancy too early and suffer serious damage from spring frosts. Suffice to say, it is well worth asking a local Extension agent, Master Gardener, or experienced fruit grower to recommend varieties that perform best in your climate.

ENSURING POLLINATION

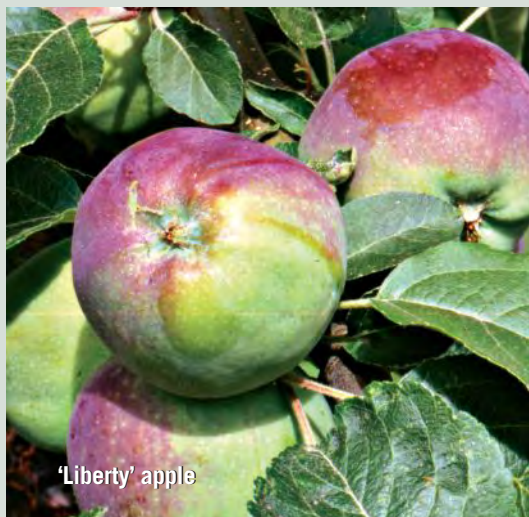
Another consideration when selecting fruit trees is whether they need a pollinator. Most peaches and sour cherries are self-fruitful—they do not require a second variety for pollination. Most apples, pears, and sweet cherries however, are self-sterile—their flowers cannot pollinate themselves—and must have a second variety nearby to ensure pollination. Furthermore, the blooming times of the two varieties must overlap. Even apples



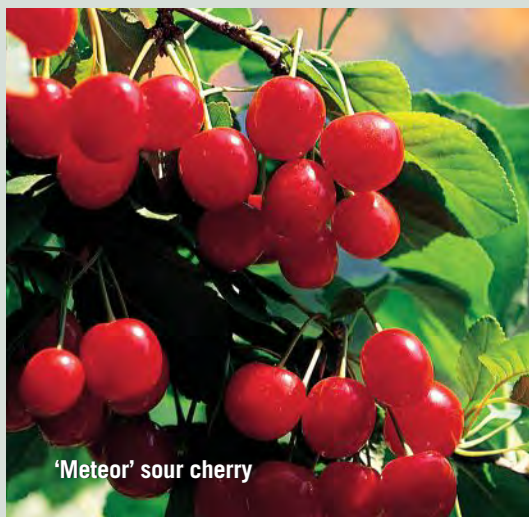
Asian pears are sweet, crunchy, and juicy with yellow to brown russeted skin.

TIPS FOR SUCCESSFUL FRUIT HARVESTS

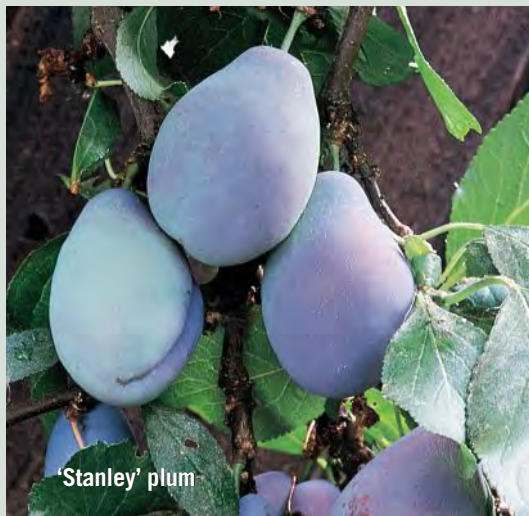
I talked to a number of researchers and home fruit growers from around the country to learn what years of experience have taught them. Their tips, described below, have helped me to grow a variety of great fruit.



'Liberty' apple



'Meteor' sour cherry



'Stanley' plum

APPLES

Watch fertility, says Guy Ames, nursery owner in Fayetteville, Arkansas. "Overfertilized soil produces wood and foliage growth, but it waters down flavor. The apple may be large, but it's flat in flavor."

Joe Hecksel, a quality-control engineer who has more than 150 apple, pear, and nut trees growing on 10 acres in Michigan, cuts off newly planted trees at belt height. Not only are the fruits easier to pick, but the shorter trunk makes the tree bear earlier.

Gene Yale grows 165 miniature apple trees in his 43-by-55-foot Skokie, Illinois, backyard. His three- to five-foot-tall trees bear plenty of apples. And he knows how to pick them. "Lift the apple up sideways and give it a quarter of a turn," he says. "If it releases from the tree, the apple is ripe. If you want to store the apples, pick them when they're full size but not perfectly ripe. You might have to twist the apple and then hold onto the branch so you don't break the fruiting spur."



The author harvests 'Pixie Crunch' apples from her home orchard.

CHERRIES

Unlike sour cherries, most sweet cherries need a pollinator to set fruit. To avoid planting two trees that will take up precious space, select a self-fertile sweet cherry. Greg Lang, cherry researcher at Michigan State University in East Lansing, recommends these varieties: 'Compact Stella', 'Lapins', 'Black Gold', and 'White Gold'.

PEARS

Autumn is the best time to plant pear trees, according to fruit specialist Ed Fackler. Trees will spend the winter months establishing vigorous root systems, even in cold climates. Some pear growers claim that they gain one full season of growth by planting in the fall, rather than in spring. Trees can be planted any time before the ground freezes.

European pears do not ripen on the tree and should be picked green. Fackler says to pick when there is a very slight give on the fruit surface near the stem. He uses his thumb to gauge pressure. After picking, pears should be refrigerated for at least a week. Then bring them to room temperature and let them ripen gradually.

PLUMS

John Bunker grows 30 varieties of plums at his Maine farm and also sells his trees to the public through Fedco, a mailorder nursery cooperative. "Don't waste your money on dwarf plum trees," he says. "They're more expensive than standard trees, which don't grow that big. It's easy to keep them small with pruning." He also advises planting two varieties, alternating them four to six feet apart to create a hedge. Branches will interweave, and pollination will be better.

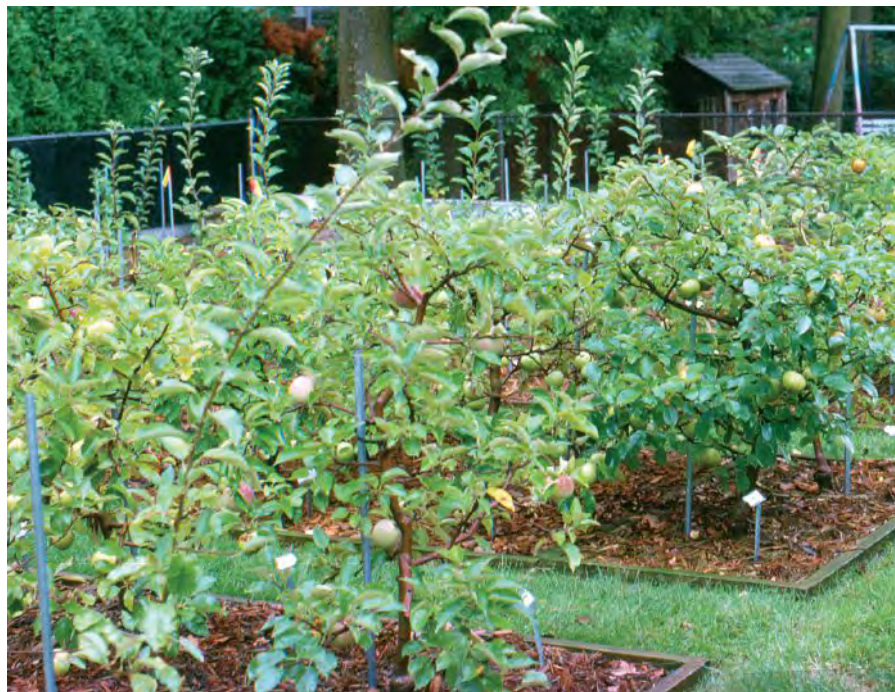
—D.G.H.

that are listed as self-fruitful, such as ‘Golden Delicious’, ‘Granny Smith’, and ‘Liberty’, will produce heavier crops if a pollinating variety is planted nearby. Some varieties of apples such as ‘Mutsu’, ‘Jonagold’, and ‘Arkansas Black’ produce sterile pollen, so two additional varieties should be planted. For an excellent chart of compatible varieties for pollination for both apples and sweet cherries, visit the Missouri Extension website (see “Resources,” page 25), or consult your local nursery or Extension agent.

Most pears are able to pollinate each other as long as you plant two different varieties; however ‘Seckel’ and ‘Bartlett’ are incompatible and do not work as pollinators for each other. Also, ‘Magness’ produces sterile pollen, so two additional varieties should be planted nearby.

SMALL IS SMART

Before picking an apple or pear variety, think dwarf, even if your garden is large. Dwarf varieties don’t require a ladder to prune, spray, or harvest fruit. Dwarf apples and pears are produced by grafting a bud or short stem—called a scion—of the desired variety onto a rootstock that has been bred specifically for its qualities of dwarfness, hardiness, adaptability to



You don’t need a large space to have a fruitful orchard. Gene Yale’s Illinois home garden is only 43 by 55 feet in size, but he manages to grow more than 160 miniature apple trees.

site conditions, and disease resistance. “Don’t buy a dwarf apple or pear if its rootstock is not specified,” cautions Rob Crassweller, professor of tree fruit at Pennsylvania State University. “A tag that states a tree is a dwarf isn’t enough. You

need to know how high the tree will grow and if the rootstock is appropriate for your climate.” Different dwarfing rootstocks can produce a tree from four feet in height up to 20 feet; some trees on dwarf rootstocks may require staking (for

COMMON DWARFING ROOTSTOCKS FOR APPLES, CHERRIES, AND PEARS

The following are among the more commonly available dwarfing rootstocks for apples, cherries, and pears. In addition to reducing the tree’s size, most dwarfing rootstocks promote earlier fruiting.

Rootstock	Height (feet)	Remarks
APPLES		
Bud 9	6–10	very cold hardy, trees may need staking
M9	8–10	tolerant of wet soils
M27	4–8	suitable for containers and small gardens
M26	10–14	very cold hardy, tree may need staking
M111	15–20	drought tolerant
CHERRIES		
Colt	12–18	tolerates heavy soil, hardy to -10° Fahrenheit
Gisela 5	8–12	disease-resistant
PEARS (EUROPEAN & ASIAN)		
OH x F 333	10–12	resistant to fire blight
OH x F 513	12–15	induces early bearing, hardy to -25° F
Quince C	6–8	may require staking



Some dwarf fruit trees, such as this peach, can be successfully grown in a large container.

TOP: DOREEN HOWARD; BOTTOM: MICHAEL S. THOMPSON

more information about rootstocks see “Common Dwarfing Rootstocks for Apples, Cherries, and Pears,” page 24).

“We haven’t been able to develop true dwarfing rootstock for stone fruits such as plums and cherries,” says Ed Fackler, an Indiana fruit specialist who works with the United States Department of Agriculture (USDA) and nurseries to develop better fruit trees for the consumer market. “But, they can be easily kept small with pruning.” There are a few genetically dwarf stone fruit trees that grow more like shrubs and stay under 10 feet tall without being grafted onto dwarf rootstocks. Look for ‘Bonanza’, ‘Compact Redhaven’, ‘Honey Babe’, and ‘Garden Sun’ peaches. ‘North Star’ and ‘Meteor’, genetically dwarf sour cherries, reach 12 feet; so does ‘Compact Stella’, a sweet cherry. Again, check to see which varieties are adapted to your area.

Columnar peach trees are the latest dwarfing advance, according to Ralph Scorza, research horticulturist at the USDA’s Appalachian Fruit Research Station in Kearneyville, West Virginia. “‘Crimson Rocket’ is great for home gardens, because of its tiny footprint,” he says. Trees grow to about 14 feet in height, but pruning will easily keep them at six to eight feet. “The freestone peaches will hold on the tree for a week, retaining their firmness. So you can pick them as you want,” says Scorza.

DISEASE RESISTANCE

Insects and diseases love fruit as much as we do. That’s why commercial growers often spray trees on an almost weekly basis in order to harvest a saleable crop. Luckily for gardeners, a number of disease-resistant fruit trees have been bred in the last decade. By planting the varieties that are resistant to the diseases that are common in your area, you can reduce the amount of pesticides you need for growing high quality fruit. And if you bag apples and pears, you can harvest perfect, blemish-free fruit that is truly organic (For details on bagging apples see page 26). Your local Extension agent should have a list of disease resistant varieties suitable for your growing region.

Disease resistance doesn’t mean that a disease will not occur at all, but resistant trees are far less likely to suffer significant damage. So it pays for you to help pro-

tect your trees. I’ve developed an organic three-spray routine that knocks out most fungal spores and insects from the previous season and protects new growth. Just after spring pruning, I spray every tree with dormant oil, mixed with lime sulfur. You can combine the two concentrates or buy an oil-sulfur fruit tree spray. Horticultural oil smothers emerging insects and lime sulfur is a powerful organic fungicide. Two weeks later, or when buds start to swell on trees, I spray neem seed oil, which is an organic insecticide and miticide. After flower petals drop, I follow up with a third spray, again with neem seed oil. I’m careful to apply the third spray either early in the morning or after 5 p.m. when the sun is waning. Direct sunlight on the oil droplets acts like a prism, burning tender new foliage and buds.



The author shows the dramatic difference between a bagged (left) and unbagged (right) ‘Ashmead Kernel’ apple.

If the weather cooperates in late fall, I spray trees again after all leaves have dropped with the dormant oil-sulfur combination to suppress diseases and pests. I also rake up all dropped leaves and fruit in the fall and remove them to prevent the spread of disease or insects that might overwinter in the debris.

PLANTING, PRUNING, AND THINNING

The best time to plant your fruit trees is when they are dormant, either in early spring or late fall. Dig a hole about twice as wide as the tree’s root ball or pot. If planting a bare-root tree, be sure the hole will accommodate all roots comfortably

Resources

Home Orchard Society,
www.homeorchardsociety.org.

North American Fruit Explorers,
www.nafex.org.

Pollinating Fruit Crops by Michele R. Warmund. University of Missouri Extension. <http://extension.missouri.edu/explore/agguides/hort/g06001.htm>.

Training and Pruning Fruit Trees by Michael L. Parker. North Carolina Cooperative Extension Service. www.ces.ncsu.edu/depts/hort/hil/ag29.html.

Sources

Adams County Nursery, Aspers, PA. (717) 677-8105.
www.acnursery.com.

■ Crimson Rocket columnar peach.

Boyer Nurseries, Biglerville, PA. (717) 677-8558. www.boeyernurseries.com.
■ Apples on Bud 9, M9, M11 & M7 rootstock.

Edible Landscaping, Afton, VA. (434) 361-9134. www.eat-it.com

Edible Forest, Madison, WI. (608) 663-0840. www.edibleforestnursery.com.

■ Apples on Bud 9 rootstock.

Fedco Seeds, Waterville, ME. (207) 873-7332. www.fedcoseeds.com.
■ Cold-hardy fruits.

Greenmantle Nursery, Garberville, CA. (707) 986-7504. www.greenmantlenursery.com.

Raintree Nursery, Morton, WA. (888) 770-8352. www.raintreenursery.com.
■ Cherries on Gisela 5 rootstock.

without bending them. I pull the tree out of its nursery container and rub mycorrhizal fungi inoculant on the roots. Mycorrhizae are beneficial soil fungi that work in symbiosis with plant roots. They

BAGGING APPLES AND PEARS

Even organic growers end up spraying often with products such as horticultural oil, neem seed oil, sulfur, and pyrethrum to keep diseases and insects at bay. It's a challenge to apply these various organic solutions at the correct time to prevent disease infestations and to kill insects that will destroy fruit. That's why I embraced a technique the Japanese have used for more than 150 years to produce perfect apples, which are prized gifts in the Japanese culture.

Members of the North American Fruit Explorers (NAFEX) shared the Japanese technique on their listserv five years ago. I belong to the organization and was in the process of planting apple and Asian pear trees. I tried the bagging technique and now pick flawless, sweet, and crunchy apples on Labor Day—without applying any chemicals. Last year, I bagged my Asian pears, and they ripened perfectly in mid-August. In fact, they were crunchier and sweeter than the previous year, when I didn't bag them.

How to Bag Fruit

1. Buy zipper-lock or sliding-lock sandwich-size plastic bags. Snip off the two bottom corners of each bag diagonally. This allows accumulated moisture to drain away from developing fruit.
2. When fruit is about the size of a large pea, thin clusters to one fruit and thin to space apples at least eight inches apart on branches.
3. Place a bag over each fruit and close the zipper or slide lock around the fruit stem. If the fruit falls off during the process, it wasn't fully pollinated and would abort on its own later.

After bagging, all you need to do is observe the developing fruit periodically. Extra heat gathered by the plastic bag will help to increase the sugar content of apples and pears and contribute to larger size. Fruit colors perfectly; it remains firm and crunchy, too. When it's time to harvest, simply snap off apples from trees as you would normally. Many growers leave apples in their bags for long-term storage, so the fruits don't dehydrate. Apples stored this way will remain crunchy and sweet much longer than those stored without coverage. I've observed another benefit. Apples mature a week or two earlier when grown in bags, which is a tremendous bonus in the short growing season of my USDA Zone 4 garden. —D.G.H.



Top: Plastic bags are placed over forming fruit early in the season. **Above:** This 'Pixie Crunch' apple has matured to perfection in its bag.



Depending on their rootstock, some dwarf trees, such as this apple, may require staking.

the branches to allow for maximum light and air penetration. North Carolina State University offers excellent details and diagrams on how to prune specific fruit trees on its website (see "Resources," page 25). Or ask your local Extension service for a pruning fact sheet.

As soon as young fruits start to develop, thinning—reducing the number of fruits on each branch—is important to ensure good-sized and sweet fruits says Fackler. Five to six weeks after full bloom, thin apples and pears to about eight inches apart, peaches and plums to at least four inches. The fruit will grow to optimum size, and you ensure that there will be a crop next year, too.

You can grow your fruit trees in a small orchard or as part of your kitchen garden. They can also be incorporated into ornamental gardens as specimens or shade trees, as part of a mixed flowering border or fruiting hedge, or espaliered against a wall. Careful selection of varieties, thoughtful placement, and some conscientious care will result in significant—and delicious—rewards for years. 🍏

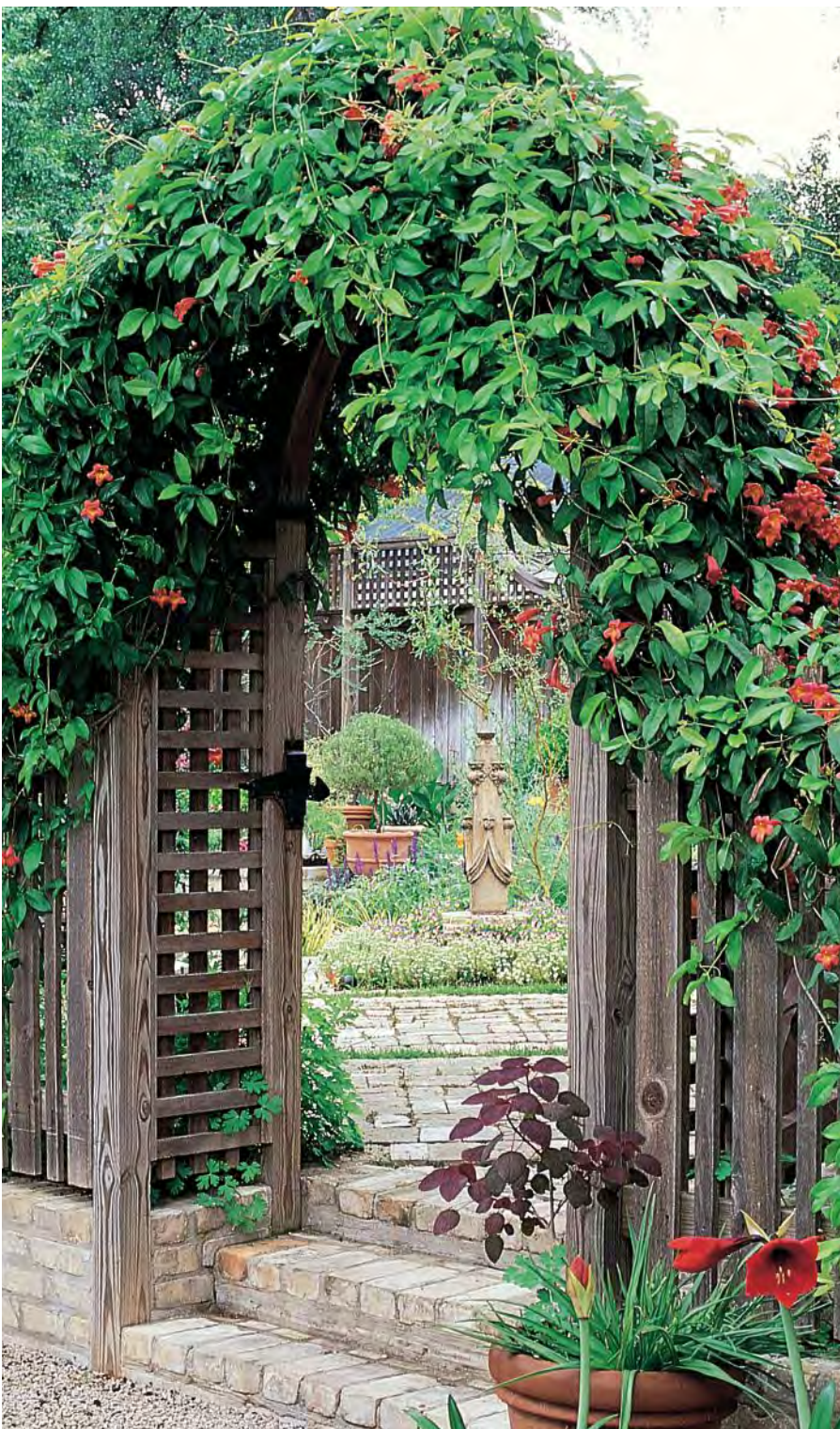
Doreen G. Howard is a garden writer in Roscoe, Illinois.

will colonize on tree roots and extend hyphae 20 to 30 feet in every direction, gathering nutrients and water for the new tree. Set the tree in its hole so that the graft union (the knobby spot on the trunk) is two to three inches above ground level. Fill in the hole with the removed soil, firm, and water well. Top

with a thin layer of compost followed by organic mulch to suppress weeds and retain moisture. Be sure to water the tree regularly throughout its first year.

Prune in late winter or early spring before trees break their dormancy. The main objectives are to develop a strong framework for the developing fruit and to open

Designing *with* Vines



Take advantage of the vertical space in your garden by integrating colorful and versatile vines.

BY PAULA REFI

IT'S EASY to be seduced by a lush and lovely vine. Maybe it's the plant's ability to embrace a doorway, caress a mailbox, hug a wall, or snuggle up to a sturdy shrub. And, when covered with luscious blossoms, well, it's invariably love at first sight. A chance encounter with a blooming specimen at a local nursery can result in an incurable case of plant lust. But, as with any romantic entanglement, the object of one's desire must also possess some less obvious qualities if the relationship is to grow into a long-term commitment.

Vines offer many creative design possibilities in a garden. In small gardens, their vertical habit adds an extra dimension and efficiently uses space. In larger gardens, fast-growing vines can be used to fill large spaces or camouflage unsightly structures. And the flowers of many vines are magnets for pollinators such as hummingbirds, butterflies, and other creatures that animate the garden.

Climbers belong in every landscape, but not every vine will thrive in every garden site. To narrow the field of potential candidates, develop a list of the qualities you're looking for—a compatibility profile of sorts. Will the vine be planted in sun or shade? Should it be evergreen or deciduous, perennial or annual? Does it require some visible means of support? Some vines are assertive and climb without assistance. The shy ones need a little encouragement. Will the supporting surface need regular maintenance that necessitates the vine's periodic removal? Is there a preferred season

Crossvine provides evergreen cover and red-orange spring flowers for this arbor.

of bloom? A dispassionate assessment of a vine's attributes, keeping in mind the requirements of the intended planting site, eliminates impulsiveness and enhances the likelihood of a durable relationship.

EVERGREEN VINES

Where a vine's location demands year-round visibility—near an entrance, for example—persistent and relatively attractive foliage is paramount. Grow evergreen climbers only on durable structures that do not require upkeep. Something sturdy and utilitarian, such as non-rusting tubular steel or masonry, works best. Although they are evergreen, they need severe pruning as they age to remove accumulations of dead foliage and encourage the growth of new stems. If pruned just after they flower, established plants recover rapidly.

In its native habitat in eastern North America, crossvine (*Bignonia capreolata*, Zones 6–9, 9–5) often rambles aimlessly on the forest floor, where it seldom blooms. But when it scales a woodland tree or grows in a sunny or partly shaded garden, it produces abundant two-inch-long, red-dish-orange trumpets in spring.

Crossvine climbs by means of tendrils with small discs that self-attach, which makes it an ideal climber to soften an imposing masonry retaining wall or to camouflage an unattractive structure. Don't be

deceived by its rather delicate stems; crossvine has the ability to reach the roof of a three-story house and will attain heights of more than 50 feet on a big tree. Look for 'Tangerine Beauty', an especially floriferous cultivar with blossoms that are more orange than the species. Flowers bloom sporadically in autumn.

In the coastal plain of the southeastern United States, Carolina jessamine (*Gelsemium sempervirens*, Zones 7–9, 9–1) scrambles up tree trunks in the piney woods. It, too, thrives on attention in a garden setting, and its bright yellow, one-and-one-half-inch, funnel-shaped flowers are sweetly fragrant in early spring. The lustrous, dark green foliage is attractive all year. 'Margarita' is a more cold tolerant selection. This rampant grower needs a wide berth, and many homeowners make the mistake of planting it near a mailbox. Instead, let it travel unfettered across a pergola to create a shady retreat or use it to cloak an ugly chain link fence. As a bonus, jessamine is deer-resistant.

Shade gardens are particularly enhanced by evergreen foliage. Kadsura vine (*Kadsura japonica*, Zones 7–9, 9–1) is an Asian native with two- to four-inch-long tapered leaves. The thick foliage quickly covers a structure, and a fair amount of foliage persists at the base of the vine. It climbs by means of twining stems that



A favorite in Southern gardens, star jasmine bears fragrant white flowers in mid-spring.

need a little initial support. It requires deep, moist soil and protection from sun and harsh winds, making it ideally suited to a sheltered patio. Its fragrant flowers are inconspicuous, and the variegated forms are more ornamental. The cultivar 'Fukurin' displays white-edged leaves of variable width that are outstanding in winter. 'Chirimín' has subtle white marbling.

Though slightly more tender, star jasmine (*Trachelospermum jasminoides*, Zone 8–10, 10–8) is a signature vine in Southern gardens, where its fragrance is intoxicating in May. White, one-inch, starlike flowers sit atop dark green foliage. It is a somewhat lazy climber, so tie it to a trellis, a metal handrail, or even a downspout. In Savannah and Charleston gardens, wire mesh is used to train it against a wall. The cultivar 'Madison' exhibits the greatest cold tolerance.

DECIDUOUS VINES

Don't overlook deciduous vines that slip into dormancy with the frost. Carefully consider their placement, however, so unsightly brown stems are not an eyesore in winter. Plant them where you don't need year-round coverage but want to create shade in summer—on a poolside pergola or a west-facing deck.

Dutchman's pipe (*Aristolochia macrophylla*, Zones 5–8, 8–4) is a vigorous twin-er native to the eastern United States from



Carolina jessamine is a vigorous vine that is useful for hiding or softening the look of fences.



Left: Dutchman's pipe is easily distinguished by its large, heart-shaped leaves. **Above:** While not as showy as its more-popular Asian cousins, American wisteria requires less maintenance to keep it under control.

Pennsylvania to Georgia. Its large (four-to-10-inch) heart-shaped leaves have historically draped porches. Its odd pipe-shaped blossoms are produced in early summer, and habitat gardeners value it as the preferred host of the pipevine swallowtail butterfly. Adaptable to full sun or part shade, *A. macrophylla* can grow 20 to 30 feet a year. Keep it in control with a hard pruning in spring. For West Coast gardeners, California Dutchman's pipe (*A. californica*, Zones 8–10, 10–8) grows to 15 feet, blooming before the leaves emerge in late winter to early spring. It grows best where it will receive afternoon shade in summer.

Trumpet creeper (*Campsis radicans*, Zones 5–9, 9–5) is a rampant native vine that produces three-inch-long trumpet-shaped orange flowers on new growth from June until September. This sun-lover is not a climber for small gardens, although it's an excellent choice where lush summer coverage is required. No species is more tolerant of abuse. It will tumble happily along railroad tracks. A trumpet creeper on a two-story-tall chain link fence in the urban schoolyard where I played as a child flourishes to this day. 'Flava' is a lovely yellow-flowered selection. The hybrid *C. ×tagliabuana* 'Madame Galen' has been prized for more than a century for its rich

orange trumpets and long bloom period. Be aware that all trumpet creepers produce suckers—root sprouts—that need to be removed annually with a sharp spade. Otherwise, pruning in late winter is about all the care this vine needs.

No climber evokes romance more than wisteria, with its pendulous clusters of fra-



Because of its rampant nature, trumpet creeper is best suited to large gardens.

grant lilac-purple flowers. The assertive Asian species, *Wisteria floribunda* (Zones 5–9, 9–3) and *W. sinensis* (Zones 5–8, 8–5), need vigilant pruning to keep them under control. American wisteria (*Wisteria frutescens*, Zones 5–9, 9–5), native to the Southeast, is more refined, producing smaller, four- to six-inch flower clusters. Because it blooms in early summer on the current season's growth, American wisteria can be tamed with a disciplined pruning in early spring. It is easy to confine to an arbor, column, or picket fence. The selection 'Amethyst Falls' blooms from a young age, with sporadic repeat bloom through summer. At least a half-day of sun is needed for good flowering.

Most vines do best in full sun, but a couple of good choices will succeed with dappled or afternoon shade, particularly in warmer regions. One is climbing hydrangea (*Hydrangea anomala* ssp. *petiolaris*, Zones 4–9, 9–1), which makes a romantic statement on castle walls, but it can overwhelm an average residence.

Similar in habit and garden use is Japanese hydrangea vine (*Schizophragma hydrangeoides*, Zones 6–9, 9–6). It lacks the protruding woody stems of climbing hydrangea and also tolerates part shade. *Schizophragma* climbs by rootlike holdfasts

that are produced where the growing tip comes in close physical contact with a surface. Trees make fine hosts; masonry walls are ideal. Plant young vines at the base of the wall and train new shoots so they touch the supporting surface. Tape works very well for this purpose. Once attached, the vine's growing tip will cling on its own. The selection 'Moonlight', introduced by plant explorer and nursery owner Barry Yinger, has attractive silver shading. Flat-topped clusters of creamy white flowers occur in early summer, and in winter the exfoliating bark is exposed.

ANNUAL AND TROPICAL VINES

Like bedding annuals, the annual vines are inexpensive to grow from seed and they bloom all summer until frost. Once temperatures soar, the tender tropicals begin to blossom. Because they succumb to the first frost, these vines allow you to try something new every year.

The list of easy-to-grow, sun-loving annuals and tender perennials is extensive, but some of my favorites are climbing snapdragon (*Asarina scandens*), black-eyed Susan vine (*Thunbergia alata*), hyacinth bean (*Lablab purpureus*), moonvine (*Ipomoea alba*), scarlet runner bean (*Phaseolus coccineus*), and Mexican flame vine (*Senecio confusus*). All will quickly smother a fence or arbor with lush foliage and beautiful flowers.

Mandevilla is a genus of tropical vines native to Central and South America that

provide luscious color in summer. These twining climbers produce showy three-inch, funnel-shaped flowers in a range of pinks, crimson, or white, set against dark green foliage. Dozens of named selections are available, including the popular pink *Mandevilla ×amoena* 'Alice du Pont' (Zones 10–12, 12–10). Depending on the

into a mixed border to grow with a shrub companion or training on a small structure for summer effect.

The genus *Clematis* contains too many species and cultivars to address in detail. But *C. integrifolia* (Zones 4–11, 7–1), in particular, merits mention. This clematis is virtually trouble-free and one of the eas-



In this romantic garden vignette, designer Conni Cross uses 'Alice du Pont' mandevilla to create a pink-flowered arch over and on a decorative bench.

cultivar, vines range from four or five feet up to 10 feet in height, so mandevillas are an ideal choice for a sunny mailbox. Or train it on a tripod as the major plant in a large container.

Sky vine (*Thunbergia grandiflora*, Zones 10–11, 12–10) thrives in the heat. Its three-inch, trumpet-shaped flowers are waxy pale blue with a yellow throat. Twining woody stems grow rapidly, with leathery green, heart-shaped leaves. Sky vine appreciates a long sultry growing season, which results in vines that exceed 20 feet and the most abundant bloom.

HARDY HERBACEOUS VINES

A small group of hardy herbaceous vines that die back to the ground every fall deserve wider use in gardens. These climbers behave just like herbaceous perennials: their roots persist, but every vestige of the vine above the soil line disappears. These climbers are uniquely suited for inserting

perennials to grow. Its smaller, bell-shaped flowers lack the in-your-face effect of the large-flowered clematis but will bloom all summer. Though it is unable to climb on its own, *C. integrifolia* and its cultivars love nothing better than to cozy up to a shrub. A shrubby rose is ideal.

Clematis 'Arabella' is soft blue and flowers for several months. I grow it with the tough-as-nails yellow polyantha rose 'Baby Love'. Not knowing that I live on a street called Durand Drive, plantsman John Elsley recommended I plant *C. ×durandii* for its deeper blue color. Appreciating the coincidence, I happily combined it with the shell-pink heirloom rose 'Perle d'Or'. Next I introduced the pink *C. integrifolia* 'Heather Herschel' to purple smokebush, *Cotinus coggygria* 'Royal Purple'. Another match made in heaven.

A yellow bleeding heart (*Dicentra scandens*, Zones 4–8, 10–1) seems like a color contradiction. This is a shy vine that waits



Climbing snapdragon is a quick-growing annual vine with deep purple blossoms.

BEWARE THESE VINES

As with all types of plants, there are a few vines whose unrestrained growth or high seed production makes them weedy or downright invasive. The extent to which they become a problem in a garden, or even a community, depends on the region of the country where they are planted. Always check local invasive plant lists before introducing a rampant climber. The following vines, often sold as ornamentals, are listed as problematic in certain regions of the United States.

- **Akebia quinata** (fiveleaf akebia) is considered weedy or invasive in the Pacific Northwest and on the East Coast.
- **Ampelopsis brevipedunculata** (porcelain berry) is invasive in natural areas of the Midwest and Northeast; on prohibited list in Massachusetts.
- **Clematis terniflora** (sweet autumn clematis) can be weedy or invasive in much of the eastern and central United States and Canada.
- **Hedera helix and cultivars** (English ivy) escapes gardens readily if not managed carefully; listed as noxious weed in Oregon and Washington State.
- **Ipomoea coccinea** (red morning glory) self-sows and is considered weedy in much of eastern and central U.S.
- **Ipomoea quamoclit** (cypress vine) self-sows readily, especially in warm climate regions; many *Ipomoea* species are on the noxious weed list in Arkansas and Arizona.
- **Lonicera japonica** (Japanese honeysuckle) is widely invasive in the eastern, south central, and southwestern U.S. and is banned or prohibited in four New England states.
- **Lygodium japonicum** (Japanese climbing fern) is considered invasive in the Southeast and Hawaii; it's on the noxious weed list in Alabama and Florida. —P.R.



Ipomoea quamoclit



Lonicera japonica

until summer to emerge. Its stems are pale green and fragile. Dainty tendrils help it climb. Odd appendages project from the stem like tiny frog legs, looking for something to cling to. Once anchored, lemon-yellow heart-shaped flowers bloom until



The flowers of yellow bleeding heart shine when paired with dark-leaved companions.

frost. The flowers are especially effective scrambling over a dark green boxleaf holly (*Ilex crenata*). This vine's delicate stems are vulnerable to injury, but once established in a protected location with some sun, it returns faithfully every year.

Firecracker vine (*Manettia cordifolia*, Zones 8–11, 12–10) is usually listed as hardy to USDA Zone 8, but specimens have persisted for decades in Zone 7 locations such as Greenwood, South Carolina. This South American native bears two-inch-long tubular flowers in vivid red-orange beginning in midsummer. Its stems are wiry, and fine tendrils reach out to snag any available support. Frost kills it back to the ground, where it slumbers until summer. With age, firecracker vine makes a larger clump, but it is not invasive.

VINES IN THE GARDEN

Even when a garden seems full, there's always room to plant a climber. Aside from

Resources

Flowering Vines: Beautiful Climbers

edited by Karan Davis Cutler. Handbook #158 in 21st Century Gardening Series. Brooklyn Botanic Garden, Inc. Brooklyn, New York, 1999.

Manual of Climbers and Wall Plants by J.K. Burras. Timber Press, Portland, Oregon, 1994.

Sources

Arrowhead Alpines, Fowlerville, MI. (517) 223-3581. www.arrowheadalpines.com. Print and online catalog.

Brushwood Nursery, Unionville, PA. (617) 444-8083. www.gardenvines.com. Online catalog.

Forestfarm, Williams, OR. (541) 846-7269. www.forestfarm.com. Catalog \$5 or online.


Kartuz Greenhouses, Vista, CA. (760) 941-3613. www.kartuz.com. Print and online catalog.

One Green World, Molalla, OR. (877) 353-4028. www.onegreenworld.com. Print and online catalog.

Sunlight Gardens, Andersonville, TN (800) 272-7396. www.sunlightgardens.com. Print and online catalog.

Woodlanders, Inc., Aiken, SC. (803) 648-7522. www.woodlanders.net. Online catalog.

their inherent beauty, we value vines for their ability to conceal unsightly structures, emphasize an entry, introduce tantalizing fragrance, shade a sunny space, attract wildlife, or decorate a shrub.

In my experience as a designer and gardener, the cultivation of vines in particular appeals to our happiest, most romantic inclinations. Plant a climber, and you just might lose your heart. 

Paula Refi is a garden designer, lecturer, and writer based in the Atlanta, Georgia, area.



Lilies, Glorious Lilies

Growing and breeding lilies is the passion of Dave Sims of Bonners Ferry, Idaho, whose garden is a tribute to both the diversity and potential of this genus.

BY BRIAN BELL

PHOTOGRAPHS BY JERRY PAVIA



Above: Surrounded by a forest of Ponderosa pines and vine maples, lilies of all kinds dominate David Sims's one-acre property in Bonners Ferry, Idaho. **Above right:** Dave and Stephanie Sims stand beside one of their many lily beds.



ON THE CREST of a wooded hillside that overlooks the meandering Kootenai River and the small community of Bonners Ferry, Idaho, sits a garden dominated by lilies, the passion—some might say obsession—of Dave Sims.

Sims is well known for his lilies around Idaho's aptly named Boundary County, located in the narrow, northern panhandle of the state where it borders Montana, Washington, and British Columbia. Strangers find his abode at the end of a dead-end lane throughout the growing season, seeking impromptu tours of the grounds and a glimpse into a world of diversity seldom encountered in a private garden.

THE LILY SPECTRUM

It's the overwhelming variety of sizes, shapes, and fragrances of the genus *Lilium* that compels Sims to spend almost all of his spare time in the spring and summer in the garden. "There are so many, and they're all so different," says Sims, for whom identifying a favorite type of lily is simply impossible. "It's like picking a favorite between your children. A lot of times your favorite lily is the last one that you saw blooming."

Among the lilies Sims grows are trumpet lilies that reach heights of up to nine feet, with large, fragrant white, pink, yellow, and apricot flowers. Martagons, native to northern Europe and parts of Asia, are oddly scented—"some people like it and some people don't," observes Sims—but their turkscap flowers, available in whites, creams, and mauves, are among the earliest bloomers. And martasians, a name Sims coined himself to describe the result of crossing European martagons with Asiatic hybrids from China.

Sims considers the native American species, with their smaller, typically downward-facing flower petals that are curved almost into a ball shape, elegant and refined, in contrast to conventional cut flower varieties—the Asiatics and Orientals. Then there's glowing *Lilium pumilum*, with its heavily scented, orange-red flowers the size of a dime, or the alpine species that only get three or four inches off the ground. (For a listing of recommended varieties, see "Dave Sims's Favorites," page 35).

EARLY INTEREST

A gardener from an early age, Sims was already growing and propagating flowers when he was four or five years old. "My mother and her mother were flower growers. My father's father was a vegetable gardener, and we had wild lilies growing in the yard."

His interest in lilies was piqued by an item he saw in a catalog from the Rex Bulb Farm in Oregon when he was about nine years old. "There was a description of the trumpet lilies that said they would grow to be eight feet tall, and the flowers were huge



compared to our native lilies.” So he ordered one trumpet lily and one Asiatic lily. That trumpet lily only grew about a foot tall, bloomed with a single flower, and disappeared. But the setback didn’t discourage the young Sims. “The Asiatic lilies grew for 30 years. When my parents passed away [in the early 2000s], we still had one variety growing in their garden,” he says.

In 1982, Sims left Idaho to attend Rensselaer Polytechnic Institute in Troy, New York, where he obtained a degree in materials engineering. When he returned to Bonners Ferry in 1986 to run the family’s John Deere tractor business, he resumed his gardening hobby full bore. And in 1992 he bought a home just a few blocks from where he had grown up.

DESIGNING THE GARDEN

The property wasn’t much to look at when Sims moved in; the yard required substantial rehabilitation. “There was, I



Above: In the free-form beds surrounding Sims’s home, the slender stems of *Lilium pumilum* and several martagon lilies share space with *Digitalis lanata* and *Echium russicum*. **Above left:** The flowers of lemon lily (*Lilium parryi*) are delightfully fragrant.

think, one shrub and two trees here when I bought it,” he recalls. “There was really nothing but lawn.”

The sandy soil required the addition of hundreds of yards of organic material such as grass clippings, leaves, shredded pine bark, and compost. The conditions suited lilies, which need excellent drainage. “If you grow them in soil that doesn’t drain, they’ll rot quickly. As long

as you can keep organic material in the soil and keep them watered, they’ll thrive.” (For more about growing lilies, see “Basics of Lily Culture,” below.)

Today, the house is surrounded by a combination of lawn and garden, including some 10,000 square feet of flowerbeds throughout the one-acre property augmented by terrain that slopes toward a forest of Ponderosa pines and vine maples. More than half of Sims’s lilies grow in free-form display beds situated for their high visibility from inside the house.

One large, boomerang-shaped bed, enclosed by a low rock wall on the far side, and several smaller free-form beds are integrated into the fringe of the woods and a row of blackberry bushes. It is in these beds that Sims grows western American and martagon lilies that thrive in part or dappled shade. Lilies that do well in full sun—trumpets, orienpets, and Asiatics, for example—are featured in beds close to the house.

SHARING SPACE

After some false starts with daylilies and irises—“I just couldn’t keep enough water on them,” says Sims—he settled on peonies as a companion plant for his lilies, which take up 70 percent of his growing space.

“The peony plants are low and have a spreading habit and they have compound leaves, while the lilies have a lin-

BASICS OF LILY CULTURE

- Unlike many bulbous plants, lilies do not have a dormant period and their bulbs must not be allowed to dry out. If necessary, they can be stored for short periods in the refrigerator.
- Planting in fall is preferred over spring to allow time for new roots to form well before stem growth occurs. If planting in spring, plant as early as possible.
- Lilies require good drainage and grow best in a friable soil with a high humus content. Amend clay soil with organic matter to improve its tilth. Sandy soil should be amended with organic matter to improve its moisture-holding capacity.
- In areas with poor drainage, constructing raised beds may be the only way to ensure success.
- Most lilies grow best in full sun. In areas where summers are hot, however, plant them in a location with afternoon shade.
- Lilies appreciate fertile soil and will reward you with taller stems, and more and larger flowers if well fed.
- Botrytis is a fungal disease that infects lilies, typically resulting in brown spots on the leaves. To minimize botrytis, plant lilies in areas with good air circulation and avoid overhead watering. Botrytis can be controlled with fungicides; check with your local Extension service for recommendations.
- After blooming, cut off the flowers but leave the stem to nourish the bulb for next year. Cut the stems to the ground after a hard frost or after the leaves have died in the fall. —B.B.

DAVE SIMS'S FAVORITES

Here is a short list of some of Dave's favorite lilies, selected both for their beauty and their dependability in the garden.

ASIATIC LILIES

'Iowa Rose' (USDA Zones 2–7, AHS Zones 7–1; three to four feet tall). A fine variety with out-facing flowers of salmon pink blending with yellow in the center of the flower, set off by dark spots. Often a winner on the show bench.



'Ariadne' (Zones 3–8, 8–1; four to six feet tall). A unique hybrid with turkscap-shaped flowers, delicately colored in pale pink and cream and set off with small dark spots and penciling.

ORIENPETS

Orienpets are hybrids between Oriental and trumpet lilies, offering the flower colors and forms of the Orientals with much greater vigor. They thrive in areas that have warm summers but can be grown in much of the United States.

'Black Beauty' (Zones 3–8, 8–1; four to six feet tall). The first orienpet, hybridized by famed lily breeder Leslie Woodruff more than 50 years ago, is still an excellent variety with tremendous vigor and dependability. It has dark red recurved flowers and blooms late in the season.

'Leslie Woodruff' (Zones 3–8, 8–5; five to seven feet tall). Developed by USDA breeder Robert Griesbach using tetraploid forms of two of Woodruff's hybrids ('Black Beauty' and 'White Henryi') as parents. It has the great vigor of its parents, and produces large, cherry-red flowers with a generous white edge.

'Northern Carillon'/'Silk Road' (Zones 3–8, 8–1; five to nine feet tall). This great lily is offered under two names in the trade. It has large, bowl-shaped white flowers with a stunning red center. A well-grown specimen can produce more than 20 flowers.

'Scheherazade' (Zones 3–8, 8–1; six to eight feet tall). An extremely dependable selection with recurved crimson flowers edged in yellow. It can reach tree-like proportions and is often a show winner.



'Anastasia' (Zones 3–8, 8–1; six feet tall). The flat, pale pink flowers set this lily apart from most of the orienpets. It has the flower color and shape of an Oriental lily but is much easier to grow.

SPECIES LILIES:

Lilium pumilum (Zones 3–7, 8–5; one to two feet tall). One of the first lilies to bloom in the spring, it has small, reddish-orange flowers and narrow, grasslike foliage with a unique scent. Native to eastern Russia and Asia, it thrives in full sun and appreciates drier soil than most lilies. The variety 'Yellow Bunting' has daffodil yellow flowers and is one of the gems of the early season lilies.

L. henryi (Zones 2–7, 7–1; three to 10 feet tall). This dependable lily has an abundance of small orange flowers with heavily recurved petals, decorated with papillae (small bumps) and delicate purple penciling. Native to China, it blooms late in the season on tall, graceful stems.

L. martagon (Zones 3–7, 7–1; three to six feet tall). Native to Europe and northern Asia, the common turkscap is usually found in woodlands and is well-adapted for growing in part shade. Its leaves are arranged in sets of whorls instead of being scattered along the stem, giving it a unique appearance. It blooms early and the turkscap-shaped flowers, which range from pale pink to deep purple, have a heavy, unique scent. A white-flowered variety (var. *album*) is particularly fine in the shade garden.



L. regale (Zones 4–7, 8–5; two to six feet tall). Native to China, this is the first trumpet lily to bloom each season. It has heavily scented, white trumpet-shaped flowers with yellow centers. It is easy to grow from seed and very dependable, deserving a place in every garden.

TRUMPET LILIES:

'White Henryi' (Zones 4–8, 8–1; to eight feet tall). A cross between *Lilium henryi* and a white trumpet lily. It has flat, ivory flowers with orange centers, decorated with cinnamon penciling. A very dependable selection, it has been widely used in hybridizing.

—B.B.

ear form with linear leaves, so it's a nice contrast," he says. Both grow well in his sandy soil, and their flowering season overlaps slightly, providing a shifting display of colors and textures. "The peonies I grow are mostly early species and they peak in early May, while the peak season for the lilies is the first week of June to the second week of July." A few of Sims's lilies don't bloom until September.

His gardens include other complimentary species such as roses, foxgloves, chrysanthemums, hardy cyclamens, and impatiens.

EXPANDING POSSIBILITIES

Sims not only grows lilies, he creates new varieties as well, mostly employing a low-tech hybridizing process carried out on his kitchen counter. He makes between 20 and 50 new crosses and produces a thousand seedlings every year.

Perhaps no one appreciates Sims's breeding work more than Larry Diehl, president of the North American Lily Society. A retired NASA engineer, Diehl knows what it's like to face steep challenges while exploring new territory. "I'm not sure that lily hybridizing quite measures up to rocket science in terms of complexity," says Diehl, "but there is a theme that is similar. Both have a strong element of pushing the boundaries forward in terms of what we are able to achieve."

For example, when parent plants are not closely related, they can be genetically incompatible, resulting in non-viable seed. To help circumvent such instances, Sims engages in a technique called embryo rescue—extracting an embryo from an unripened seed and growing it in a sterile, nutrient-rich solution. This technique has "allowed the creation of whole new classes of lilies which are the result of crosses between lilies that could not produce offspring by conventional pollination and seed growth methods," explains Diehl.

Although some large-scale commercial growers, particularly in Holland, pump large sums of money into crossing incompatible lilies for the cut flower trade, not many engage in embryo rescue to produce garden variety plants. And few amateur hybridizers go to the trouble of setting up a home-based mini-lab, as Sims did. Diehl estimates there may be as few as a couple dozen among the 1,000 or so members of

the North American Lily Society.

The payoff for Sims is in seeing what characteristics his latest cross will produce. "It's always a mystery to go out in the morning—the lilies usually open in the morning—and see the brand-new seedlings and find out what the color is and the flower shape," he says.

Most won't be anything special. In fact, Sims estimates as few as one in a thousand hybrids possesses the right blend of traits to make it worth introducing to the market. But he is always looking for the trait that makes a selection special, "either a color that doesn't exist, outstanding disease resistance, long blooming time, or some unique combination."

Hybridizing season follows blooming and runs until about the third week of July. Embryo cultures occur 60 days after making a cross. Sims freezes the seeds in plastic envelopes until planting time, anywhere from the end of December to early March, when he plants the seeds in a commercial seed starting mix in three-and-a-half-inch pots. The seedlings that sprout are grown under grow lights in Sims's basement until they are transplanted into the garden in late June or early July.

Sims grows his new hybrids in a dozen seedling beds—surrounded by chicken wire to keep out the deer—for three to six years before selecting the ones he wants to keep for further breeding.



Several of Sims's yet-unnamed hybrids await his evaluation: the tall lavender blooms in the center are the result of a cross between *L. martagon* var. *album* and a white Asiatic seedling. The orange-flowered seedlings are products of his crossing *L. pardalinum* with an interspecific hybrid (*L. pardalinum* × *L. humboldtii*).



A fine choice for the edge of a woodland or garden in part shade, *Lilium tsingtauense* is a mid-season bloomer that produces upright flowers, two to three inches across.

SHARING THE PASSION

Vacations with his wife, Stephanie, and their two daughters revolve around—what else?—lilies. Sims makes biannual junkets to all corners of the continent for the North American Lily Society’s annual summer show and winter meeting. Stephanie plays an integral role as the organization’s secretary.

Sims is among 200 participants in the lily society’s exchange program, trading with lily enthusiasts in Russia, Latvia, Germany, Holland, and the United Kingdom, as well as Australia and New Zealand. He swaps or gives seeds away, but never sells them.

“Now is a good time to be growing lilies,” Sims says. “The Internet has made communication so much easier. Even 15 years ago, the things that were so difficult and almost impossible to get your hands on are now common.” The bottom line for Sims is more variations with which to hybridize, expanding the spectacular di-

versity with each cross. “We will probably look back at these times as almost the golden years of lilies because of the number of species that are available,” he says.

Sims is also active with the Species Lily Preservation Group, a conservation group affiliated with the North American Lily Society whose concern is the roughly 100 species that occur naturally in the wild, 20 or so of which are native to North America and about two dozen of which Sims himself has grown.

A RARE BREED

Charlie Kroell, a retired General Motors engineer and fellow lily hybridizer, witnessed the beauty of Sims’s gardens firsthand in July 2007, with Alan Mitchell of Scotland, soon to be editor of the Royal Horticultural Society’s biannual yearbook. Very impressed with what he saw, Kroell says Sims’s contributions to the horticultural world extend far beyond the Kootenai River Valley of northern Idaho.

Resources

The North American Lily Society,
www.lilies.org.

Lilies: A Guide for Growers and Collectors by Edward Austin-McRae. Timber Press, Portland, Oregon, 1998.

Lily Disease Handbook by Edward Austin-McRae. North American Lily Society, Bonners Ferry, Idaho, 1985.

Sources

B & D Lilies, Port Townsend, WA.
(360) 765-4341. www.bdlilies.com.
Catalog \$3; free online.

Estate Perennials, Stony Plain, Alberta, Canada. <http://estateperennials.com>. Catalog free.

The Lily Garden, Vancouver, WA.
(360) 253-6273. www.thelilygarden.com. Catalog online.

The Lily Nook, Neepawa, Manitoba, Canada. (204) 476-3225. www.lilynook.mb.ca. Catalog \$2 or online.

Valley K. Greenhouses, Alberta, Canada. (780) 877-2547. www.plantlilies.com. Catalog \$3 or online.

“Rare,’ of course, is relative; but among gardeners as a whole, such a passion as Dave’s is by no means common,” Kroell says. As Kroell sees it, cultivating a wide variety of garden plants well is admirable, but, he suggests, “it is better yet to love one genus of plants above all others, to delve more deeply into its history, associated literature, attributes, and mysteries. Of those who subscribe to such a philosophy, there are, of course, differing degrees to which each gardener’s ardor is expressed. In this regard, Dave is far out on the curve and as such is, indeed, a rarity.”

Brian Bell of Creston, British Columbia, is co-owner and editor of Look Magazine, a monthly publication serving the Creston Valley/Bonners Ferry corridor.

FOR YEARS, I had little interest in ubiquitous bedding impatiens (*Impatiens walleriana*). It wasn't until I actually grew them that I began to understand their attraction. They are uncomplicated flowers whose charm is the way they effortlessly create wonderful sheets of color.

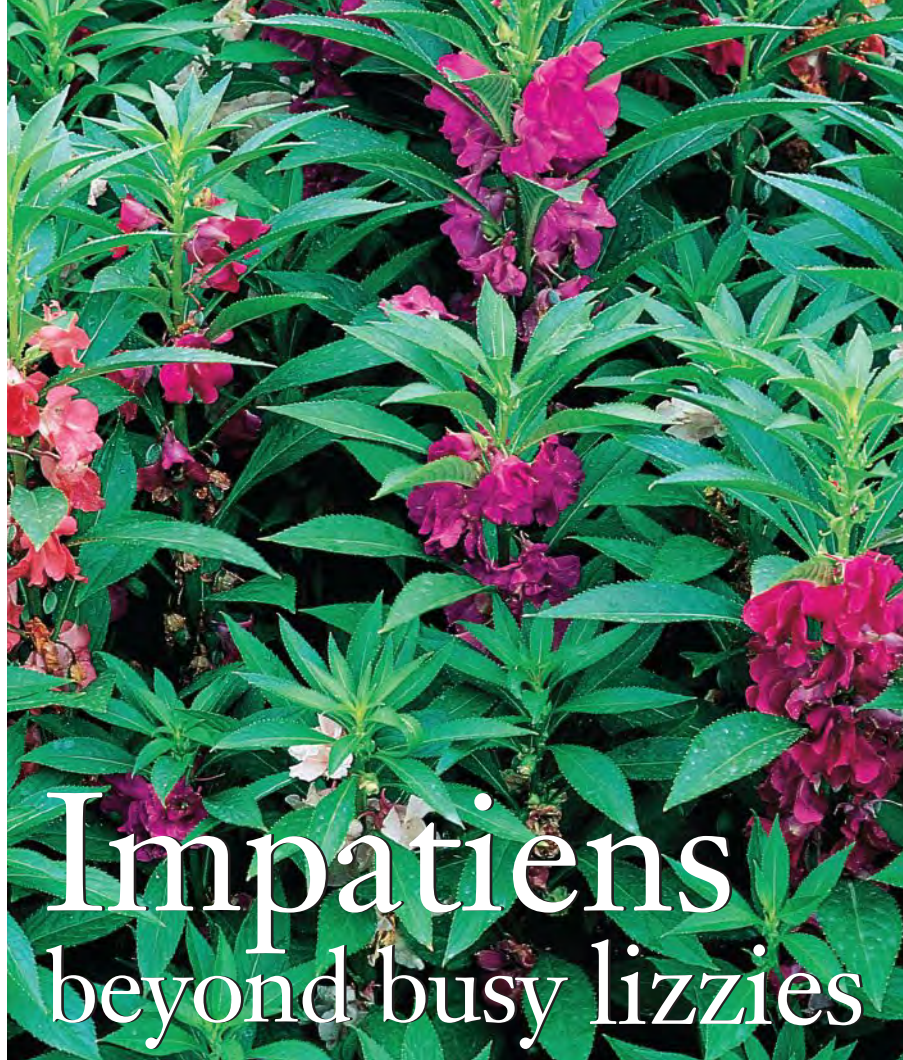
The champion of them all, the Super Elfin hybrid series, created by the legendary impatiens breeder Claude Hope, now comes in 23 colors, in soft and bright shades from apricot, salmon, and lilac to cherry red, fuchsia, and everything in between, some embellished with stars, picoteeing, and mosaic patterns, painted on five flat petals that meet in a graceful spur. Given filtered shade, friable, moderately enriched soil, steady moisture, and T-shirt temperatures, they bloom their hearts out the entire growing season. Compact and bushy plants, eight to 10 inches tall, produce bushels of two-inch-wide blooms.

For busy gardeners, the great benefit of the Super Elfin and related hybrids is that they don't need cossetting. No deadheading, no trimming, just plant them and relax. Few diseases or pests bother them. It's this quality that makes "busy lizzies," as selections of *I. walleriana* are sometimes called, the most widely sold annual in America today. No longer regarded as just a workhorse for shade, bedding impatiens are star performers that offer ever-broader garden design possibilities, thanks to improved breeding.

A FRESH LOOK AT THE FAMILIAR

Busy lizzies may be the most popular members of *Impatiens*, but the genus as a whole is starting to draw notice for its extraordinary diversity. Newly discovered impatiens species—along with older species being "rediscovered"—are making an impact as sensational plants because of their tropical-looking flowers and varied forms, from big and bushy to low and creeping. Many of these species are from out-of-the-way places where, in some cases, their existence may be threatened by deforestation or changing land uses. In such cases, the issue of conservation is as important to researchers as the thrill of discovering new garden-worthy plants.

Unlike mass-marketed impatiens—which are bred for uniformity, compactness, and summer-long bloom—the



If the only *Impatiens* you've grown are busy lizzies, you've barely scratched the surface of this large and intriguing genus of shade-loving plants.

BY JO ANN GARDNER

lesser known species bloom intermittently and some have rangy or scruffy habits. In some types, the striking flowers are partially hidden underneath leaves. Despite these flaws, plant collectors and gardeners looking for something different are snapping them up, fascinated by the quirky artistry of the flower design—from butterflylike to puffy, with weird and wonderful spurs. Their unreformed wild habit and their exuberant growth rate enable them to fill out a six-foot-wide swathe in a single season. New selections feature improved forms and wider color range. Some are not commercially grown on a mass scale, but are rare plants available in limited quantities, adding to their allure.

A GEM OF A GENUS

Part of the touch-me-not or balsam family (Balsaminaceae), the genus *Impatiens* contains some 1,000 annual and perennial species originating primarily in tropical, subtropical, and temperate areas of Africa and Asia. A few species are native to North America and Europe. Many impatiens thrive in ecological niches at higher elevations in cool, damp places among mosses and ferns, along stream banks, in rock crevices, and even on tree branches.

Balsam (*Impatiens balsamina*) is one of several impatiens species originally described by botanist Carolus Linnaeus in 1753. Its species name reflects the soothing properties of this genus's sap; historically, it was used as a balm. For instance, the sap

Impatiens balsamina 'Camellia Mix' is a double-flowered cultivar available in vibrant colors.

from the stems of the North American native jewelweed (*Impatiens capensis*) has long been used as a folk remedy for bee stings and poison ivy.

The succulent, often translucent stems of *impatiens* arise from fleshy tuberous or rhizomatous roots. The foliage ranges from oval to round—and glossy to hairy—with finely toothed margins.

Impatiens flowers tend to come in two general forms: one is open-faced and flat with a narrow spur curving down behind; the other has a pouchlike spur shaped like a horn of plenty (cornucopia). Flower shape determines the type of pollinators, which range from butterflies and moths to bees and hummingbirds.

Seeds form in capsules that are generally linear or spindle-shaped. The name of a European and Asian species, *I. noli-tangere*, literally “touch-me-not”, characterizes the way all ripe *impatiens* seedpods explode at the slightest touch, flinging seeds up to 20 feet away.

OLD STANDBYS

The hybridization of *impatiens* has been hampered by several factors, among them seed viability. *Impatiens balsamina* (USDA Zones 0–0, AHS Zones 12–3) has been cultivated for centuries because its seed remains viable for a long time and, in common with *I. walleriana*, germinates readily.

Native to India and the Himalayas, *balsam* has a branching and bushy habit



Jewelweed (*Impatiens capensis*) often grows along the shady banks of creeks.

growing to two-and-a-half feet with flowers—white, yellow, or dark red, often spotted—that grow close to the main stem under saw-toothed leaves. Breeding has produced double flowers in scarlet, soft rose-pink, deep violet, and white, often lightly scented. This old-fashioned cottage garden plant self-sows readily and tolerates heat and humidity.

Impatiens glandulifera and *I. balfourii* have been around a long time, too, but are experiencing something of a renaissance. Annuals from the Himalayas, they self-sow prolifically once established and bloom generously in summer. *Impatiens glandulifera* (Zones 0–0, 12–3), also known as

policeman’s helmet because of its large hooded flowers, is undeniably show-stopping, but has proven invasive in some regions and is considered a noxious weed in Connecticut, Oregon, and Washington state. Reddish stems to six feet bear a profusion of pink, raspberry, and white flowers, held in dangling clusters, spotted within and lightly fragrant. *Impatiens balfourii* (Zones 0–0, 12–3), commonly called poor man’s orchid, is daintier and less aggressive, growing two to three feet tall and two feet wide with small, orchidlike lavender and white flowers.

There are six *impatiens* species native to North America, but jewelweed (*I. capensis*, Zones 0–0, 10–2) and pale touch-me-not (*I. pallida*, Zones 0–0, 9–1) are the most familiar because they have the broadest natural range. Found widely in shady moist woodlands and along streambanks, jewelweed grows two to five feet tall with attractive, glaucous leaves. Its orange to yellow flowers, which bloom in drooping clusters from mid-summer to frost, are often speckled with brown dots. Jewelweed self-sows readily and can become weedy if given the right garden conditions.

Pale touch-me-not is found in damp forests and meadows from North Dakota and Saskatchewan south to Oklahoma and east to the Atlantic Seaboard. Its

Poor man's orchid (*Impatiens balfourii*) mixes well with white calla lilies and pale-leaved *Lamium maculatum* 'White Nancy' in this lush border.



small, pale yellow flowers are brown-speckled and bloom from midsummer to fall on four- to six-foot stems.

HYBRID FAVORITES

The lanky three-foot-tall tender perennial, *I. walleriana* (Zones 10–11, 12–1), was first discovered in Zanzibar, an island off the coast of East Africa, in 1896. Subsequent findings of impatiens with red, pink, and white flowers in neighboring East African countries were eventually grouped with this species. These variants are what gave *I. walleriana* the gene- power edge breeders were looking for. By the early 1960s, Claude Hope was developing new color forms for his Pan American Seed Company. His breakthrough—the dwarf, free-flowering hybrid ‘Elfin’—was introduced in 1966 by George J. Ball, Inc. This series was soon followed by the Super Elfin we are familiar with today. The hundreds of selections that have emerged since the introduction of Super Elfin are all derived from the original crosses Hope made at his seed farm in Costa Rica.

Impatiens with double flowers that resemble miniature roses were the result of a chance mutation. Newer introductions are stronger-stemmed than earlier doubles and



Beautiful *I. glandulifera* self-sows readily and has naturalized in some areas.

more compact. Ball Horticultural Company’s Fiesta™ series, 10 to 16 inches tall with a 12-inch-wide spread, produces endless self-cleaning blooms in shades of lavender, burgundy-rose, salmon, pink, and white. In the Fanciful™ series, flowers have extra petals that give them a frilly appearance. In containers, these and the doubles make great accent plants.

SUN-TOLERANT SELECTIONS

With the introduction of New Guinea impatiens—developed as hybrids of *I. hawk-eri*, a native of New Guinea—in 1972, sun and heat tolerance was added to the impa-



Above: The New Guinea impatiens ‘Light Salmon’ bears extra-large flowers. Left: Double-flowered *Impatiens walleriana* ‘Double Up Orange’ and single-flowered ‘Tempo Cinnamon’ mingle with the interspecific hybrid ‘Seashell Yellow’.

tens profile. The original spindly plants have been transformed into branching forms with sharply tailored, gleaming dark green, bronze, or variegated foliage and large, flat flowers usually in bright colors. They perform best where they receive morning sun and afternoon shade. Otherwise, they can be water guzzlers.

Impatiens species are notoriously difficult to interbreed but commercial plant breeders are always trying. For instance, Ball’s Fanfare™ series is the result of an interspecific cross between New Guinea impatiens and *I. flaccida*. It is a vigorous, spreading impatiens tolerant of hot weather and some sun exposure. Its large bright flowers are set off by gleaming green foliage.

The SunPatience® series, developed by Sakata seed company to take direct sun, extreme heat, and humidity in stride, are extraordinarily robust landscaping plants that can be used as annual shrubs. Two new colors are lavender and light salmon; the latter has variegated foliage.

Ball’s Fusion™ series, the result of crossing *I. walleriana* with *I. auricoma* from Madagascar, features the long-sought yellow gene. Plants are vigorous and branching, 10 to 16 inches tall and a foot wide, bushy and mounding in form. When grown in the shade of hostas, the soft yellow orchidlike flowers of ‘Glow’ create a striking hedge to light the darkest setting. Other flower colors include cherry-pink, dark pink, peach, and apricot, and one with variegated foliage.

COLD-TOLERANT SPECIES

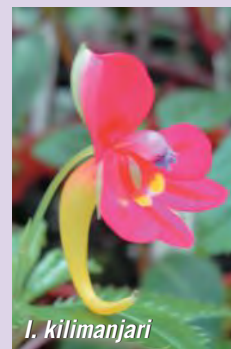
Impatiens that are reliably hardy to USDA Zone 7 or 8 and self-sow in colder regions are making a great stir among perennial gardeners. Derick Pitman, known as “Mr. Impatiens” for his devotion to the genus and his collection of 170 impatiens, distributes many of the lesser known selections through a few select plant nurseries. (For more on Pitman and growing exotic impatiens, see the web special link to the online version of this article at www.ahs.org.)

Who’s growing these treasures? According to Claire Woods, impatiens propagator at Annie’s Annuals & Perennials in Richmond, California, gardeners everywhere, not just in mild climate areas, are trying them. Where they are frost tender

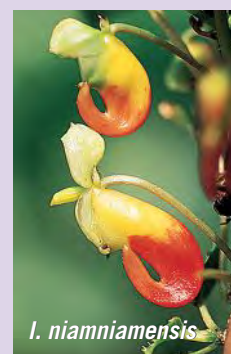


MORE EXOTIC IMPATIENS TO CONSIDER

Botanical Name	Height/ Width (ft.)	Attributes	Origin	USDA Zones, AHS Zones
<i>Impatiens hoehneltii</i>	1/1	Trailing species with pink flowers and red stems; tolerates part sun.	Kenya	9–11, 12–1
<i>Impatiens kilimanjari</i>	2/2	Tender perennial or self-seeding annual in colder climates with hooded scarlet flowers.	Tanzania	9–10, 12–1
<i>Impatiens nana</i>	1–2/2	Tender perennial or self-seeding annual in colder climates. Prolific pink flowers. Tolerates part sun.	Tanzania	10–11, 12–1
<i>Impatiens niamniamensis</i>	2/3	Erect tender perennial with unusual red and yellow curly-spurred flowers and large glossy foliage.	Africa	10–11, 12–1
<i>Impatiens nyungwensis</i>	1/2/3	Rare tender perennial with a creeping habit, soft hairy foliage and bright red, curly-spurred, bearded flowers.	Rwanda	10–11, 12–1
<i>Impatiens pseudoviola</i> 'Alba'	1/2	Semi-trailing species with prolific white flowers. Evergreen in warmer climates.	Kenya, Tanzania	10–11, 12–1
<i>Impatiens scabrida</i>	2–4/1–2	Self-seeding annual with large, pale yellow, orchid-shaped flowers. Fast growing and self-seeding.	Himalayas	0–0, 12–1
<i>Impatiens sodenii</i> 'Flash'	4–6/3	Fast-growing tender perennial or self-seeding annual in colder climates. Large white flowers streaked with pink.	Kenya, Tanzania	10–11, 12–1



I. kilimanjari



I. niamniamensis

(or their hardiness is undetermined), gardeners grow them in pots and winter them over indoors where they make good houseplants. “Part of the fun of growing them,” observes Woods, “is their air of mystery. We don’t yet know all about them.”

Pitman’s introduction, *I. arguta* ‘Blue Dream’ (Zones 7–11, 12–1) stands out for its lilac-blue two-inch long flaring, tubular flowers, well displayed horizontally from their stems. Unlike many other impatiens, it is tolerant of both cold and heat.

In the right conditions it can reach four feet tall and sprawl as wide in a single season. His ‘Blue Angel’ is more upright and ‘Snow Angel’ is a white form.

Native to Thailand and southern China, *I. mengtzeana* (Zones 7–11, 12–4) takes morning sun. Blooming in late summer and fall, its two-inch, hooded golden peach-blushed flowers feature a prominent spur. This is a good choice for a large tub or hanging basket, because it tends to have a trailing habit with stems that reach 15 inches long and spread to three feet.

Don Jacobs of Eco-Gardens in Decatur, Georgia, discovered hardy *I. omeiana* (Zones 7–11, 12–5) in 1983 in China, growing among rhododendrons and foamflowers (*Tiarella* spp.). Its showy three-inch-long leaves are enhanced by a broad band of creamy white along their midribs. A cultivar of *I. omeiana* called ‘Ice Storm’ blooms more prolifically.

The soft yellow flowers of Fusion™ ‘Glow’ can light up a shade garden.



Resources

Impatiens: The Vibrant World of Busy Lizzies, Balsams, and Touch-Me-Nots

by Raymond J. Morgan. Timber Press, Portland, Oregon, 2007.

Sources

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

Glasshouse Works, Stewart, OH. (740) 662-2142. www.glasshouseworks.com. Catalog online.

J.W. Jung Seed Company, Stevens Point, WI. (715) 341-8939. www.jungseed.com. Free print and online catalog.

Kartuz Greenhouses, Vista, CA. (760) 941-3613. www.kartuz.com. Catalog \$3; free online.

Pinetree Garden Seeds, New Gloucester, ME. (207) 926-3400. www.superseeds.com. Catalog online.

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

Shaped something like a white-and-yellow cornucopia, flowers are set off by silver-frosted foliage.

Evening fragrance gives *I. tinctoria* (Zones 7–11, 12–5), native to northeastern Africa, added charm. Plants grow up from tuberous roots to five feet in height, spreading three feet across. Blooming from midsummer to fall, its eye-catching white flowers are flared and hooded, their deep throats high-

Ray Morgan, a British impatiens aficionado who maintains the National Plant Collection of Impatiens. Morgan, who is the author of a newly published book on the genus (see “Resources,” this page), raised six plants, and the rest, as they say, is history. Plants are compact to two feet tall and bear loosely round and spurred true-blue flowers, making it the only known blue-flowered impatiens species. The color changes with temperature and exposure,



Impatiens namchabarwensis may be the next rising star among impatiens selections. The so-called Blue Diamond grows to two feet tall and wide and produces true blue blossoms.

lighted in magenta. It thrives in a site that gets afternoon shade.

Collected in China by American plant hunter Darrell Probst, ‘Sichuan Gold’ (Zones 5–11, 12–4) is an as-yet-unidentified species that grows from underground stolons to 18 inches tall. Adrienne Roethling, curator at Juniper Level Botanic Garden at Plant Delights Nursery in Raleigh, North Carolina, says its large yellow flowers bloom for a month in summer. In trials, it has survived minus 18 degrees Fahrenheit without winter protection.

If there’s a rising star among the new impatiens, it seems to be *I. namchabarwensis* (Zones 7–11, 11–1), which owes its daunting specific epithet to the deep ravine in a remote area of Tibet where it was discovered in 2003 by a Chinese botanist. Seeds collected from the plant were sent to

notes Claire Woods, from deep purple to ultramarine. The deep-green, ornately veined leaves are also very attractive. Its hardiness is yet to be determined, but plants self-sow. In his book, Morgan predicts that the plant, now available in the United States as Blue Diamond impatiens, “is destined to become a great addition to the summer garden.”

Will plant breeders be able to isolate the blue gene? Should we care? Blue Diamond is a fabulous plant in its own right. These are exciting times, as gardeners are offered ever wider choices among the tame and not-so-tame members of this intriguing genus.

Jo Ann Gardner is the author of several gardening books, including Herbs in Bloom (Timber Press, 1998).



Impatiens omeiana, discovered in 1983 in China, is hardy in USDA Zone 7.

Protecting One of Your Most Valuable Assets



Soil is the Key

When working with landscape trees and shrubs, the most important component of health is the soil. It is estimated that 80% of the problems related to landscape plantings originate with soil issues. That includes pest problems! Because the condition of the soil is so important for your landscape trees and shrubs, The Care of Trees places a major focus on Plant Health Care activities that effect the soil.

Why choose us to care for your trees?

Our arborists are passionate about trees. They understand how much your trees mean to you and are ready to go the extra mile to ensure proper care.

Your trees are living assets that need ongoing care to thrive. The committed, knowledgeable professionals of The Care of Trees can help you protect them for today and for future generations.



Corporate Member



EXCLUSIVE TREE CARE
company of *The American Horticultural Society*

SERVING METROPOLITAN CHICAGO,
PHILADELPHIA, NEW YORK CITY,
SAN FRANCISCO AND WASHINGTON, D.C.

Alexandria, Virginia 703.922.8733 www.thecareoftrees.com



Harold Pellett, Breeding Plants that Survive in a Tough World

by John Fiege

MANY GARDENERS in northern climes may not know him, but chances are, they owe some of the beauty of their landscape to plant breeder Harold Pellett. Pellett, who taught horticulture and bred plants at the University of Minnesota in Chanhassen for more than 30 years, developed the acclaimed cold-hardy ‘Northern Lights’ series of azaleas as well as ‘Cardinal’ red osier dogwood (*Cornus sericea*), ‘Northern Sun’ forsythia, and many other trees and shrubs. Now Executive Director of the non-profit Landscape Plant Development Center (LPDC), which he founded in 1990, he continues his quest to breed more woody plants that will thrive in challenging environments. Based in Minnesota, LPDC also has operations in Oregon and at Cornell University in Ithaca, New York. Recent LPDC introductions include ‘Silver Ball’ pear, ‘Center Glow’ ninebark (*Physocarpus opulifolius*), and ‘Silver Star’ clematis, which were developed to have lasting value in the landscape.



Editorial Intern John Fiege talked to Pellett, who received the AHS Liberty Hyde Bailey Award this year, about creating new plants for modern gardens and the future of woody plant breeding in America.

John Fiege: What led you to create the Landscape Plant Development Center and how does it work?

Harold Pellett: LPDC was created to counter a lack of funding at universities for breeding landscape plants as well as the shrinking of university programs in plant breeding. It is a cooperative effort of many botanical gardens and universities across the country pooling resources to conduct breeding research more efficiently.

The participating arboreta provide parent plants and space to grow them, and the LPDC provides the breeding expertise. First-generation plants are sent to our farm in Oregon, where they quickly mature in the favorable climate. They are then crossed with each other and the second generation offspring are sent to locations around the country for evaluation. They might be sent to the Southwest, where they are tested for drought and heat tolerance or to the northern plains, where they are tested for cold endurance.

Much of your early career focused on developing plants to broaden the palette for northern gardeners. Is



‘Center Glow’ ninebark is a new introduction from Landscape Plant Development Center.

breeding for cold tolerance still one of your major goals?

My interest in cold tolerance developed during my years teaching at the University of Minnesota, and it is still a major environmental factor. But the LPDC studies tolerances of all the environmental factors that may be found in various regions

around the United States—for example, in the Southwest, a tolerance for heat and drought, especially in tandem, is vital. We are trying to develop it in plants.

What about your interest in developing plants for urban environments?

It was more my interest in breeding stress-tolerant plants—breeding for cold hardness and stretching plant tolerances for various conditions. Urban sites are often stressed sites with completely different soil than surrounding undisturbed areas due to grading by heavy equipment, which also contributes to compacting and bad drainage.

Breeding woody plants is often said to be a lifetime pursuit. What are the characteristics breeders must have to be successful?

Patience—woody plants have a long life cycle. Imagination—if I cross A and B, what might I get? Knowledge of genetics—in breeding woodies, you look at the parents and try to figure out by averaging the statistics of the parents how long each generation will take to manifest a desired trait.

Is the introduction to the marketplace of woody plants with serious structural deficiencies, such as the Bradford pear, evidence that the horticultural industry is going for short-term gains over developing plants that are better long-term investments?

It is really a question of how long it takes to evaluate a plant before it is ready to be released to the market. In the case of the Bradford pear, it was 20 to 30 years before the structural weakness was evident. If you waited that long before putting a plant on the market, you'd never get anything to the consumer.

The evaluation time depends on how much we know about the parents. We evaluate the weakest link of both parents

cially in woody plants. There is probably only a handful of full-time woody plant breeders in the United States, whereas there are more than 600 breeders of corn alone. I am most concerned the universities are cutting back on plant breeding programs, depriving young people of an avenue to pursue an interest in it.

As for notable plant breeders, I'm hesitant to name names for fear of overlooking anyone, but there are several people who come to mind. There is Tom Ranney of North Carolina State's Mountain Research Center. There are Richard Olson and Margaret Pooler at the National Arboretum; Sandy Reed, who is with the National Arboretum's Floral and Nursery Plants Research Unit in

For more information about the Landscape Plant Development Center, visit www.landscapecenter.org, call (952) 443-1505, or send an e-mail to plants@landscapecenter.org.

very specific soils; they might grow in one location, but not survive if moved only a short distance away. Although precipitation and temperature generally are consistent in a small area, soil can vary greatly.


On the other hand, exotic plants that are grown for their adaptability to a wide range of conditions pose the opposite problem. Their adaptability makes them likely to be invasive, and this has to be factored into breeding any stress-tolerant plants. To counter this potential problem, we try to develop sterile varieties.

We can observe how these types of plants spread to determine the best way to control them. If a plant produces lots of small seeds that are easily dispersed—say, by birds eating them—it will be more difficult to control than a plant that has large seeds that aren't as easily transported. In an urban setting, where plants are surrounded by asphalt or concrete, they are less likely to spread where they are not wanted.

Have plant breeding techniques changed since you started your career?

The big advances are in the use of biotechnology. We have the ability to take a gene for one trait, such as disease resistance, from one plant and insert it into another plant. We can also create a sterile plant this way, as well as control size and color.

Do you have a garden of your own?

We have more than four acres of land, some of it planted in perennials. I've had to give up growing vegetables because of competition from wildlife. Of course, I have trees and shrubs, but like the shoemaker in the old proverb, whose own children are unshod, my research on ornamental plants takes precedence over design, so, unfortunately, the layout is not very aesthetic. 

John Fiege is an editorial intern with The American Gardener.



'Lemon Lights' is part of the cold-hardy 'Northern Lights' azalea line bred by Harold Pellett.

and subject that quality to extra testing. With the Bradford pear, its weakness was unknown because it was so new to the landscape trade. It's a tree that needs to be pruned while it's young so the branches are properly spaced out.

As a longtime university professor, you've had the opportunity to teach and inspire the next generation of plant breeders and horticulturists. Are there up-and-coming plant breeders we should be watching for?

Unfortunately, there is not a lot of interest in the field of plant breeding, espe-

cially in woody plants. There is probably only a handful of full-time woody plant breeders in the United States, whereas there are more than 600 breeders of corn alone. I am most concerned the universities are cutting back on plant breeding programs, depriving young people of an avenue to pursue an interest in it.

As a plant breeder, what is your perspective on the native-versus-non-native-plants debate in horticulture?

Natives have the advantage of tolerating our climate. However, it's important to note that they are adapted to *natural* rather than manmade conditions. So when you are talking about plants for a new housing development or a shopping center, native species aren't always the answer. Some natives are adapted to

Horticultural News and Research Important to American Gardeners

SPUD SLEUTHS REWRITE HISTORY

Next time you're noshing on a French fry, consider this: Although the tasty tuber you're consuming is commonly known as a "European" potato, it is actually native to South America. However, scientists have long debated about where exactly in South America the potato originated and what role different regional strains may have played in the European potato blight.



Agricultural Research Service botanist David Spooner, right, and a colleague collect wild potatoes in Peru in an effort to determine the origins of the modern potato.

All modern potato cultivars contain genes mainly from Chilean potatoes, so one explanation is that, ergo, the European potato came from Chile. An alternative hypothesis, which has been the generally accepted one for the last several decades, is that European potatoes originated in the Andes from Venezuela to Argentina before arriving in Europe in the late 1500s. Then when late blight—a fungal disease—devastated potato crops in Europe beginning in 1845, it killed all the Andean cultivars so Chilean potatoes were brought in to replace them.

To settle the question, scientists from the U.S. Department of Agriculture's Agricultural Research Service compared DNA from herbarium samples dating back to the early 1700s. The study, published in the February 2008 issue of the *American Journal of Botany*, confirms that the European potato did originate in the Andes. It also reveals that Chilean potatoes had arrived in Europe by 1811, thereby refuting

the "idea that the late blight epidemics beginning in Europe in 1845 stimulated introductions of Chilean germplasm as breeding stock to combat this disease or eliminated the Andean potato, which persisted up until 1892."

SCREENING SYSTEM FOR INVASIVES URGED

Currently the United States doesn't have a screening system for plants with unknown invasive potential. To remedy this, the Nature Conservancy is encouraging the USDA's Animal and Plant Health Inspection Service (APHIS), the agency responsible for regulating and

monitoring the importation of exotic plants and animals into the United States, to adopt the Weed Risk Assessment (WRA) system, which has proven effective in screening potential weeds in Australia and New Zealand.

To determine the WRA's efficacy in other locations, the Nature Conservancy and University of Florida collaborated on a study that focused on imports to Hawaii, Florida, and several other areas. In the study, published in the March 2008 issue of the journal *Diversity and Distributions*, the researchers reported that WRA had an 80 percent accuracy rate for correctly accepting or rejecting a plant of unknown invasive potential, and that it is effective in both temperate and tropical climates across islands and continents.

"Under the current U.S. law, few species are tested and the process can take up to eight weeks," says Doria Gordon, associate director of science for the Nature Conservancy's Florida chapter and one of the study's authors. "The WRA system can be used to test all new plants proposed for import and determine whether or not a plant should be allowed entry into a country in under 24 hours."

APHIS is currently "examining all the screening tools used around the world with regard to their relative strengths and weaknesses," says Senior Import Specialist Polly Lehtonen, "as well as their usefulness and applicability in a North American context."

DANDY DAISIES FOR NORTHERN GARDENS

In an evaluation of Shasta daisy (*Leucanthemum xsuperbum*) cultivars at the Chicago Botanic Garden (CBG), 'Amelia' and 'Becky' emerged as the top rated selections of this popular perennial, introduced by California plant breeder Luther Burbank in 1901. In all, 36 daisy cultivars, including a few oxeye daisy (*L. vulgare*) selections, were evaluated over seven years for traits such as



'Amelie' Shasta daisy excelled in a trial conducted at the Chicago Botanic Garden.

hardiness, disease and pest resistance, and ornamental qualities.

Shasta daisy and oxeye daisy both produce white ray flowers with yellow discs over a long season of bloom. However, the flowers of oxeye daisies are typically smaller and appear about four weeks sooner than Shasta daisies. Oxeye daisies also tend to spread aggressively and have naturalized in some regions of North America. Two cultivars of oxeye daisy, 'Filigran' and 'Maikoni-gin', also received the top rating, but Richard Hawke, CBG's plant evaluation manager, notes that the oxeye daisy cultivars "are cautiously recommended because of rhizomatous habits and prolific seed production."

Other highly rated Shasta daisy cultivars include 'T.E. Killin' and 'Wirral Pride', both with crested flowers, 'Switzerland' with a "reliably full habit," and 'Snowdrift', with flowers that vary from single to double with short, curly rays.

To obtain a copy of the trial report (Plant Evaluation Notes, Issue 30), call the Chicago Botanic Garden at (847) 835-5440 or visit www.chicagobotanic.org.

NEW ONLINE GARDENING RESOURCE

Got a gardening question that has you stumped? You might want to check out www.extension.org, a recently created online resource that taps into the expertise of Cooperative Extension professionals at more than 70 land grant universities across the country. The website currently provides information on 16 "resource areas," one of which is "gardens, lawns,

and landscapes." In this section, you will find helpful articles on topics such as flowers, vegetables, lawns, pests, and soil. If your question is still unanswered, there's also an "Ask an Expert" option and a searchable bank of already answered questions.

ALL-AMERICA ROSE SELECTIONS FOR 2008

As All-America Rose Selections™ celebrates its 70th anniversary this year, the organization has chosen two 2008 AARS Winners with a festive flare: Dream Come True™ ('WEKdocpot') and Mardi Gras ('JACfrain').

Dream Come True is a grandiflora rose that produces yellow flowers with a reddish blush that starts at the tips of the petals, then completely turns ruby red. According to the AARS, "the big, bushy, vigorous plant yields long-stemmed, long-lived blooms with mild tea fragrance, making it lovely in the landscape and a great choice for bou-



Dream Come True, top, and Mardi Gras, above, are the two All-America Rose Selections for 2008.

WORLD'S #1 TOP PLANT SUPPLY

#1 PLANT HEALTH EXTRA LIFE

Greatest Guarantee-Offer PROOF Ever

65 YEARS, unchallenged. \$5,000. GUARANTEED to be

World CHAMPION

#1 Activator, #1 Trans/ Planter, #1 Extra GROWER, #1 REVIVER, #1 Perfecter

WORLD'S FAIR SCIENCE-MEDAL-WINNING

SUPERthrive™ 50 IN ONE

VITAMINS-HORMONES

USED BY U.S. DEPARTMENT OF AGRICULTURE ARMY, NAVY, AIR FORCE, MARINE CORPS, AND ALL 50 STATES, DISTRICT OF COLUMBIA, GUAM, AND TERRITORIES

RECOMMENDED BY EXPERTS ON TV, RADIO, BOOKS, MAGAZINES, CONFERENCES

NON-ESTERIFIED BIUSABLES TO ADD TO FERTILIZING for growing

GUARANTEED As Advertised in Better Homes & Gardens, Landscape Architecture, Horticulture, IRVING'S GARDEN, BIRDIE'S GARDEN, ETC.

TOP VALUE OF THE WORLD'S science MIRACLES IN EACH DROP!

ADDED TO 21 FERTILIZERS by 21 Growers

YOU CAN ORDER PINT, QUART, GALLON, or DRUM

Billions—PROVEN BALANCED ORIGINAL

ADDED TO 18 FERTILIZERS, by 18 Growers



RECOMMENDED BY NEARLY 1000 BOOKS, CONFERENCES, MAGAZINES, NEWSPAPERS, TVs, RADIOS

USED BY FIVE U.S. DEPARTMENTS TO HELP WIN WORLD WAR II

THOUSANDS OF GOVERNMENTS, STATE UNIVERSITIES, LEADING ARBORETTUMS, BOTANICAL GARDENS, PARKS SYSTEMS U.S. STATES and CITIES IN MULTIPLE-DRUMS LOTS FLOWERING PLANTS SHOW WINNERS — "everywhere" HEALTHY, TOXICS-FREE FOODS GROWERS

UNIQUE. Far easier plant success

1 INDOOR PLANTS	To See MORE NEW FLOWERS and LEAVES, HEALTHIER, STRONGER — MORE BEAUTIFUL	
2 OUTDOOR PLANTS	TO START NEW ROOT AND FOLIAGE ACTION, SHOOTING DOWN, UP and filling-in, sideways	
3 BARE ROOTS	And TO GET MORE FLOWERS, LONGER and MORE BEAUTIFUL	
4 FLOWERING	TO PLANT THEM ALL SAFELY, UNIFORMLY — and GROWING MORE STRONGLY	
5 SEEDLINGS	TO GET "TWO YEARS' GROWTH IN ONE"?	
6 TREES	TO START THEM VIGOROUSLY, Beating Soil-rot, Mastering Better BLOOMING	
7 FRUITING	For EARLIER, HEAVIER, BEARING?	
8 BULBS	To Help GERMINATION Percentage and SPEED EARLIER, BETTER YIELDS, Including Vegetables	
9 SEEDS	To Make QUICKER, deeper, TOUGHER TURF from SEED, SOB, Stolons, Sprigs, HYDRO-seeding	
10 LAWNS		
11 XMAS TREES	17 HYDROSEEDING	22 FLOWERING PLANT
12 REFORESTATION	18 LANDSCAPING	23 COMPETITIONS
13 HYDROPONICS	19 PROPAGATION	24 INTERIORSCAPING
14 FIELD CROPS	20 ANTI-EROSION	25 CUT FLOWERS
15 BONSAI	21 ENVIRONMENTAL IMPROVEMENT	26 WEATHER DAMAGE
16 TISSUE CULTURE		27 WATER GARDENS

AT CONSCIENTIOUS PLANT DEALERS WORLDWIDE Used, tipped to, and supplied by thousands of conscientious plant-selling firms. On every continent, without salesmen.

REFUSE "just as good," false, cheaply made, unbalancing substitutes — often 99 1/2% water.

NOTHING IS AT ALL "LIKE" SUPERthrive™ 50 VITAMINS-HORMONES

Made in U.S.A. by VITAMIN INSTITUTE (M) 12610 Saticoy Street South, North Hollywood, CA 91605 Website www.superthrive.com

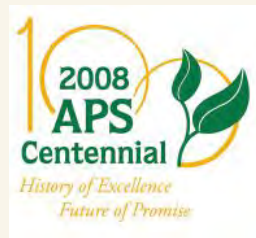
PEOPLE and PLACES in the NEWS

American Phytopathological Society Centennial

Founded in December 1908, the American Phytopathological Society (APS) is a non-profit, professional scientific organization that is devoted to the study and control of plant diseases. The APS plans to celebrate its 100-year “history of excellence and a future of promise,” in a number of ways, including its Centennial Meeting from July 26-30 in Minneapolis, Minnesota.

“We’ve seen the growth and maturity of the land-grant university system, the USDA Cooperative State Research, Education, and Extension Service system, and the National Science Foundation,” notes APS President Ray Martyn as he looks back at the things that have influenced plant pathology since the society came into existence. “We’ve gone from small family-owned farms to large cooperatives. We’ve gone from identifying bacteria and viruses as plant pathogens to exploiting their biology for recombinant DNA technology. And through it all APS has remained strong, viable, and relevant.”

For more information about the Centennial Meeting and APS, visit www.apsnet.org or call (651) 454-7250.



New Center for Public Horticulture

Four years of planning and feedback from more than 100 horticultural professionals have gone into the creation of the



Center for Public Horticulture at the University of Delaware, which officially opens this June. “The Center was created as a hub of education, information, and research in the

field of public horticulture,” explains Associate Director Edward Moydell, whose thesis project for the Longwood Graduate Program formed the basis for the Center. Its leadership also includes Executive Director Robert Lyons, who currently is the director of the Longwood Graduate Program.

“The first phase is making the existing body of research easily accessible to professionals and students, mostly through our new website,” says Moydell. “This research and information is from several universities and allied institutions, not just the University of Delaware.” The Center also will focus on promoting careers in public horticulture through several initiatives. “The Center has great potential to initiate, foster, and encourage professional partnerships among educators and researchers,” says Lyons. Learn more at www.publichorticulture.udel.edu or call (718) 499-2860.

quets.” It was bred by John Pottschmidt from Cincinnati, Ohio—who is only the third amateur hybridizer to achieve this distinction in 67 years—and introduced by Weeks Roses in Rancho Cucamonga, California.

Mardi Gras is a floribunda developed by Keith Zary with Jackson & Perkins from the 1995 AARS winner, Singin’ in the Rain. It earned top honors for its vigorous growth up to four feet and flamboyant yellow-orange blooms that become increasingly pink with a light, peppery fragrance.

Both of these roses are disease resistant and hardy to USDA Zone 5. For more information, visit www.aars.org.

SURVEYS REVEAL EDIBLE GARDENING REVIVAL

Vegetable gardening appears to be experiencing an increase in popularity. A recent Mailorder Gardening Association survey revealed a 10 percent or more increase in vegetable seed sales from last year for their member companies. Organic seeds and seeds that were not genetically modified, along with tomato

varieties and salad greens, were reported to be particularly popular.

Correspondingly, in a nationwide survey conducted by the Garden Writers Association Foundation in February, 39 percent of 1001 households planned to spend money on vegetable or fruit plants this spring, up from 32 percent last year. This percent was higher than spending on annuals, trees and shrubs, and perennials: only spending on lawn and grass appeared to be a bigger priority at 54 percent. The report also found that approximately one third of the households surveyed were “most inclined” to buy products labeled as organic or natural.

DIAL BEFORE YOU DIG

Before you wield a shovel for a spring gardening project, make sure you pick up the phone and dial 811, a national hotline maintained by the Common Ground Alliance (CGA). According to the CGA, an association of utility companies dedicated to public safety, environmental protection, and damage prevention practices, “this step will ensure that all underground utility lines in the work area are marked, prevent

personal and property damage, and protect homeowners from legal ramifications.” In an effort to raise awareness about this resource and to celebrate the hotline’s first anniversary, the CGA has designated this May to be “Safe Digging Month.” For more information, visit www.call811.com.

HORTICULTURAL RESEARCH INSTITUTE AWARDS GRANTS FOR 2008

Since its establishment in 1962 as the research division of the American Nursery & Landscape Association, the Horticulture Research Institute (HRI) has distributed \$4.9 million to more than 600 research projects “covering the full range of production, environmental, and business issues important to the trade.” For 2008, HRI has awarded \$425,000 in grants and scholarships to fund more than 20 research projects around the country. The projects range from investigating management strategies for invasive species and pests to developing biodegradable containers and new plants. For more information, visit www.anla.org/research.

Written by Associate Editor Viveka Neveln.

Plants LOVE WORM POOP

NATURAL AND EFFECTIVE FERTILIZER



A Synthetic Fertilizer

TerraCycle Plant Food™



TerraCycle Plant Food™

vs

A Leading Competitor

natural ingredients

artificial chemicals

does not cause plant burn

over-application may cause plant burn

made from waste

not made from waste

can pour on soil or spray on leaves

must pour on soil

rated most eco-friendly

not rated eco-friendly

eco-friendly packaging

conventional packaging

bottles collected by students in the US and Canada

business as usual

TERRACYCLE is available in



WAL★MART



Protecting Yourself from Mosquitoes and Ticks

by Rita Pelczar

MOSQUITOES AND TICKS can turn a pleasant summer evening stroll into a mad race for cover. But these pests are more than a nuisance; they are known carriers of several serious illnesses including West Nile virus, malaria, dengue fever, Lyme disease, Rocky Mountain spotted fever, and ehrlichiosis. Anyone who spends time outside during the warm months—including gardeners—is at risk for a bite that could carry one or more of these diseases. Taking precautions to avoid, repel, and control these bloodthirsty pests can save you a lot of grief.

AVOIDING CONTACT

Since mosquitoes are most active at dusk and dawn, minimizing the time you spend outdoors during these hours will reduce the risk of getting bitten (for tips on avoiding bites, see “Mosquito and Tick Avoidance Strategies,” page 51).

Wearing long-sleeve shirts and long pants creates a barrier between the mosquito or tick and the skin of your arms and legs. To protect your face and neck, consider wearing a hat with bugproof netting like the ones from **Concealment Industries**. The netting stashes into a zipped pocket when it’s not needed.

If you are planning an outdoor activity in a limited area, a mosquito-repelling lantern called **ThermaCELL®** might be worth investigating. Its single butane cartridge heats a mat that releases the repellent allethrin. When tested by the U.S. Army and the Environmental Protection Agency (EPA), it provided 98 percent protection against mosquitoes and other biting insects in a 15-by-15-foot area for up to four hours.

PATROLLING THE ENVIRONMENT

Female mosquitoes lay their eggs—100 to 300 at a time—in water, and just a thimbleful is sufficient. For the eggs to develop, the water must remain stagnant for at least four days. You can reduce the number of mosquitoes in your yard simply by eliminating sources of standing water, from buckets and birdbaths to your dog’s water bowl and the saucers under potted plants.



Mosquito (*Aedes aegypti*)



Deer tick (*Ixodes scapularis*)

For water sources that you can’t dump—such as water gardens, gutters, and water troughs—you can use a mosquito larvicide such as **PreStrike® Mosquito Torpedo™**. Each treatment lasts up to 60 days. A biological option for treating standing water is **Mosquito Dunks**, produced by Rincon-Vitova Insectaries, Inc. These donut-shaped units, designed to float in water, contain a bacterium that kills mosquito larvae but will not harm fish, amphibians, and other animals.

Keeping lawns mowed, discouraging deer, and treating pets for ticks will help reduce tick infestations in the yard.

PRECAUTIONS FOR USING INSECT REPELLENTS

- Always follow the directions for use on the label.
- Apply only to exposed skin and/or clothing—not under clothing.
- Never apply on cuts or irritated skin.
- Don’t apply to eyes or mouth, and use sparingly around ears.
- Don’t spray directly on face; spray it on hands and then apply to face.
- Don’t allow children to handle the repellents. Apply on your hands and spread on child’s skin.
- Avoid applying to children’s hands; they often rub their mouth or eyes.
- Avoid heavy applications.
- After returning indoors, wash treated skin with soap and water.

A CHOICE OF REPELLENTS

According to research reviewed by the Center for Disease Control (CDC) repellents that contain DEET (N,N-diethyl-m-toluamide) or picaridin (KBR 3023) are the most effective for long-lasting protection. The higher the concentration of active ingredient, the longer it provides protection.

In recent years, however, concerns have been raised about the safety of DEET, particularly with children. According to the American Academy of Pediatrics Committee on Environmental Health, DEET is safe for children over two months of age when used according to directions. Be-

Resources

Center for Disease Control, “Insect Repellent Use and Safety” factsheet: www.cdc.gov/ncidod/dvbid/westnile/qa/insect_repellent.htm.
“Stop Ticks” factsheet: www.cdc.gov/Features/StopTicks.

Sources

All Terrain Products, www.allterrain.co.com.

BugBand, www.bugband.net.

Buggins Insect Repellent, www.buggspray.com.

Concealment Industries, www.concealmentindustries.com.

Effective Environmental Solutions, www.bugband.net.

Mumz Insect Repellent Garden Apparel, mumzgarden.com.

Rincon-Vitova Insectaries, www.rinconvitova.com.

Sloggers Garden Outfitters, www.sloggers.com.

ThermaCell, www.thermacell.com.

cause it can last for up to eight hours, it should not be combined with sunscreen, which needs to be applied with much greater frequency (see “Precautions for Using Insect Repellents,” page 50).

Another effective, long-lasting repellent is **Permethrin**, but it is intended to be applied only to clothing and gear, not directly to skin. Insect-repelling garden apparel is being introduced this year from garden gear outfitters, including **Sloggers** and **Mumz**. These products use the patent-pending **Buzz Off Insect Shield** technology that binds the fabric with permethrin. The hats, bandanas, shirts, pants, socks, and other outdoor apparel provide invisible, odorless protection from biting insects including mosquitoes and ticks. Many of the items provide sun protection as well.

MOSQUITO AND TICK AVOIDANCE STRATEGIES

By placing physical barriers between you and the pests and minimizing their breeding sites, you can reduce the likelihood of getting bitten.

- Stay indoors when mosquito activity is at its peak—the hours just before and after dawn and dusk.
- Wear clothing that covers your skin—long-sleeved shirts, long pants, and socks. Light-colored clothing makes it easier to spot ticks.
- Tuck pants into socks when walking in tick-infested areas.
- When hiking trails, stay toward the center to avoid brushing against vegetation.
- Keep grass mowed.
- Be sure that your window screens are in good repair.
- Empty all sources of standing water.
- Cover water barrels and cisterns with screens.
- Burn citronella candles to repel mosquitoes.
- After outdoor activities, check yourself, family members, and pets for ticks, and remove any tick you find with tweezers.
- Use repellents according to directions on the label.

BOTANICAL ALTERNATIVES

Several plant-based mosquito and tick repellents are available. The most effective, according to the CDC is oil of lemon eucalyptus, which has been shown to provide similar protection against mosquitoes as repellents with low concentrations of DEET. But like chemical repellents, it is important to follow label directions. Products containing oil of lemon eucalyptus, which include **OFF!® Botanicals™** insect repellent and **Repel Lemon Eucalyptus**, should not be used on children under three years of age.

Another plant-based repellent, geraniol, is extracted from geranium (*Pelargonium* spp.) oil. This is the active ingredient in **BugBand™ Wristbands**, which are designed to repel biting insects within 15 feet of the wearer. The same ingredient is used in **BugBand's Pump Spray** and **Towelettes**. **Buggins Insect Repellent** combines geraniol with peppermint, lemongrass, and clove oils. **Bite Blocker™**, which comes in separate formulations for children and for adults, uses geranium oil in combination with soybean, vanillin, and coconut oils.

All Terrain's **Herbal Armor™**, which was recently awarded the National

Home Gardening Club's Seal of Approval for effectiveness and consumer value, combines the oils of citronella, peppermint, cedar, lemongrass, geranium, and soybean for a repellent that can be used on skin or fabric and remains effective for four hours.

Researchers continue to seek effective, less toxic means of protecting people from mosquitoes and ticks. Last year, scientists with the Agricultural Research Service in Oxford, Mississippi, isolated two compounds from the American beautyberry (*Callicarpa americana*) that appear to repel both mosquitoes and ticks.

Beautyberry has long been used as a folk remedy for protecting both humans and animals from a variety of biting insects. The isolated compounds, callicarpinal and intermedeol, may provide options for developing new repellents.

Although mosquitoes and ticks are likely to continue to plague our summers, employing a combination of the strategies described above will help you protect yourself and your family from annoying bites and the potential spread of disease.



Rita Pelczar is a contributing editor with The American Gardener.

Recommendations for Your Gardening Library

Viburnums

Michael A. Dirr. Timber Press, Portland, Oregon, 2007. 264 pages. Publisher's price, hardcover: \$39.95.

SIMPLY PUT, Michael Dirr is regarded as the guru of trees and shrubs both in the United States and abroad. For decades his *Manual of Woody Landscape Plants*—now in its 5th edition—has been the “bible” for college students, avid gardeners, or professionals who wanted an encyclopedic reference for species and cultivars of trees, shrubs, and woody vines. Dirr has now authored *Viburnums*, a complete and informative monograph on one of the most used and beloved genera of garden shrubs, written in a concise and incredibly well researched format.

Viburnum is a vast genus, ranging from the very hardy, deciduous species of the northeastern woods such as *Viburnum dentatum* and *V. acerifolium* to the evergreen Asian species such as *V. awabuki* and *V. davidii*, which thrive in the warmer climates of the southeast and northwest, respectively. With any genus as complex as this one, there are both nomenclatural and taxonomic issues which need to be distilled and explained. Dirr takes this highly scientific subject and explains it in a way that is clear and comprehensible.

Then, species by species, Dirr covers identification, ornamental uses, and cultural considerations in explicit detail, along with his personal reflections. For many of the popular species such as *V. dentatum*, *V. dilatatum*, *V. plicatum*, *V. tinus*, as well as the hybrid groups, Dirr describes several historically significant cultivars, as well as the newest selections and hybrids.

The impact *Viburnum* has had on the world of ornamental horticulture would not have been as significant without the breeding work of the late Donald Egolf at the U.S. National Arboretum in Washington, D.C. Dirr makes a point of acknowledging this in a brief chapter that describes one of the most monumental and interesting ornamental breeding programs in the last 100 years.

The text is supported with wonderful photographs, all by Dirr himself. There are close-ups of flowers, foliage, and fruit, as well as great images of viburnums used in the landscape.

I hope that the genre of genus-based books will continue to see more contributions from Dirr on important ornamental shrubs.

—Andrew Bunting

Andrew Bunting is a curator at the Scott Arboretum of Swarthmore College in Swarthmore, Pennsylvania.

Big Book of Garden Designs

Marianne Lipanovich and Tom Wilhite, editors. Sunset Publishing Corporation, Menlo Park, California, 2008. 192 pages. Publisher's price, softcover: \$19.95.

Professional Planting Design

Scott C. Scarfone. John Wiley & Sons, Inc., Hoboken, New Jersey. 2007. 272 pages. Publisher's price, softcover: \$60.

ALTHOUGH BOTH OF these books focus on garden design, their approaches are quite different. Nevertheless, they each belong on the bookshelf of any avid gardener. *Big Book of Garden Designs* does most of the work for you with garden plans that are easily adaptable to your own specific climate and site. On the other hand, *Professional Planting Design* tells you how to create from scratch the kind of designs that are found in the Sunset book.



All garden designs start with inspiration and ideas, and *Big Book of Garden Designs* provide plenty of both. The editors include more than 100 garden plans, from front yard gardens that make big impressions to innovative solutions for those impossible, narrow side yards. Planting designs range from antique rose gardens to a tropical paradise to match a modernistic house. Each plan also includes the dimensions of the garden, a very useful feature often omitted in books of this type.

The designs are accompanied by drawings or photographs and complete plant lists that show the exact location of each tree, shrub, perennial, or annual. Not every plan will fit every garden, obviously, but the ideas easily can be tweaked to better suit various situations.

The great mysteries of successful planting design are unraveled by landscape architect Scott Scarfone in *Professional Planting Design: An Architectural and Horticultural Approach for Creating Mixed Bed Plantings*. Scarfone sets out the guidelines to allow anyone from an avid amateur gardener to a professional landscape designer or architect to create a living work of art with plants.



As James van Sweden notes in the introduction, “After reading the book, you will be able to experiment with nature, and use its myriad of facets to make your own original statement.”

Scarfone tackles the standard principles such as form, scale, and rhythm, but also covers the details that can make a real difference in a standout landscape—leaf shape; bark and twig characteristics; flowers and seed heads; fruits and berries—and how to use plants to take advantage of their best features.

He also urges readers to pay attention to the changing nature of their medium. “Growth cycles vary widely among plant types, from the natural rhythms, such as the opening and closing of flowers, to the emergence of new foliage and the changing of color in the fall as plants prepare themselves for winter dormancy,” he writes. “Designers need to understand the distinctive characteristics of each stage in the life cycle of the plants they are using and how environmental factors will influence and affect those living entities.”

There are sections on bed depth and bed lines, development of successful design themes, and time and color grids that help you plan a garden with four-season interest. The book is filled with scores of illustrations and beautiful photographs that clearly depict the brilliance of suggested combinations.

The Sunset book may be more practical for gardeners who desire quick solutions or a straightforward starting point; *Professional Planting Design* allows you to tap your inner artist to integrate your favorite plants into your own original designs.

—Jane Berger

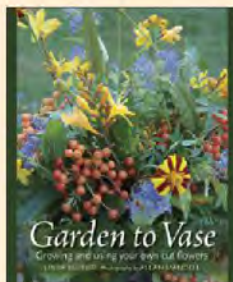
Jane Berger is a landscape designer based in Washington, D.C. and the publisher of www.gardensdesignonline.com.

Flower Power

The eye-catching colors, various shapes and sizes, and alluring scents of flowers present endless possibilities in the garden. Once you whip out your shears to gather a few blossoms to bring indoors, it's a whole new adventure. However, as floral designer and gardener Linda Beutler points out in *Garden to Vase: Growing and Using Your Own Cut Flowers* (Timber Press, 2007, \$29.95), “Both garden design and floral design are about creating a dramatic big picture while simultaneously focusing on the intricate details.”

Illustrated with beautiful photographs by Allan Mandell, this book leaves no petal unturned as it delves into the horticultural and aesthetic aspects of getting the most out of a cutting garden. Whether it's planning, maintenance, harvesting, increasing the life of cut flowers, or ideas for special occasions, Beutler reveals the tricks of the trade and takes a fresh look at this enjoyable and rewarding art. The book also includes a listing of more than 200 plants with tips for their culture and conditioning for use in arrangements.

—Associate Editor Viveka Neveln



Coast to coast, our National Forests are national treasures. Yet, they are being devastated by fire as never before.

The Arbor Day Foundation asks for your help in replanting our National Forests. One tree at a time, we'll plant our future.

Visit arborday.org.

See what we're doing. See how you can help.

 **Arbor Day Foundation**
Nebraska City, Nebraska 68410



RELIEF FOR DRY PATCHES.



Long a staple on the farm, the little green can is also at home in the garden. For soothing roughed up hands, chapped and chafed skin, and cuts and scrapes, dig for the Bag Balm®—the time-tested solution.

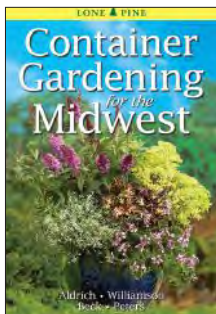
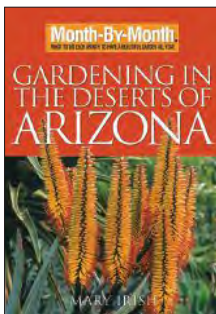
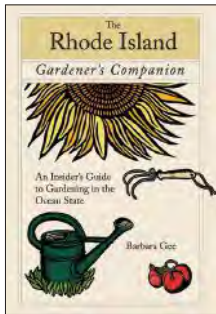
DAIRY ASSOCIATION CO., INC.

P.O. BOX 145, DEPT. AG08, LYNDONVILLE, VT 05851/TEL. 802-626-3610/WWW.BAGBALM.COM
WEST OF ROCKIES: SMITH SALES SERVICE, 16372 S. W. 72ND ST., PORTLAND, OR 97223

Regional Gardening Books

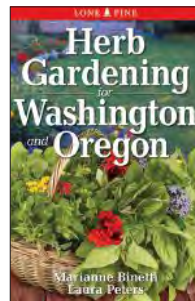
AMERICAN GARDENING certainly has its own distinctive ethos, as compared to European or Japanese gardening, for example. However, identifying the exact essence of American gardening presents a quandary since gardening in the Southwest varies greatly from the Northeast or Midwest. So perhaps, like much else in this country, one thing that characterizes American gardening is its diversity—not only in terms of environmental parameters but also its variety of styles, traditions, and ideas, many contributed by or borrowed from other countries. Here are some recently published books that cover the climate, soils, and plant palette—not to mention pests and other challenges—American gardeners will encounter in specific regions or states.

Adding to its *Gardener's Companion* series for individual states, begun last year, Globe Pequot Press's latest editions include Rhode Island, Vermont, and Virginia on the East Coast, Missouri and Michigan in the Midwest, and Montana in the West. Retailing for \$14.95, each is written by an expert on gardening in that state who can explain and explore the techniques proven to be effective in each locale. From soil preparation to dealing with drought and from growing vegetables to maintaining a lush lawn, these guides contain the basics needed for success. Black-and-white line drawings and plentiful sidebars with pithy tips supplement the text.



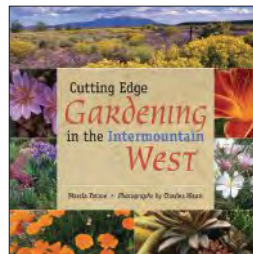
Similarly, Cool Springs Press's *Month-By-Month™* series, published since 1998, now offers several new editions covering various southwestern, intermountain west, and midwestern states. This year they also have released a revised edition for the Mid-Atlantic region. Ranging in price from \$19.95 to \$24.95, these books provide a roadmap for “what to do each month to have a beautiful garden all year.” Additionally, Cool Springs Press has a new series on vegetable gardening in various states with 17 editions focusing on midwestern and southern states so far. Priced at \$12.95, these books include planting information for vegetables as well as herbs and fruit along with recipes.

Among Lone Pine Publishing's new spring releases are titles on container gardening and herb gardening for the Midwest and for Washington and Oregon.

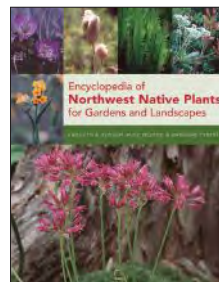


Tapping into local expertise, these handbooks take the concept of state- or region-based information one step further by honing in on the intricacies of a specific type of gardening. Selling for \$19.95, they include brief sections on design, maintenance, and pests and diseases. The bulk of these books is devoted to a plant directory that lists suitable species and recommended cultivars along with their growing requirements and helpful tips for using them effectively. Color photographs on nearly every page help to bring concepts to life.

In *Cutting Edge Gardening in the Intermountain West* (Johnson Books, 2007, \$29.95), Colorado-based author Marcia Tatroe notes that “drought and ongoing water shortages are forcing all of us in this region to rethink long-held garden and landscape conventions.” Rather than limiting options, she argues that this “has become the catalyst for creating a new garden aesthetic—one where gardens speak strongly about where we live and who we are.” Tatroe gives an unvarnished description of the challenges presented by this region's semi-arid climate and variable soils, while offering innovative solutions for achieving beautiful gardens nonetheless. Vivid color photographs by Charles Mann help to prove Tatroe's points and provide further inspiration.



One strategy for embracing a region's unique aesthetic is to use plants native to it. For those in the Pacific Northwest, *Encyclopedia of Northwest Native Plants for Gardens and Landscapes* by Kathleen A. Robson, Alice Richter, and Marianne Filbert (Timber Press, 2008, \$49.95) describes more than 500 species from which to choose. While “native” can mean different things to different people, the authors include only species that were found in the region “when the first non-indigenous human explorers collected and catalogued them.” For each plant,



the book lists its characteristics, cultivation requirements, and native habitat and range, along with other pertinent information such as propagation tips and uses by indigenous people. Most plants are represented in color photographs and black-and-white line drawings. A final section provides plant lists for special situations such as bogs and beaches.

—Viveka Neveln, Associate Editor

*Rare finds...
found here.*



American Orchid Society
Education. Conservation. Research.

VISIT THE AMERICAN ORCHID SOCIETY BOTANICAL Garden and you will discover hundreds of the world's most exotic and rare orchid species and hybrids. Our orchid greenhouse is always in bloom. You'll be captivated by the amazing array of colors, shapes, sizes and tantalizing fragrances. Take a stroll through the 3 1/2 acre tropical garden and find orchids blooming in the trees. Come lose yourself in our enchanting garden!

*Delray Beach, FL • 561.404.2000 • AOS.org
Adjacent to the Morikami Museum*

TOUR ORCHID GARDENS • SHOP FOR ORCHID GIFTS • BEAUTIFUL ART EXHIBITS



REGIONAL HAPPENINGS

Horticultural Events from Around the Country

NORTHEAST

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

RAP THROUGH JUNE 15. **Darwin's Garden: An Evolutionary Adventure.** Exhibition. New York Botanical Garden. Brooklyn, New York. (718) 817-8700. www.nybg.org.

RAP MAY 31. **Playing in the Fields of Our Imagining.** Workshop. Wave Hill. Bronx, New York. (718) 549-3200. www.wavehill.org.

JUNE 5. **The Secrets of Success: Why Her Garden Looks Great but Yours Doesn't.** Tour. Garden Education Center of Greenwich. Cos Cob, Connecticut. (203) 869-9242. www.gecgreenwich.org.

JUNE 12. **The Art of Cottage Gardening for Classic Gardeners.** Class. New Canaan Nature Center. New Canaan, Connecticut. (203) 966-9577. www.newcanaannature.org.

RAP JUNE 17. **Deciduous Azaleas in the Spotlight.** Tour and lecture. Polly Hill Arboretum. West Tisbury, Massachusetts. (508) 693-9426. www.pollyhillarboretum.org.

JUNE 27-29. **The Newport Flower Show.** Newport, Rhode Island. (401) 847-1000. www.newportflowershow.org.

JUNE 29. **Architecture and Landscape as Art.** Tour and symposium. Silvermine Guild Arts Center. New Canaan, Connecticut. (203) 966-9700. www.silvermineart.org.

Looking ahead

JULY 13-19. **Ecologically Based Landscape Design in Arboreta, Preserves, and Gardens.** Seminar. Humboldt Field Research Institute. Steuben, Maine. (207) 546-2821. www.eaglehill.us.

MID-ATLANTIC

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

MAY 22. **Water in the Garden.** Lecture. Scott Arboretum. Swarthmore, Pennsylvania. (610) 328-8025. www.scottarboretum.org.

MAY 31. **Maymont Mornings: Magnolias and Muffins.** Lecture and walk. Maymont. Richmond, Virginia. (804) 358-7166, ext. 310. www.maymont.org.

RAP MAY 31-SEPT. 28. **Totally Terrific Tree-houses.** Exhibit. Tyler Arboretum. Media,

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.

Pennsylvania. (610) 566-9134. www.tylerarboretum.org.

JUNE 5-7. **Native Plants in the Landscape Conference.** Millersville, Pennsylvania. (717) 872-3030. www.millersvillennativeplants.org.

RAP JUNE 29. **Tidewater Daylily Society's Flower Show & Plant Sale.** Norfolk Botanical Garden. Norfolk, Virginia. (757) 599-5272. www.norfolkbotanicalgarden.org.

Looking ahead

JULY 12 & 13. **Potomac Lily Show.** Brookside Gardens. Wheaton, Maryland. (301) 962-1400. www.brooksidegardens.org.

SOUTHEAST

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

RAP MAY 20 & 21. **20 Bloomin' Years.** Flower show. Huntsville Botanical Garden. Huntsville, Alabama. (256) 830-4447. www.hsvbg.org.

RAP MAY 28. **Cooking in the Garden: Can't Get Enough Herbs!** Class. State Botanical Garden of Georgia. Athens, Georgia. (706) 542-6014. www.uga.edu/botgarden.

RAP MAY 30-JUNE 1. **Potters Guild Show & Sale.** Memphis Botanic Garden. Memphis, Tennessee. (901) 576-4100. www.memphisbotanicgarden.com.

RAP JUNE 4. **Gardening With Personality: Finding Your Garden Style.** Lecture. Atlanta Botanical Garden. Atlanta, Georgia. (404) 876-5859. www.atlantabotanicalgarden.org.

JUNE 14. **Savage Plants: How to Grow Carnivorous Plants.** Workshop. Callaway Gardens. Pine Mountain, Georgia. (706) 663-2281. www.callawaygardens.org.

RAP JUNE 18. **Cycads and Other Prehistoric Plants.** Harry P. Leu Gardens. Orlando, Florida. (407) 246-2620. www.leugardens.org.

JUNE 28. **Bog Dish Garden Workshop.** UNC Charlotte Botanical Gardens. Charlotte, North Carolina. (704) 687-2555. <http://gardens.uncc.edu/calendar.htm>.

NORTH CENTRAL

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

RAP MAY 24-OCT. L2. **Tree-ology.** Exhibition. University of Minnesota Landscape Arboretum. Chaska, Minnesota. (952) 443-1400. www.arboretum.umn.edu.

RAP MAY 31. **Emerald Ash Borer Public Education Seminar.** Gardens of the Fox Cities. Appleton, Wisconsin. (920) 993-1900. www.gardensfoxcities.org.

RAP JUNE 14 & 15. **Dwarf Conifer Garden Grand Opening.** Chicago Botanic Garden. Glencoe, Illinois. (847) 835-5440. www.chicagobotanic.org.

RAP JUNE 14 & 21. **Ecosystem Restoration Workday.** Matthaei Botanical Gardens and Nichols Arboretum. Ann Arbor, Michigan. (734) 647-7600. www.lsa.umich.edu/mbg/default.asp.

RAP JUNE 21. **Battle Creek Garden Tour.** Leila Arboretum. Battle Creek, Michigan. (269) 969-0270 ext. 120. www.leilaarboretumsociety.org.

Looking ahead

JULY 3-7. **Collaboration...Floral Education.** Symposium. American Institute of Floral Designers. Chicago, Illinois. (410) 752-3318. www.aifd.org.

RAP JULY 11. **Olbrich Home Garden Tour.** Olbrich Botanical Gardens. Madison, Wisconsin. (608) 246-4550. www.olbrich.org.

JULY 20. **Annual Dearborn Garden Walk.** North Dearborn Association. Chicago, Illinois. (312) 632-1241. www.dearborn-gardenwalk.com.

SOUTH CENTRAL

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

RAP MAY 24. **Floral Designs with Native Plants.** Class. Lady Bird Johnson Wildflower Center. Austin, Texas. (512) 292-4200. www.wildflower.org.

RAP MAY 24–SEPT. 1. **Exploring Trees Inside and Out.** Family event. Ridgway Center. Missouri Botanical Garden. St. Louis, Missouri. (314) 577-9400. www.mobot.org.

MAY 31. **Louisiana Native Plants for the Landscape.** Lecture. New Orleans Botanical Garden. New Orleans, Louisiana. (504) 483-9473. <http://neworleanscitypark.com/nobg.html>.

JUNE 6–NOV. 27. **Passport to Plants: Interactive Exhibit.** Myriad Gardens. Oklahoma City, Oklahoma. (405) 297-3995. www.myriadgardens.com.

JUNE 17. **Birding at Botanica.** Walk. The Wichita Gardens. Wichita, Kansas. (316) 264-0448. www.botanica.org.

JUNE 25. **Industry Plant Trials Field Day.** Dallas Arboretum and Botanical Garden. Dallas, Texas. (214) 515-6500. www.dallasarboretum.org.

SOUTHWEST

AZ, NM, CO, UT

RAP MAY 27, 29, & 31. **Shrubs Inside and Out.** Workshop. Desert Botanical Garden. Desert Botanical Garden. Phoenix, Arizona. (480) 941-1225. www.dbg.org.

RAP MAY 29. **Vegetable Container Gardening.** Class. Red Butte Garden. Salt Lake City, Utah. (801) 581-4747. www.redbuttégarden.org.

AHS JUNE 19 & 20. **Gardening with Native Plants.** American Horticultural Society Garden School. Workshop. Denver Botanic Gardens. Denver, Colorado. (703) 768-5700. www.ahs.org.

RAP JUNE 21. **Summer Plant Sale and Garden Fair.** The Arboretum at Flagstaff. Flagstaff, Arizona. (928) 774-1442. www.thearb.org.

JUNE 26–30. **National Convention and Rose Show.** American Rose Society. Denver, Colorado. (303) 691-2790. www.2008arsdenver.com.

Looking ahead

JULY 7–13. **Crested Butte Wildflower Festival.** Crested Butte, Colorado. (970) 349-2571. www.crestedbuttewildflowerfestival.com.

Kinetic Sculptures at Atlanta Botanical Garden

FROM MAY 3 TO OCTOBER 31, the Atlanta Botanical Garden (ABG) in Georgia will host “Sculpture in Motion: Art Choreographed by Nature,” the most extensive outdoor kinetic sculpture exhibit ever presented. This exhibit of more than 25 sculptures features the work of 16 artists and includes pieces such as a 10-ton slab of granite so finely balanced that a child could set it in motion. All of the sculptures are designed to move under natural forces such as wind, water, sun, and sound.



Sculptures in the Atlanta Botanic Garden's new exhibit include Jeffrey Laudenslager's "Mikoshi," left, and Tim Prentice's "Yellow Zingers."

“These kinetic works of art connect to the environment in compelling ways,” says ABG’s Executive Director Mary Pat Matheson. “They are powered by natural forces; their large scale complements the spectacular gardens in which they are displayed; and they often interpret natural forms such as leaves and petals.”

On Thursday evenings the gardens will be open and the sculpture will be dramatically lit, providing a spontaneous performance of dancing shadows and reflections. From May to September, refreshments and light fare will make Thursday evenings even more enjoyable. For more information on this unique exhibit, visit www.atlantabotanicalgardens.org or call (404) 876-5859.

—John Fiege, Editorial Intern

WEST COAST

CA, NV, HI

AHS MAY 30 & 31. **Global Climate Change in Your Yard.** Conference. University of California. Davis, California. (530) 752-6642. <http://ccuh.ucdavis.edu>.

JUNE 12. **Growing Cycads.** Lecture. Southern California Horticultural Society. Los Angeles, California. (818) 567-1496. www.socahort.org.

JUNE 12 & 13. **Integrated Pest Management Conference.** California Polytechnic State University. San Luis Obispo, California. (805) 756-2830. <http://hcrs.calpoly.edu>.

RAP JUNE 12–28. **South African Plants for a California Garden.** Quail Botanical Gardens. Encinitas, California. (760) 436-3036. www.qbgardens.org.

RAP JUNE 14 & 15. **Los Angeles International Fern Society Fern and Exotic Plant Show.** Los Angeles County Arboretum and Botanic Gardens. Arcadia, California. www.laifs.org.

RAP JUNE 26–JULY 31. **Creating Low-Maintenance Gardens with Mediterranean-Climate Plants.** Class. San Francisco Botanical Garden. San Francisco, California. (415) 831-2700. www.sfbotanicalgardensociety.org.

RAP JUNE 29. **Geraniums.** Lecture. South



Can you spot the \$5 billion water storage plant?

Trees are helping areas like yours save up to \$5 billion in stormwater management costs and \$50 million in air pollution control costs. Help us plant that idea around the country. Call or visit us on the web.



P.O. Box 2000, Washington, D.C. 20013
800-545-TREE

Got Any Wild Ideas for Father's Day?



Adopt-A-Manatee!



Save the Manatee Club

Call 1-800-432-JOIN (5646)
www.savethemanatee.org

Photo © Patrick M. Rose

Santa Fe Garden Tours

SANTA FE BOTANICAL GARDEN (SFBG) in New Mexico will offer its 12th annual garden tours on June 1 and June 8. The two separate garden tours will each visit different gardens, and participants may join either or both. "The gardens on tour this year will be both inspiring and educational," says Carol Johnson from the SFBG's garden tour committee.

Celebrating the native charm of New Mexico, the June 1 tour of four private gardens in Tesuque will feature a panoramic view of northern New Mexico, beautiful xeric vegetation, and a garden watered by an *acequia*, an aqueduct originating in Moorish Spain. In contrast, a traditional garden reminiscent of an English country estate with flowering shrubs, a lush orchard, and perennial gardens will also be included.

The June 8 tour will feature four exceptional eastside gardens in historic old Santa Fe. This walking tour, featuring elms, roses, and evergreens among the diverse plantings, will demonstrate how water can be used to good effect by combining conservation, irrigation, and rainwater collection.



The tour will feature several private Santa Fe gardens.

The proceeds from the tours will benefit the Santa Fe Botanical Garden. For more information, visit www.santafebotanicalgarden.org or call (505) 428-1684.

—John Fiege, Editorial Intern

Coast Botanical Garden. Palos Verdes Peninsula, California. (310) 544-6815.
www.southcoastbotanicgarden.org.

RAP JUNE 22. **Garden Tour.** Idaho Botanical Garden. Boise, Idaho. (208) 343-8649.
www.idahobotanicalgarden.org.

NORTHWEST

AK, ID, MT, OR, WA, WY

JUNE 6–8. **Flower and Garden Show.** Point Defiance Park. Tacoma, Washington. (253) 305-1008. www.ptdefianceflowershow.com.

JUNE 11. **New & Useful Plants for the Landscape & Garden.** Lecture. University of Washington Botanic Gardens. Seattle, Washington. (206) 527-1794.
www.northwesthort.org.

JUNE 14–30. **Frozen Music: Glass in the Garden.** Exhibition. Portland Japanese Garden. Portland, Oregon. (503) 223-1321.
www.japanesegarden.com.

RAP JUNE 21. **Growing Roses in Cheyenne.** Talk and tour. Cheyenne Botanic Gardens. Cheyenne, Wyoming. (307) 637-6458.
www.botanic.org.

CANADA

JUNE 3. **Plant Propagation: Growing Great Grafts.** Workshop. Arboretum at the University of Guelph. Guelph, Ontario. (519) 824-4120 ext. 52113.
www.uoguelph.ca/arboretum.

JUNE 7 & 8. **Gardening Boot Camp.** Lectures and demonstrations. International Peace Garden. Boissevain, Manitoba. (888) 432-6733. www.peacegarden.com.

RAP JUNE 14–18. **Horticultural Therapy in the Community.** Course. Glendale Gardens & Woodland. Victoria, British Columbia. (250) 479-6162. www.hcp.bc.ca.

JUNE 22. **Vancouver Rose Society Show.** VanDusen Botanical Gardens, Vancouver, British Columbia. (604) 936-1514.
www.vandusengarden.org.

GARDEN MARKET

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

BUSINESS FOR SALE

LANDSCAPE BUSINESS FOR SALE – Maintenance (non-mowing) general property, garden: perennial and mixed; planting, and design. Residential, commercial, Fairfax Co. VA. Fax: (703) 329-1909. Principles only!

GARDEN TOURS

DISCOVER SUSSEX GARDENS. Why not let me take you to visit some beautiful gardens in the south of England? These are NOT group tours but tailor-made for you, the visitor, to suit your particular horticultural interest. www.discovergardens.co.uk.

GARDENING ACCESSORIES

GARDENScribe PLANT ORGANIZER—Keep plant tags and photos along side care details. Divided sections for plant types. Includes landscape design template. Visit us online at www.gardenscribe.com.

HORTICULTURAL EDUCATOR WANTED

UW Extension

Learning for life

Horticulture Educator
(Brown County, Wisconsin)

UW-Extension is seeking applicants who are interested in working as the Horticulture Educator for Brown County. Position is based in Green Bay, WI. Provide horticulture expertise throughout the county with a focus on commercial horticulture, home horticulture and natural resources. Work collaboratively to plan, implement and evaluate community-based educational programs, taking steps to reach diverse audiences. Build community coalitions. Recruit and develop volunteers. Write and publish articles to support scholarly practices.

Minimum requirements: Masters degree in a related field; ability to plan, implement, teach, and evaluate community-based educational programs related to horticulture; demonstrated ability to work with people from cultures other than one's own; demonstrated ability to work collaboratively; and ability to promote programs through mass media. **Preferred qualifications:** Experience recruiting and developing volunteers; experience building coalitions with local governments and community organizations; success in writing grants; and scholarship experience.

Application materials must include a cover letter and resume detailing experience and training specifically related to the minimum requirements and preferred qualifications; contact information for three professional references; and official transcripts. Send application by e-mail to ces.jobs@uwex.edu or by mail to: Cooperative Extension Human Resources; 432 N. Lake St, Room 249; Madison, WI 53706-1498. Review of applications begins June 3, 2008. For additional information, please see www.uwex.edu/ces/hr/.

AA/EEO Employer

LILIES

LILY NOOK—"Lilium Specialists," Asiatic, LA Hybrids, Martagon, Trumpet, Oriental, Orienpet & Species Lilies. Color catalog \$2.00. Box 846AG, Neepawa, MB. R0J-1H0 Canada. Phone: (204) 476-3225; E-mail: info@lilynook.mb.ca; Web: www.lilynook.mb.ca.

NEW PLANT DEVELOPMENT

FIND OUT THE MARKET POTENTIAL of your plant discovery. We work in the US, Canada, Europe and Japan. Over 10 Years Experience. Plant Patents Filed. cassy@hortisusa.com or (805) 987-8609.

TO PLACE YOUR AD HERE
call our advertising office at
(703) 768-5700 ext. 120.

PLANT LABELS

ENGRAVED BOTANICAL PLANT LABELS

PLANT IDENTIFICATION FOR EVERY GARDEN
FAMILY - GENUS - SPECIES - COMMON NAME

Order @ www.gardenmarkers.com

FAX: 434-975-1627

PLANT LABELS – STAKES – TREE TACKS

SOIL AMENDMENTS

Add the power of
Mycorrhizae
to your plant roots

See our website for details
and to order.

BioOrganics™
Adding Life to SoilSM

www.bio-organics.com
1-888-332-7676

You Can Make
a Difference **Plant a Row
For The Hungry.**
Garden Writers Association



Plant an extra row in your garden and deliver the harvest to a local food bank or shelter. The need is great!

With your help, *Plant a Row* can continue to make a difference for America's most vulnerable. Call our toll-free number (877.GWAA.PAR) or visit our web site at www.gwaa.org for more information.

Rhododendron occidentale: One Tough Beauty

by Sonja Nelson

A PLANT OF DELICATE beauty also can be a hard-as-nails survivor. The species *Rhododendron occidentale*, native to the Pacific Northwest and California, is such an iron lady, beguiling plant explorers and gardeners alike with its exquisite flowers and the ability to grow in tough environments.

Granted, the five plants of this species growing on the southern border of my garden are coddled with fertilizer and irrigation, so by Memorial Day, dark pink buds unfold to reveal fragrant, light pink-and-yellow flowers with long, upsweeping stamens. Yet I have seen flowers as beautiful on plants growing in the wild. In fact, I have seen plants of supreme delicacy that survived the devastating six-month-long Biscuit Fire of 2002 in the Siskiyou Mountains of southern Oregon.

Rhododendron occidentale (USDA Zones 7–9, AHS Zones 9–7), commonly known as the Western azalea, entered the botanical annals in 1827, when Frederick W. Beechy, captain of the English ship *HMS Blossom*, discovered it in California on one of his voyages in the Pacific. Another Englishman, William Lobb, introduced it to cultivation and sent seeds to the Veitch Nursery in England around 1850. From here, the species played an important role in the hybridizing of deciduous azaleas in Europe, including the Knap Hill azaleas. (For more about these hybridizing efforts, click on the web special linked to the online version of this article on www.ahs.org.)

The Americans became involved in 1855, when botanists John Torrey and Asa Gray named it *Azalea occidentalis* based on a specimen from Nevada County, California. Gray later placed it in the genus *Rhododendron* as *R. occidentale*. Since then, plant explorers have traveled up and down the Pacific West Coast in pursuit of a variant with more



Native to the Pacific Northwest, *Rhododendron occidentale* is known for its delicate flowers and sturdy constitution.

beautiful flowers, form, and foliage than had previously been discovered.

VARIATION WITHIN THE SPECIES

The engine driving the search for new populations of this plant is the variation in flower and foliage found within the species. The greatest variation occurs in the flowers, produced in compact clusters known as trusses. The flowers can be funnel-shaped to tubular, and the color can vary from pure white to pink to reddish to yellow, with or without a yellow blotch on the dorsal lobe. The flower size can be up to four inches wide. In addition, the flower petals can be ruffled at the edges, picoteed, or bear red veins on the outside. One constant is its fragrance.

The shape of the leaves are usually oblanceolate (widest near their tips, tapering to their bases), but they also can be linear or almost orbicular (round).

Leaves vary from about a quarter- to a half-inch wide and up to four inches long. The upper surface is usually glossy, although, in southern California, it is covered with hair. Fall foliage color ranges from gold to red.

Changing Taxonomy

The evolutionary story of how *Rhododendron occidentale* is related to others in the genus *Rhododendron* is still unfolding. In fact, until quite recently *R. occidentale* was considered only a distant relative of the “big leaf” rhododendrons, such as *R. sinogrande* and *R. falconeri*. New DNA studies, however, have concluded that section Pentanthera, to which *R. occidentale* belongs, along with most of the North American eastern deciduous azaleas, is in the same “clade” as the big leaf rhododendrons. A clade is a monophyletic group, meaning that all species of the group share a common ancestor and the group includes all living descendants of that ancestor.

Plants normally have a mounded habit, but are variable in height, ranging anywhere from two to 15 feet tall.

Variation is greatest where the climate is optimum: high humidity, moist but well-draining soils, and absence of extreme heat and cold. These conditions occur mainly along northern coastal areas, where Britt Smith of Kent, Washington, and Frank Mossman of Vancouver, Washington, cataloged some 200 clones in the 1960s and '70s. Many of their selections are growing in a special section at the Lake Wilderness Arboretum in Maple Valley,



Rhododendron occidentale usually grows in a rounded shape, but its height can vary considerably—from two to 15 feet.

Washington. Among the named selections is 'Leonard Frisbie', which has a compact truss of deep pink flowers with an orange-yellow blotch. Another is 'Stagecoach Frills' with white, wavy-edged flowers, a yellow blotch, and tinged pink on the outside of the flowers.

NATIVE RANGE AND ADAPTABILITY

On their quest for more variations of *Rhododendron occidentale*, plant explorers also have witnessed the species' ability to perform in the best and worst of environments. From southern Oregon in the north to the arid San Jacinto Mountains in the south and from the Pacific Ocean

in the west to the Sierra Nevada mountains in the east, *R. occidentale* grows in bogs and desertlike hillsides, beachfronts, and mountains.

Within the distribution area, the climate varies considerably. In the rich area of Del Norte and Humboldt counties of northern California about two miles from the coast, the growing season is 328 days long, with plentiful rainfall and high humidity. The average January temperature is 47 degrees Fahrenheit and the average July temperature is 56 degrees. In contrast, the species has been found in the

Sierra Nevada mountains in California at 9,000 feet in desertlike conditions where the growing season is short and winters cold. In yet another contrast, in southern California in the San Jacinto Mountains near Idylwild, specimens have been found where relative humidity is often below 10 percent, summer showers are few, and summer temperatures can reach 91 degrees.

The soil of this plant's natural habitat is derived from serpentine rock, which tends to be alkaline and nutrient-poor. Not many plant species will tolerate these conditions, so *R. occidentale* is often

found in a unique plant community adapted to this soil. However, in keeping with its accommodating nature, *R. occidentale* will grow in a variety of soils provided there is sufficient moisture.

GARDEN CULTURE

In West Coast gardens, *Rhododendron occidentale* grows best in partial shade, in an acid and moist but free-draining soil. Although cold hardiness may vary according to the origin of the parent plant or seed, the minimum temperature is generally stated to be -5 degrees Fahrenheit. It is known to survive temperatures of 90 degrees and higher, but optimum temperatures are lower.

In general, the species and its hybrids are disease and pest resistant. Powdery mildew may affect some selections and

Sources

Buggy Crazy, Lebanon, OR. (541) 258-5590. www.buggycrazy.com.

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

Singing Tree Gardens, McKinleyville, CA. (707) 839-8777. www.singtree.com.

Resources

American Azaleas by L. Clarence Towe. Timber Press, Portland, Oregon, 2004.

American Rhododendron Society. (416) 424-1942. www.rhododendron.org.

Rhododendrons in the Landscape by Sonja Nelson. Timber Press, Portland, Oregon, 2000.

hybrids. Fungicides may be effective in controlling the problem, but a better solution is to situate plants in well-aerated soil and avoid damp shade.

On the East Coast, *R. occidentale* is difficult to grow successfully, possibly because of the long, hot summers, high night-time temperatures, and high levels of humidity. However, the late Fred Galle, an azalea expert who lived in Hamilton, Georgia, was successful in growing heat-tolerant plants from seed collected in the San Jacinto Mountains.

Whatever its ancient evolutionary origins are, *Rhododendron occidentale* over time has managed to survive in the wild over a large geographic area, in a variety of climates, in diverse soil conditions, and through devastating fires. At the same time, it is perfectly at home mingling with ornamental plants in the tame surroundings of a garden. Through it all, *Rhododendron occidentale* has kept its charm intact, luring explorers and gardeners alike with its radiant beauty. 🌸

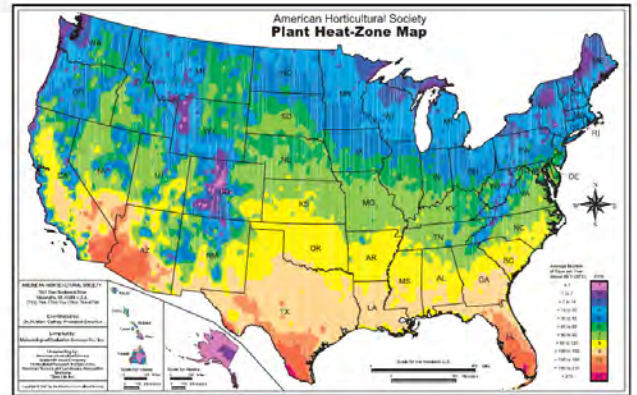
Sonja Nelson is the editor of the American Rhododendron Society Journal. She has made several visits to Oregon and California to see Rhododendron occidentale in the wild.

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.



A-C

- Akebia quinata** uh-KEE-bee-uh kwın-AY-tuh (USDA Zones 5–9, AHS Zones 9–5)
Ampelopsis brevipedunculata am-peh-LOP-sis brev-ih-peh-dunk-yew-LAY-tuh (5–8, 8–2)
Aristolochia californica uh-ris-toh-LO-kee-uh kal-ih-FORN-ih-kuh (8–10, 10–8)
A. macrophylla A. mak-ro-FIL-luh (5–8, 8–4)
Asarina scandens ah-SAH-ree-nuh SKAN-denz (9–11, 12–9)
Bignonia capreolata big-NO-nee-uh kap-ree-o-LAY-tuh (6–9, 9–5)
Campsis radicans KAMP-siss RAD-ih-kanz (5–9, 9–5)
C. ×tagliabuana C. tag-lee-ah-byew-AN-uh (5–9, 9–5)
Clematis ×durandii KLEM-uh-tiss dur-RAN-dee-eye (5–11, 9–5)
C. integrifolia C. in-teg-rih-FO-lee-uh (4–11, 7–1)
C. terniflora C. tur-nih-FLOR-uh (5–11, 9–1)
Coreopsis verticillata kor-ee-OP-sis vur-tih-sih-LAY-tuh (4–9, 9–1)
Cotinus coggygria ko-TY-nus ko-JEE-gree-uh (5–9, 9–3)

D-G

- Dicentra scandens** dy-SEN-truh SKAN-denz (4–8, 10–1)
Gelsemium sempervirens jel-SEE-me-um sem-pur-VY-renz (7–9, 9–1)
Geranium ×cantabrigiense juh-RAY-nee-um kan-tuh-brij-ee-EN-see (5–8, 8–5)
G. cinereum G. sih-nuh-REE-um (5–9, 9–1)
G. macrorrhizum G. mak-ro-RHY-zum (4–8, 8–1)

- G. maculatum** G. mak-yew-LAY-tum (4–8, 8–1)
G. ×oxonianum G. ok-so-nee-AN-um (4–8, 8–1)
G. phaeum G. FEE-um(4–8, 8–1)
G. pratense G. pray-TEN-see (4–8, 8–1)
G. psilostemon G. sy-LOS-teh-mon (5–8, 8–5)
G. sanguineum var. striatum G. san-GWIN-ee-um var. stry-AY-tum (3–8, 8–1)
G. wlassovianum G. vlah-so-vee-AN-um (4–8, 8–1)

H-K

- Hedera helix** HED-er-uh HE-liks (5–11, 12–6)
Hydrangea anomala ssp. petiolaris hy-DRAN-juh uh-NOM-uh-luh ssp. pet-ee-o-LAIR-iss (4–9, 9–1)
Ilex crenata EYE-leks kreh-NAY-tuh (5–7, 7–5)
Impatiens arguta im-PAY-shenz ar-GOO-tuh (7–11, 12–1)
I. auricoma I. aw-rih-KO-muh (10–11, 12–1)
I. balfourii I. ball-FOOR-ee-eye (0–0, 12–3)
I. balsamina I. ball-suh-MEEN-uh (0–0, 12–3)
I. capensis I. kuh-PEN-sis (0–0, 10–2)
I. flaccida I. FLA-sih-duh (10–11, 12–1)
I. glandulifera I. gland-yew-LIF-ur-uh (0–0, 12–3)
I. hawkeri I. HAWK-er-eye (6–10, 12–6)
I. hoehnelii I. ho-NEL-ee-eye (9–11, 12–1)
I. kilimanjari I. kih-lih-man-JAR-eye (9–10, 12–1)
I. mengtzeana I. meng-tsee-AN-uh (7–11, 12–4)

- I. namchabarwensis** I. nam-chah-bar-WEN-siss (7–11, 11–1)
I. nana I. NAH-nuh (10–11, 12–1)
I. niarniamensis I. nyam-nyam-EN-siss (10–11, 12–1)
I. noli-tangere I. NO-lie TAN-jeer-ee (0–0, 10–1)
I. nyungwensis I. nyung-WEN-siss (10–11, 12–1)
I. omeiana I. oh-may-AN-uh (7–11, 12–5)
I. pallida I. PAL-ih-duh (0–0, 9–1)
I. pseudoviola I. soo-doh-VY-o-luh (10–11, 12–1)
I. scabrada I. skay-BRID-uh (0–0, 12–1)
I. sodenii I. so-DEN-ee-eye (10–11, 12–1)
I. tinctoria I. tink-TOR-ee-uh (7–11, 12–5)
I. walleriana I. wah-leh-ree-AN-uh (10–11, 12–1)
Ipomoea alba ih-po-ME-uh AL-buh (9–11, 12–10)
I. coccinea I. kok-SIN-ee-uh (0–0, 12–1)
I. quamoclit I. KWAM-oh-klit (10–11, 12–6)
Kadsura japonica kad-SUR-uh jah-PON-ih-kuh (7–9, 9–1)

L-R

- Lablab purpureus** LAB-lab per-PER-ee-uh (9–11, 12–9)
Leucanthemum ×superbum loo-KAN-theh-mum soo-PUR-bum (3–8, 8–1)
L. vulgare L. vul-GAH-ree (3–8, 8–1)
Lilium henryi LIL-ee-um HEN-ree-eye (2–7, 7–1)
L. martagon L. MAR-tah-gon (3–7, 7–1)
L. pardalinum L. par-duh-LY-num (5–8, 8–5)

- L. parryi** L. PAIR-ee-eye (7–11, 11–7)
L. pumilum L. PYEW-mih-lum (3–7, 8–5)
L. regale L. ree-GAL-ee (4–7, 8–5)
L. tsingtauense L. tsing-taw-EN-see (3–7, 8–1)
Lygodium japonicum lie-GO-dee-um jah-PON-ih-kum (10–11, 12–9)
Mandevilla ×amoena man-duh-VIL-luh a-MEE-nuh (10–12, 12–10)
Manettia cordifolia muh-NET-ee-uh kor-dih-FO-lee-uh (8–11, 12–10)
Phaseolus coccineus fas-see-O-luss kok-SIN-ee-uh (10–11, 12–10)
Physocarpus opulifolius fy-so-KAR-pus op-yew-lih-FO-lee-uh (3–7, 7–1)
Rhododendron occidentale ro-doh-DEN-dron ahk-sih-den-TAL-ee (7–9, 9–7)

S-Z

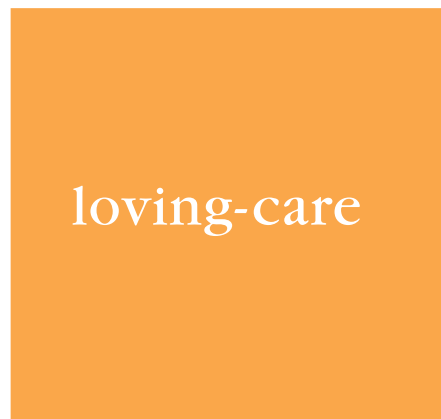
- Schizophragma hydrangeoides** skiz-o-FRAG-muh hy-DRAN-jee-OY-deez (6–9, 9–6)
Senecio confusus seh-NEE-see-o kon-FEW-suss (10–11, 12–7)
Thunbergia alata thun-BUR-jee-uh ah-LAY-tuh (10–11, 12–10)
T. grandiflora T. gran-dih-FLOR-uh (10–11, 12–10)
Trachelospermum jasminoides tray-kell-o-SPUR-mum jaz-mih-NOY-deez (8–10, 10–8)
Wisteria floribunda wis-TEER-ee-uh flor-ih-BUN-duh (5–9, 9–3)
W. frutescens W. froo-TESS-enz (5–9, 9–5)
W. sinensis W. sy-NEN-sis (5–8, 8–5)



high-bred



well-fed



loving-care

distinctively better[®] plants!

Monrovia[®]...expert growers of the healthiest, hardiest, most beautiful plants. Raised in our exclusively formulated, nutrient-rich organic soil, Monrovia plants are guaranteed to make your garden thrive! Our premium plants are the strongest in the industry and with more than 2,200 varieties – from low maintenance to high fashion – we have something for every garden style.

To discover your personal garden style visit
www.monrovia.com

Available at fine garden centers nationwide.



HORTICULTURAL CRAFTSMEN[®] SINCE 1926

© Monrovia 2006





With Bradfield Organics® fertilizers,
you'll soon find out just how beautiful
life can be.



The secret to lush lawns and vibrant plants is fertilizer that feeds the soil naturally. You feed the soil and the soil feeds your plants, just the way nature intended. Bradfield Organics® fertilizers are safe for your seedlings and children and pets too. Remember, the longer you use Bradfield Organics® fertilizers, the more beautiful life becomes.

Working with Nature, Not Against it.

www.bradfieldorganics.com | 800.551.9564