

The American GARDENER

The Magazine of the American Horticultural Society

March/April 2004

spring into the season with

Columbines

Landscaping with Roses

The New American Kitchen Garden

Creative Pruning

Peony Paradise in Pennsylvania

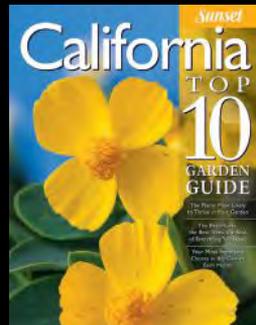
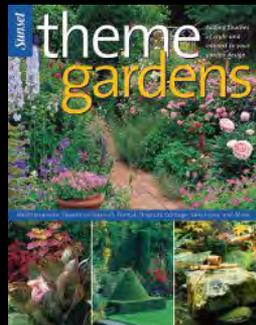
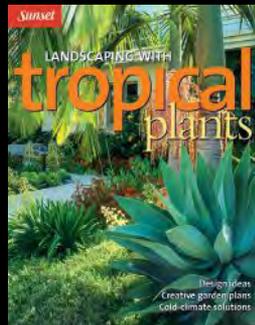
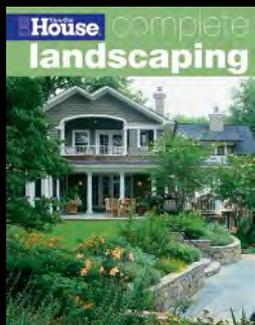
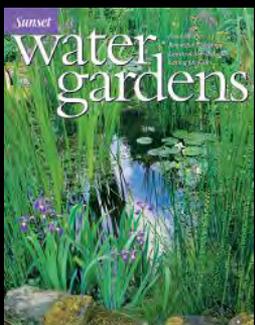
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Join us on April 2, 2004, to honor the winners of AHS's 2004 annual awards, given to those who are making a significant difference in American gardening. Call (800) 777-7931 ext. 121 for details.

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INTERN PROGRAM

To receive an application for the Society's Horticultural Intern Program, e-mail tgibson@ahs.org. For information about the Editorial Intern program, e-mail editor@ahs.org. Intern application forms can also be downloaded from the River Farm area at www.ahs.org.

NATIONAL CHILDREN AND YOUTH GARDEN SYMPOSIUM (NCYGS)

Cornell University in Ithaca, New York, is the setting for the 12th annual NCYGS, to be held July 29 to 31, 2004. For more information, call (800) 777-7931, ext. 117 or visit www.ahs.org.

RECIPROCAL ADMISSIONS PROGRAM

Through this program, AHS members receive free and discounted admission to botanical gardens throughout North America. Participating gardens are listed in this year's *AHS Member Guide* and also in the Membership area of our Web site. For more information, call (800) 777-7931 ext. 127.

TRAVEL STUDY PROGRAM

AHS members and friends can visit spectacular gardens around the world through the Society's exclusive arrangement with Leonard Haerter Travel. To learn about upcoming trips, call (800) 777-7931 ext. 117 or visit the Events section of our Web site.

WASHINGTON BLOOMS!

AHS's annual celebration of spring will be held April 1 to 25, 2004, at River Farm. This year is the debut of the AHS Garden School, a series of in-depth workshops on exciting new gardening trends. To register, call (800) 777-7931 ext. 121 or visit www.ahs.org.

WEB SITE: www.ahs.org

The AHS Web site contains information about AHS programs and activities, gardening events in your area, and links to other useful Web sites. Starting **January 20, 2004**, AHS members can reach the member's-only area of the site by typing in this year's password: **meadow**.

The American GARDENER

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NOTES FROM RIVER FARM

WHEN WE THINK of celebrations, we tend to focus on specific events such as birthdays, weddings, and anniversaries. Yet there is so much else going on around us on a day-to-day basis that is worthy of joyful recognition, such as the first blooms of jacarandas and tabebuias in the Sunbelt or that first hauntingly delicate fragrance of a vernal witch hazel in northern gardens.

As we look forward to nature once again celebrating its exuberance with the early signs of spring, we also find ourselves celebrating American horticulture through the lens of many wonderful gardening events. We can all find inspiration at flower shows and industry trade shows that help us welcome back the growing season, and I hope to run into some of you at one of these events.

Another good way to get ideas and inspiration is to go on a garden tour. Many public gardens are in their finest form in the spring, and you will find that tours of spectacular private gardens are available through groups such as the AHS, the Garden Conservancy, and your local garden clubs.

Here at River Farm, we are celebrating the importance of plants and gardens in some very special ways this spring. This year, during *Washington Blooms!*, we are introducing four new AHS Garden Schools, each of which will focus on a different aspect of gardening. Over the course of each two-day session, participants will get to meet and learn from top gardening experts. For more details, please take a look at page 9. Also, on April 2, the Great American Gardeners Award Banquet, our annual celebration of the truly great American garden heroes, will be held at the Ritz-Carlton Hotel in Pentagon City. Please make plans to attend this memorable event and cheer on these outstanding gardeners, scientists, and writers, who are profiled starting on page 10.

We continue to celebrate the power of plants as co-sponsors of the 58th Williamsburg Gardening Symposium, April 4 to 6. Then, starting April 16, we host the Great American Gardeners lecture series at the Epcot International Flower and Garden Festival at Walt Disney World in Florida. During the festival, we are participating in a symposium that will focus on the value of quality landscapes in commercial development (see page 7 for more on this).

This spring, give yourself a treat and go to some beautiful place you have never been to before. Make this spring truly one to celebrate.

Happy Gardening!



—Katy Moss Warner, *AHS President*

P.S. This is also the time of year—as we near graduation—that we celebrate the many students who are stepping forth to become tomorrow's horticulturists, plant researchers, and garden writers. We are fortunate to draw some of these talented young people to River Farm every year as part of the AHS's internship programs, which are funded by donations from AHS members like you. We're counting on your generosity again this year.

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MEMBERS' FORUM

MOSS JOY

I'd like to thank Carole Ottesen for her inspiring story in the November/December 2003 issue on the not-so-obvious joys of moss gardening. As a fellow devotee of the green furry stuff, I was delighted to read the account of her mossy adventures.

In our garden, my husband and I have spent years nursing along what started as a patch of "imported" (from a willing neighbor) moss into a full carpet that surrounds dozens of dwarf shrubs and conifers. We used nothing more than TLC, generous watering, and the occasional pitcherful of buttermilk-moss slurry.

From the moss gardening story to the orchid primer to the Liberty Hyde Bailey profile, *The American Gardener* consistently manages to deliver useful information and insights. I read several garden publications, but I value yours the most.

*Betsy Hays,
Wayne, New Jersey*

INULIN CLARIFICATION

In the article on wild greens by Carole Ottesen (January/February 2004), she writes in the section on burdock, "The

root also contains inulin, which can be converted to insulin when consumed by diabetics." This is incorrect. Inulin is a polysaccharide (a string of sugars) that contains fructose. Insulin is a small protein produced by the beta cells in the pancreas. To suggest that inulin can be converted to insulin is not only wrong, it is dangerous considering that a diabetic could read and act on this.

*Greta Lee, Ph.D.
Hillsborough, North Carolina*

Carole Ottesen's response: Saying that inulin is "converted" to insulin was a poorly expressed oversimplification for its real action, and it was not my intent to imply that diabetics should replace insulin intake by consuming burdock. My point was that studies have shown that inulin intake by diabetics may help reduce the need for supplemental insulin.

Inulin—which occurs in small amounts in edible plants such as onions, garlic, burdock, bananas, wheat, rye, barley, and oats—is a fructo-oligo-saccharide (FOS), a natural sugar that has an additional molecule attached. The re-

sulting molecule is too large for humans to digest in the upper gastrointestinal tract. Since it is not digested, there is no sugar spike when it is consumed.

People with diabetes don't process glucose properly. As a result, glucose stays in the blood, causing blood glucose levels to rise. In more than one study, people receiving supplemental inulin showed significantly reduced serum inulin concentrations, indicating better glucose control.

Certainly, future studies are needed before conclusions can be drawn, but in the meantime, after consulting their physicians, diabetics can safely consume burdock or other inulin-containing foods as part of a carefully monitored medication and diet program. For more about the research on inulin, see the abstracts by Belgian scientist Nathalie M. Delzenne at the *American Journal of Clinical Nutrition* Web site (www.ajcn.org) or visit the Web site of the Natural Therapy Center (www.naturaltherapycenter.com).

MORE INFORMATION, PLEASE

I would like to see you be more specific when stating that a plant is "a native." For instance, in Rita Pelczar's article, "Decorative Autumn Berries" (September/October 2003), a couple of plants are referred to as "native perennials." Since this is a big country, it would be nice to know the boundaries of their native habitat.

*Joanne Stern
Salem, Oregon*

Editor's note: We try to describe plant origins in as much detail as we can, but sometimes we are limited by space or other considerations. In this case, we should have done better.

PLEASE WRITE US! Letters should be addressed to Editor, *The American Gardener*, 7931 East Boulevard Drive, Alexandria, VA 22308, or you can e-mail us at editor@ahs.org. Letters we print may be edited for length and clarity. ☺

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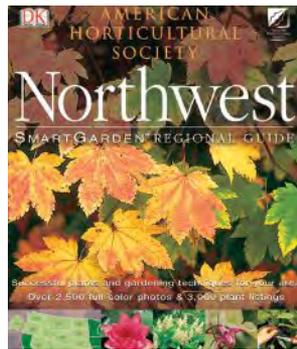
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Online SMARTGARDEN™ Course to Debut

BASED ON THE success of last year's online container gardening course—a partnership between the American Horticultural Society and Michigan State University's Horticultural Gardening Institute (HGI)—AHS is previewing a second online learning program on April 8 and 9 as one of the four AHS Gardening Schools that will be held at River Farm during *Washington Blooms!* The new course, which will open for registrations this May, is based on AHS's popular SMARTGARDEN™ program.

AHS President Emeritus **Dr. H. Marc Cathey** first proposed the SMARTGARDEN™ concept in 2000. The basic tenets of the program were outlined in a series of articles in *The American Gardener* magazine and now are encapsulated in four AHS SMARTGARDEN™ Regional Guides, published by DK Publishing in New York City. **Rita Pelczar**, primary author of the SMARTGARDEN™ books, was assisted by four co-authors representing separate North American regions, **Dr. William E. Barrick** (Southeast), **Trevor Cole** (Northeast), **Peter Punzi** (Northwest), and **Pat Welsh** (Southwest). DK Publishing also served



as a sponsor for the online gardening course.

The SMARTGARDEN™ online course consists of two key components, an engaging interactive online program and the SMARTGARDEN™ regional textbook. The course is designed around a series of assessment exercises that deliver *personalized* feedback tailored to each gardener's level of knowledge and garden aspirations.

Garden writer and editor **Ray Rogers** contributed to the development of the SMARTGARDEN™ online program together with AHS director of national programs **Mary Ann Patterson** and co-executive director of the Horticultural Gardening Institute, **Chris Geith**. "The SMARTGARDEN™ program is ideal for an online course; it brings together all the principles of gardening and inspires the user to think of gardening as a holistic process," says Ray.

To learn more about the SMARTGARDEN™ online gardening course, visit the AHS Web site (www.ahs.org/gardening_q_and_a/smartgarden.htm) or contact Mary Ann Patterson at (703) 768-5700 ext. 121.

National Garden Month, Take Two

THE AMERICAN HORTICULTURAL SOCIETY is joining forces with the National Gardening Association (NGA) and several other green-industry partners in promoting April as National Garden Month. Last year, NGA proposed extending the traditional garden week celebration—established in 1986 by former President Ronald Reagan—to an entire month.

"We are excited to support the efforts of the NGA in extending the focus on gardening to a month of coordinated celebrations across America," says **Mary Ann Patterson**, AHS director of national programs. "We encourage everyone to participate in local gardening events throughout the month of April."

Other green organizations participating in National Garden Month include the American Nursery and Landscape Association and the U.S. Botanic Garden in Washington, D.C.

Information about special gardening events and celebrations in April can be found on the NGA Web site (www.nationalgardening.org) and the AHS Web site (www.ahs.org).

Magic of Landscaping at EPCOT

THE AMERICAN HORTICULTURAL SOCIETY, Cherry Lake Tree Farm, and the Florida Nursery & Growers Associa-

tion (FNGA) have teamed up to host the "Magic of Landscaping" program to be held on May 7 during the International Flower and Garden Festival at the Walt Disney World's Epcot Center in Lake Buena Vista, Florida. The event's focus will be on the many benefits that "instant impact" landscaping bring to residential and corporate developments.

AHS President **Katy Moss Warner** will co-facilitate the program with **Timothee Sallin**, head of development and marketing at Cherry Lake Tree Farm in Groveland, Florida. This one-day event will include keynote addresses from two of Orlando's landscape specialists: **John Classe**, the executive vice-president of Baldwin Park and **Barry McKently** of Universal Studios. Additional highlights will include a behind-the-scenes tour of the festival, a poster session of noteworthy new landscape projects, and an interactive workshop hosted by Katy and Timothee that will allow attendees to explore the value and benefits of landscaping.

The International Flower and Garden Festival runs from April 16 to June 6 this year. Gardening presentations during the festival are part of the AHS Great American Gardeners lecture series.

For more information about the "Magic of Landscaping" program, contact **Erin Moore** at Cherry Lake Tree Farm at (352) 429-2171 ext. 302 or by e-mail to erin.moore@cherrylake.com.

Spring Plant Sale and Flower Show at River Farm

EACH SPRING, the gardens at AHS's River Farm headquarters are alive with blooming bulbs, herbaceous perennials, and shrubs, providing the perfect backdrop for the annual Friends of River Farm Plant Sale, which is slated for Friday April 23, from 9 a.m. to 6 p.m., and Saturday April 24, from 9 a.m. to 3 p.m.

According to AHS Horticulturist **Peggy Bowers**, this year's sale will feature many new vendors and a particularly wide variety of uncommon and hard-to-find plants. "We will have everything from native woodland perennials to dwarf conifers and specialty Japanese maples," says Peggy.

As usual, the plant sale will kick off with the popular AHS Members-only Preview plant sale on Thursday, April 22, from 5 to 8 p.m. For admission to this sale, members must present valid AHS membership cards or the most recent issue of *The American Gardener*.

The plant sale weekend would not be complete without the **National Capital Area Federation of Garden Clubs'** annual flower show, titled "Creative Expressions with Flowers." Award-winning flower displays and arrangements will be exhibited in the main house at River Farm for public viewing on Friday April 23, from 1 p.m. to 4 p.m. and Saturday April 24, from 9 a.m. to 3 p.m.

Compiled by Jessie Keith, editorial intern for The American Gardener

JOIN THE GROWING CONNECTION

There's still time to join *The Growing Connection's* nationwide science experiment! This program will allow thousands of children to contribute to our understanding of the science behind growing food plants. All children and youth groups are encouraged to participate. *The Growing Connection* kits contain everything necessary to start growing and experimenting with the seeds that went up in a NASA science balloon. To learn more about *The Growing Connection*, or to order a kit, call (800) 777-7831 or visit www.ahs.org.



A wide variety of plants, including herbs, will be available at the annual Friends of River Farm Plant Sale. This year's sale is just one of many events AHS will stage as part of the month-long *Washington Blooms!* celebration in April.

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Celebrate Spring with AHS



Join us this April for *Washington Blooms!* at River Farm. Nothing compares with the beauty of the early spring blooms in the National Capital area. Cherry blossoms, daffodils, and tulips herald the coming of spring in an explosion of color. Throughout the month of April—National Garden Month—AHS hosts a variety of events with something for every gardener, no matter what your passion!

New! AHS Garden School

This year we introduce the new AHS Garden School. These in-depth workshops offer a truly unique environment—personal instruction from garden pros; behind-the-scenes tours of landmark sites and hidden treasures; and hands-on projects. Each course includes an intimate evening at a spectacular location.

The Amazing World of Indoor Plants—April 1, 2

Gardening is truly a year-round hobby when you bring it indoors. Meet the experts who will introduce you to gorgeous and unusual tropicals. Create a tropical bonsai treasure. Travel to public conservatories as well as small, beautifully designed indoor garden rooms.

Creating Your Own SMARTGARDEN™—April 8, 9

A garden that is low-maintenance, works with nature, has minimal pests and diseases, and flourishes year after year. Sound impossible? Not at all! The SMARTGARDEN™ program provides practical choices and techniques for becoming a successful gardener and a steward of the earth.

The Art and Science of Garden Photography—April 15, 16

Garden photography hangs in galleries and dazzles audiences at symposia.

If you ever wondered “how do they do that?”—this school is for you. Learn the tips and techniques involved in basic photography as well as diverse photographic styles. Small, intimate hands-on workshops led by experts allow you to work closely with the pros.

How to Nurture and Show Prize-Winning Plants—April 23

The work involved in taking a plant from house to show is fraught with challenges. Ray Rogers, frequent winner at the Philadelphia Flower Show and co-author of *The Philadelphia Flower Show*, will provide personal tips and techniques for success. Included is an afternoon visit to the National Capital Area Federation of Garden Clubs, Inc., District II Flower Show at River Farm.



2004 Washington Blooms! Events at River Farm

- April 1–2** AHS Garden School:
The Amazing World of Indoor Plants
- April 2** Great American Gardener
Award Banquet
- April 3** Spring Garden & Bulb Tour
- April 8–9** AHS Garden School:
Creating Your Own SMARTGARDEN™
- April 10** Spring Garden & Bulb Tour
- April 15–16** AHS Garden School:
The Art & Science of Garden Photography
- April 17**
 - ▶ Spring Garden & Bulb Tour
 - ▶ Alexandria House and Garden Tour
- April 22** *Member's Night*
Friends of River Farm Plant Sale
- April 23** AHS Garden School:
*How to Nurture and Show
Prize-Winning Plants*
- April 23–24**
 - ▶ Friends of River Farm Plant Sale
 - ▶ National Capital Area Federation
of Garden Clubs District II Flower Show

Ongoing for the month of April

- ▶ Washington Landscape Artists Exhibit
- ▶ AHS Green Garage Display
- ▶ River Farm Cottage Shop
- ▶ Historic Garden Week in Virginia
(April 17–25)

Visit the AHS Web site (www.ahs.org) for more details
or call 1 (800) 777-7931 for a brochure.

AHS 2004 GREAT AMERICAN GARDENERS NATIONAL AWARD WINNERS

THE AMERICAN HORTICULTURAL SOCIETY is pleased to announce the recipients of the Society's 2004 national awards. We honor these individuals and companies who represent American gardening at its best. Each has made significant national contributions to fields such as plant research, garden communication, landscape design, youth gardening, horticultural technology, and conservation. We applaud their passionate commitment to American gardening and their outstanding achievements within their fields.

The 2004 awards will be presented on April 2 at a banquet to be held during *Washington Blooms!*, AHS's spring celebration. To register for the banquet, or for more information about the banquet or other *Washington Blooms!* events, visit www.ahs.org or call (800) 777-7931.

LIBERTY HYDE BAILEY AWARD

Recipients of this award must reside in North America and have made significant horticultural contributions in a least three of the following areas: teaching, research, writing, plant exploration, administration, art, business and leadership.

Nationally known for his wide-ranging horticultural achievements and generous spirit, **André Viette** is owner of André Vi-



ette Farm, a nursery in Fishersville, Virginia, with one of the largest collections of perennials in the eastern United States.

Viette has co-authored and edited many gardening books, including *The AHS Flower Finder* and *The Hosta Book* (Timber Press) and has written for a variety of local and national publications.

In addition to lecturing around the country, Viette teaches horticultural courses at Blue Ridge Community College and hosts two radio garden programs.

Currently Viette serves on the board of directors for Lewis Ginter Botanical Garden. He is a former member of the AHS Board and past president of the Perennial Plant Association.

LUTHER BURBANK AWARD

Created to honor extraordinary achievement in the field of plant breeding.

Alden M. Townsend's research has emphasized the breeding and physiological genetics of urban trees. His efforts as a re-



search geneticist with the Floral and Nursery Plants Research Unit of the U. S. National Arboretum (USDA-ARS), have led to introduction of 15 new elm and maple cultivars for the urban landscape.

The most notable of these cultivars are *Ulmus americana* 'Valley Forge' and 'New Harmony', two Dutch elm-disease resistant selections. Townsend has also released six insect-tolerant red maple (*Acer rubrum*) cultivars, many with outstanding fall color.

Townsend's other awards include the International Society of Arboriculture's Arboricultural Research Award (1982).

H. MARC CATHEY AWARD

Recognizes research achievements in United States research institutions and Land Grant schools, which solve fundamental horticultural problems in gardening and landscape restoration.

A professor of horticulture at North Carolina State University, **Paul V. Nelson** has



conducted research on the growth-substrates and nutrition of greenhouse crops.

Among his accomplishments are the development of a nutritional program for plug seedling production and a buffer system to hold substrate pH at target levels throughout crop production. He also established the foliar analysis standards for

identifying nutrient deficiencies in many vegetatively propagated annual crops.

Nelson is the author of *Greenhouse Operation and Management*.

PAUL ECKE, JR. COMMERCIAL AWARD

The recipient of this award has shown the highest standards in commercial horticulture and improved gardening practices everywhere.

Joseph Cialone has contributed to the field of commercial horticulture as an



entrepreneur, inventor, and leader. He began his career as a plant physiologist and continued as a researcher in weed science at Rutgers University.

In 1971 Cialone co-founded Florida-based Tropical Ornamentals, a major supplier of interior plants in the United States.

Among Cialone's contributions to the interiorscape industry are the development of a sub-irrigation system called "Everlife" and a notched-cane propagation technique for *Dracaena* species.

He has served as president of the Florida Nurserymen and Growers Association and the Interior Plantscape Association.

G. B. GUNLOGSON AWARD

Creative originators of new and productive technologies for the home gardener are honored with this award.

Jerry Erickson is an entrepreneur and inventor of the SoilSoup "Bio-Blender"™



and the SoilSoup Kitchen™ and compost tea nutrient solutions. These products offer home gardeners easy- to-use and eco-friendly alternatives to chemical fertilizers.

SoilSoup is an aerobically brewed compost solution filled with soil microorganisms. When applied to compost, it aids the breakdown of plant material, accelerating the composting process.

Currently head of research and development for SoilSoup™, Erickson also chairs the company's board of directors.

FRANCES JONES POETKER AWARD

Given to outstanding creative floral designers who have successfully presented their work in publications, on the platform, or for the public.

Virginia Beeland Spencer is an exceptional flower arranger and garden club leader.



A judge at numerous flower shows, Spencer represented the Garden Club of America (GCA) Zone VIII's major show "From Sea to Shining Sea."

She co-authored *Elegance in Flowers* (Oxmoor Press, 1985).

Among the awards she has received are the Medal of Merit from the GCA Zone VIII (1982), the Katherine Eaton Cobb Award (1992), and the Crenfell Medal at London's Chelsea Flower Show (1983).

CATHERINE H. SWEENEY AWARD

Given to those who show exceptional dedication to the field of horticulture.

Barbara Whitney Carr has dedicated her career to the development of one of America's top public gardens, the Chicago Botanic Garden (CBG).

As president and CEO of CBG, Carr directed an expansion of its plant collec-



tions, the addition of five new teaching gardens, and development of a long-term Master Plan. She also led a campaign for the School of the Botanic Garden,

which now offers more than 1,000 classes, symposia, and certificate programs.

JANE L. TAYLOR AWARD

Awarded to an individual or organization that has nurtured future horticulturists through children's and youth gardening.

Maureen Heffernan's commitment to children's gardening has been the central force behind the development of various children's gardens, educational programs, and publications.

As education coordinator at AHS, Heffernan founded



2004 American Horticultural Society **TRAVEL STUDY PROGRAM**

The Great Gardens of the Cotswolds and the Royal Chelsea Flower Show **May 22-28, 2004**

One of England's finest country inns, the historic Lygon Arms in the village of Broadway, will be our tour headquarters for excursions to a dazzling array of gardens of the Cotswolds. From the great 20th-century garden creations of Hidcote Manor and Barnsley House, to Croughton Court and Bourton House, each day features exceptional visits to famed private and public gardens. Special invitations have been arranged for cocktails and dinner at Ragley Hall and Sudley Castle. Member's Day Entrance at the Royal Chelsea Flower Show allows for a full day of exploring one of the world's finest floral events. The tremendous variety of gardening styles and traditions are captured in this unique Travel Study tour.

Hosting this tour will be AHS Board member Christine Perdue and her husband Turner T. Smith Jr. of Middleburg, Virginia. Gardening extensively at their Virginia Piedmont farm, both Christine and Turner offer practical horticultural knowledge, keen interest in historical sites, and an infectious enthusiasm for discovery. Our guide, Marianne Swienink-Havard, as always provides her marvelous organizational skills, warm personality, and attention to detail.



For complete details of the exciting 2004 schedule, visit the AHS Web site at www.ahs.org, or call the Leonard Haertter Travel Company at (800) 942-6666.

No member dues are used to support the Travel Study Program.

the Society's annual Youth Gardening Symposia in 1993. She later spent nine years as director of public programs at the Cleveland Botanical Garden (CBG), where she established the award-winning Hershey Children's Garden and also organized several urban youth gardening programs, including the Green Corps and Ripe from Downtown™.

Currently, Heffernan is the executive director of the Coastal Maine Botanical Gardens in Boothbay, Maine.

HORTICULTURAL COMMUNICATION AWARD

Recognizes individuals who have expanded horticultural awareness through media and research-based communications.

A lifelong gardener, free-lance writer and editor **Barbara W. Ellis** has dedicated herself to excellence in horticultural communications.



A former publications director for AHS, Ellis was editor of *American Horticulturist* (now *The American Gardener*) from 1983 to 1987. She has been editor, consultant, or author for many publications. Her books include *Taylor's Guide to Growing North America's Favorite Plants*, three of the Taylor's Guides (*Annuals*, *Perennials*, and *Bulbs*), and *Shady Retreats* (Storey Books, 2003).

HORTICULTURAL THERAPY AWARD

Honors those who have made great contributions to the field of horticultural therapy.

Karin Fleming is horticultural therapy director at Bryn Mawr Rehab Hospital, an acute care physical rehabilitation hospital in Malvern, Pennsylvania. Using her skills in horticultural therapy, she helps patients heal and gain independence.



The American Horticultural Therapy Association (AHTA) elected Fleming to its board of directors in 1996, and in 1999 she was elected its president. Fleming continues to serve on its board of directors and two additional committees.

In 2002 Fleming went to Japan to help launch Japan's first degreed horticultural therapy program at Awaji Landscape Planning and Horticulture Academy.

HORTICULTURAL WRITING AWARD

Awarded to individuals whose excellence in writing has made a significant contribution to horticulture.

Rick Darke has met the highest standards in horticultural writing. His books include



The Color Encyclopedia of Ornamental Grasses and *In Harmony with Nature*. His most recent book, *The American Woodland Garden* has received awards from

the Garden Writers Association and AHS.

Darke's work has been featured on National Public Radio and PBS, and his writing and photography have appeared in numerous magazines, journals, and books.

Since 1998, Darke has been an independent design consultant, author, lecturer, and photographer dedicated to the conservation of regional landscapes.

LANDSCAPE DESIGN AWARD

Given to individuals whose work has expanded the awareness of horticulture in landscape architecture.

John Ormsbee Simonds is an internationally recognized expert in the fields of landscape architecture and environmental planning.



Currently, he is a partner emeritus at his firm, Environmental Planning and Design of Pittsburgh, Pennsylvania, which helped develop some of the leading botanical and zoological gardens and arboreta in the United States, including the Chicago Botanic Garden.

Ormsbee Simonds is on the faculty at Carnegie Mellon University in Pittsburgh and is a past president and fellow of the American Society of Landscape Architects.

LOCAL HORTICULTURE AWARD

Acknowledges an individual or group that

has advanced horticulture in the host city for the AHS annual meeting.

Emma Tompkins Matheson has been a generous contributor to the Washington,



D.C. gardening community. She served two terms as president of the Garden Club of Alexandria. A past AHS board member, she served as chairman of the

Friends of River Farm. She also served as director of the Garden Club of America.

Matheson has also worked to preserve historic gardens. She served on the Dumbarton House Gardens Committee while a member the National Society of the Colonial Dames of America.

MERITORIOUS SERVICE AWARD

Awarded to AHS friends or members that have shown exemplary service to the Society's mission and goals.

A neighbor to AHS' headquarters, **Gerald T. Halpin** has long supported the AHS



goals and mission. He was a director and treasurer of AHS for several years.

A real estate developer and conservationist, Halpin is Founder, President, and CEO of WEST*GROUP and more than 100 affiliated development and real estate corporations and partnerships. His site developments, including four award-winning office parks in Northern Virginia and Maryland, have emphasized the expansion of parkland and the beautification of corporate green space.

NATIONAL ACHIEVEMENT AWARD

Honorees have shown an exemplary dedication to horticulture on a national scale.

Ball Horticultural Company is an internationally renowned breeder, producer,



and wholesale distributor of ornamental plants and seeds. Over

the years, Ball has introduced many new, award-winning varieties and continues to be a horticultural innovator.

George J. Ball, a cut-flower breeder and grower, founded the company near Chicago, Illinois, in 1905. Much of the company's expansion can be attributed to the careful management by succeeding Ball family members. Carl Ball managed the company's growth in the 1960s by acquiring breeding and production companies, and Anna Ball, a third-generation leader, has continued to make acquisitions that have globally strengthened Ball.

PROFESSIONAL AWARD

Given to a director of a public garden or arboretum whose achievements have greatly benefited the horticultural community.

Over the course of her career, **Judith D. Zuk** has used her talents as a horticulturist, educator, researcher, writer, and administrator to foster public gardens worldwide.



Formerly director of the Scott Arboretum in Pennsylvania, Zuk has been president and chief executive officer of the Brooklyn Botanic Garden for the last 14 years.

Together with Christopher Brickell, she

served as editor-in-chief of *The American Horticultural Society A-Z Encyclopedia of Garden Plants* (DK Publishing).

Zuk is a trustee for the Botanic Gardens Conservation International in England and an officer for its American counterpart.

TEACHING AWARD

Recognizes a person whose ability to share horticultural knowledge has contributed to a better understanding of the plant world and man's relationship to it.

Martin F. Quigley, an assistant professor in Ohio State University's Department of Horticulture and Crop Science, has shown exceptional teaching skills and a dedication to horticultural education.



A licensed landscape architect with more than 20 years of experience in residential and institutional planning and design, Quigley currently teaches courses on landscape horticultural maintenance, planting design and selection, and landscape ecology.

His research focuses on ecologically sustainable constructed landscapes and

relict urban forests. He strives to instill in his students enthusiasm for environmental stewardship.

URBAN BEAUTIFICATION AWARD

Given to individuals or institutions that have made significant contributions to urban horticulture.

Communities in Bloom is a Canadian non-profit organization committed to fostering civic pride and advocating environmental responsibility and beautification of urban landscapes through community participation and the challenge of national competition. The program's slogan "People, plants and pride" captures its essence.



Raymond Carrière, the founder and national chairman of Communities in Bloom, launched the program in 1995. Originally 29 municipalities were involved; now nearly 500 participate annually.

Communities in Bloom is the model for the America in Bloom program in the United States. The program has been credited with improving the quality of life in participating communities.

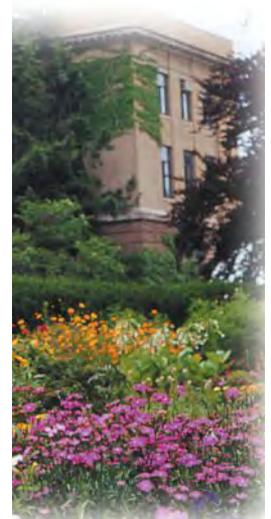
American Horticultural Society's 2004 National Children & Youth Garden Symposium

July 29–31, 2004

"Branching Out: Beyond Formal Garden-Based Education"



Cornell University and beautiful Ithaca, New York, is the setting for the 12th annual AHS Children & Youth Garden Symposium. The content for this year's symposium includes exciting and innovative examples of connecting children and youth to plants and the natural world beyond the formal school garden model. The three-day event will feature inspiring speakers, unique hands-on activities for interacting with children, research presentations, demonstrations, and numerous visits to renowned sites and organizations—all within one of the most scenic areas of the country. Join us to learn, share, and enjoy!



For more information and to register for the symposium, visit our Web site (www.ahs.org) or call Mark Miller for a brochure at (800) 777-7931 ext. 117.

hooked on COLUMBINES



With their brightly colored flowers and graceful foliage, plants in the genus *Aquilegia* can quickly become an obsession. Bet you can't grow just one!

BY ROBERT NOLD

ALTHOUGH IT HAS had a long history of cultivation, the columbine remains—save for a handful of look-alike examples—poorly known in American gardens. How many gardeners have grown the upside-down-flowered double columbine known to Parkinson in the mid-17th century, or *Aquilegia glandulosa* from the Altai Mountains in Siberia, with its half-inch-long incurved spurs and four-inch-wide blue-purple flowers, or the fantastic cushion columbine (*A. jonesii*) native to the Big Horn Mountains of northern Wyoming?

One of the reasons why things are the way they are, I suspect, is that American gardeners lack the long, nurturing tradition of maintaining cultivars that's so strong in Great Britain. Another reason is that gardeners in this country have access to some superior and rewarding columbine hybrids and seed strains, like the Songbird series (all cultivars are named after birds) and 'McKana's Giant' series, that are extremely easy to grow and give great results with little effort.

In the first case, there isn't much that can be done about finding, let alone growing, upside-down-flowered double columbines in this country, since practically none of the more outlandish cultivars of *A. vulgaris* is available here.

The sole exception, 'Nora Barlow' is pretty firmly established in cultivation, but for the rest, even the right-side-up ones, the doubles, the triples, the quadruples, we'll have to leave those to



Above: Double-flowered 'Nora Barlow' is a widely grown columbine cultivar. **Opposite:** One of the author's favorites is the diminutive *Aquilegia flabellata* var. *pumila*.



In this shady spring border, Canadian columbine (*A. canadensis*) adds a fiery contrast to the pastel hues of money plant, dogwoods, azaleas, and candytuft.

British gardeners until some enterprising person brings seed to this country.

Also, there is a certain fear of growing species that afflicts gardeners—and not only in this country. It's a fear that is often justified, either compared to the excellent results we get from growing stabilized hybrids, or compared to the downright insuperable difficulties of growing some species that have peculiar and narrow-minded needs. *Aquilegia jonesii* comes to mind here; this columbine with upward-facing purple flowers and short, straight spurs really seems to prefer being grown only in climates that are similar to its own, loving heat, alkaline soil, and not too much precipitation at any time of the year. It finds ideal conditions in rock gardens in the Rocky Mountain region, but not much anywhere else.

Still, it's safe to say that anybody can grow columbines, regardless of whether or not they plant fancy hybrids or obscure species collected in Central Asia by botanists riding yaks.

The general preference of columbines is for soil on the alkaline side of neutral, though they will do just as well in soil on

the acidic side. I grow most of mine in full sun, and if I can grow them in full sun in Denver, anyone not living on Mercury can, too. I also don't bother too much with soil preparation or amendment. I hack a hole into the adobe clay, jam the plant in, water it, and stand back.

Some columbines may have more specialized requirements; I've probably never paid too much attention to their screams to notice. Only a few, the most obvious being Canadian columbine (*A. canadensis*), seem to demand woodland conditions. Even though the reputedly hopeless *A. glandulosa* is a stalwart of gardens on the cool, moist west coast of Scotland, I've grown and flowered it in my garden, which is less like Scotland than almost any other place on earth I can think of. Maybe it helped that I'm part Scottish.

WIDELY DISTRIBUTED

Part of the buttercup family (Ranunculaceae), the genus *Aquilegia* is comprised of about 70 species. The species' ranges are divided into almost equal thirds, a third native to Asia, a third native to Europe, and a third native to North America.

There is a great deal of variability in habit and flower and foliage among columbines, but most feature a tuft of long-stemmed basal leaves. These are usually biternately compound, which means each leaflet is twice divided into three parts. The foliage ranges in color from deep green to pale blue and some columbines exhibit the whitish bloom that botanists term “glaucous.”

The habit of columbines ranges from arching and spreading species such as *A. coerulea* and *A. chrysantha* that can fill a space three feet tall and wide to pincushion size species such as *A. jonesii* that have practically no visible stems.

The graceful flowers of columbines

are remarkably complex and variable, having evolved to meet the needs of different kinds of pollinating insects. They consist of five petallike sepals alternating with five petals, and stamens that are—usually—conspicuously exposed. Each petal has an elongated spur that contains the nectar—these may be straight, curved or hooked, or, rarely, coiled. The spurs elongate into blades termed laminae that in some cases may protect the pollen from rain.

The spurs are believed to be the source of the genus name, which is derived from the Latin word *aquilex*—plural *aquileges*—which means “water-finder” or “dowser,” in reference to the nectar-rich

spurs. Flies, bees, and bumblebees are the primary pollinators overall, but in North America some species are pollinated by hawkmoths and—in the case of red-flowered species—hummingbirds.

EUROPEAN COLUMBINES

The ancestral columbine is probably common columbine (*A. vulgaris*, USDA Zones 3–9, AHS Zones 9–1), a widely variable or polymorphic species found throughout Europe and even sneaking into Morocco. Studies have shown that crosses with a wide range of species almost always yield plants that have a strong resemblance to the plain old common columbine.

Despite its plebeian name, common columbine is an excellent garden plant, though occasionally troubled by aphids. There are so many selections available that choosing between them is perhaps the hardest task. The plain purple seems to be reasonably permanent in my garden, though by “permanent” I mean that the thing seeds about; the plants themselves, like most columbines, have a lifespan of only two or three years. A few really beautiful selections of *A. vulgaris* are readily available as seed, including the dark purple, almost black ‘William Guinness’ and the rose-colored ‘Michael Stromminger’.

Black columbine (*A. atrata*, Zones 4–9, 9–1) is very similar to *A. vulgaris*, growing to two feet tall with the same habit and slightly smaller nodding flowers that are a beautiful dark violet, almost black. Native to woodlands in a wide swathe of central Europe, it is—like common columbine—rather vulnerable to attack by aphids. Because the dark flowers sometimes become invisible in the garden; plants with more visible, white-rimmed flowers are much more common in the trade. These, while still worth growing, can be safely called impostors. The true species is not long lived, but is easy to grow and seeds freely in a partly shaded site.

One of the most beautiful of all columbines is Pyrenean columbine (*A. pyrenaica* subsp. *discolor*, Zones 4–9, 9–1), a Spanish montane species. Sometimes listed as *A. discolor*, this is a cushion-forming plant, growing to six inches tall and a foot across, and in its season, smothered with nodding light-purple and white flowers. It may not have the mystique of *A. jonesii*—



Columbine flowers come in an incredible variety of colors, shades, and postures. Above: Deep-purple flowered ‘William Guinness’ is a cultivar of common columbine. Below, left: Alpine columbine has nodding, pure blue flowers. Below, right: Compact Pyrenean columbine has upward-facing purplish blue and white flowers.



MORE NATIVE COLUMBINES FOR THE GARDEN

In addition to the North American natives mentioned in the main article, here are some other garden-worthy natives that are sometimes available through nurseries or in seed exchanges.

Name	Height/spread (inches)	Flower color	Other features*	Origin	Hardiness/Heat Zones
PARTLY SHADED ROCK GARDEN					
<i>A. chaplinei</i>	15/15	pale yellow	U	Texas, New Mexico	4-9, 9-1
<i>A. elegantula</i>	6-12/6-12	red/yellow	N	Four Corners area of Southwest	4-9, 9-1
<i>A. laramiense</i>	8/6-8	white/cream	N to U	Wyoming	4-9, 9-1
<i>A. saximontana</i>	8/6-10	blue-purple/white	N	mountains of Colorado	4-9, 9-1
<i>A. scopulorum</i>	4/4	blue/white	U, long-spurred	southern Utah and Nevada	4-9, 9-1
SUNNY ROCK GARDEN					
<i>A. barnebyi</i>	24-30/30	light-yellow	N	n.w. Colorado and n.e. Utah	4-9, 9-1
<i>A. eximia</i>	36-42/36	red	N, upturned sepals	western California	8-10, 10-6
<i>A. flavescens</i>	8-24/8-24	yellow/white or pink	N	Utah to Pacific Northwest	4-9, 9-1
<i>A. longissima</i>	20-50/18-48	yellow	N to U, long spurred	Texas and New Mexico	4-9, 9-1
<i>A. micrantha</i>	12-24/12-24	cream to yellow, blue	N to U	w. Colorado, Utah, Arizona	4-9, 9-1
<i>A. pubescens</i>	15/12-18	yellow	U, large	Sierra Nevadas of California	4-9, 9-1
<i>A. shockleyi</i>	15-30/12-30	red	N, sticky leaves	SW Nevada and California	4-9, 9-1

*N=nodding flowers; U=upright or erect flowers

“mystique” in gardening lingo meaning almost ungrowable—but it is possibly more beautiful, and well worth building a rock garden just so it can be grown.

Another favorite is alpine columbine (*A. alpina*, Zones 4-9, 9-1), native to sub-alpine meadows of Switzerland, Austria, and Italy. Despite its name, it is a largish plant, growing six to 24 inches tall and better suited to the perennial border than the rock garden. It has nodding blue flowers with straight to slightly incurved spurs. Most of the plants labeled *A. alpina* in the trade bear strongly hooked spurs, which alpine columbine does not have.

AMERICAN COLUMBINES

Speaking of impostors, I suspect that a lot of the seeds and plants labeled as Rocky Mountain or Colorado columbine (*A. caerulea*, Zones 3-8, 8-1) is of hybrid origin, and that the true species is pretty much unknown in cultivation. *A. coerulea* is the original spelling and the one now used by botanists, but this change has not reached gardeners.

Even where I live, the Rocky Mountain

columbine seen in gardens is usually a blue-flowered plant extracted from the McKana's Giant series, of which it's a genetic contributor. In order to grow the true species, you need to get seed from a reliable nursery or seed exchange source,



Rocky Mountain columbine is the treasured state flower of Colorado.

some of which are listed on page 19. The true species—native to Colorado, northern New Mexico, and southern Wyoming—grows about three feet tall with erect, sky-blue flowers.

Colorado columbine has numerous variants; to be different, try *A. caerulea* var. *ochroleuca* (Zones 3-8, 8-1), a not-quite-white version native to Utah. This variety, with pale cream-colored flowers, has what garden writers would call a quiet charm. It isn't exactly as fabulous gorgeous as the species itself, but it's still beautiful and deserves a place in the garden.

Beautiful is unequivocally the perfect adjective to describe golden columbine (*A. chrysantha*, Zones 3-8, 8-1), which is nearly identical in form and habit to Colorado columbine, its northern counterpart.

It is a robust plant that extends flowering stalks up to four feet high. Its erect flowers, more yellow than gold and bearing long, straight spurs, are pollinated by hawkmoths. Native to moist places in the Southwest, this species intermixes with Colorado columbine where their ranges meet. This species is represented in the

GROWING COLUMBINES

Columbines display a distinct preference for alkaline to neutral soil in their native habitats, but will do quite well in slightly acid soil as well. Once they are established, watering once a week during periods of summer drought should be sufficient to keep them happy. Regular deadheading may stimulate extended flowering and prolong plants' lives.

Pests

Aphids can be a problem with some columbines. Spray them with an insecticidal soap. I make my own by mixing a capful—about one teaspoon—of Dr. Bronner's Castile soap to a half-quart of water.

Powdery mildew can sometimes disfigure columbines, even in dry climates, and in particularly bad cases I resort to use of Bordeaux mix—a fungicide that contains a mixture of copper sulfide and hydrated lime.

Leaf miners—the larva of a fly that lays eggs on the undersides of leaves—make unsightly scars on leaves as they tunnel, particularly in *A. flabellata*. Since there is no reliable control for these insects, I generally just try to look the other way.

Propagation

Columbines are easily grown from seed. I make a mix of equal parts peat moss, perlite, and sand, fill plastic pots with this, sprinkle the seeds on top of the mix, press the seeds in lightly (not too deeply), sprinkle the top of the mix with about an eighth-inch deep layer of fine gravel, set the pots in dishpans and pour water into the dishpans. Bottom-watering prevents the seeds from being washed out.

Once the pots are fully moistened, I set them out into open frames (rectangles with wooden walls) and wait. No covering is necessary in Denver because it never rains in winter, but if you do get winter rain, put the pots in a cold frame or other covered site. Usually, if you set seeds out in January, you will have seedlings come May. —R.N.

trade mostly in the form of cultivars or hybrids.

I am growing an exceptionally robust form of *A. chrysantha*, perhaps 'Yellow Queen', that has been in the garden here for more than 10 years, belying the columbine's reputation for being short-lived. The true species, grown from wild-collected seed, seems to be less willing to live forever, but some gardeners might find its slightly more graceful appearance worth the tradeoff.

Distinguished by sepals that flare out at right angles to the spurs, red-flowered *A. formosa* (Zones 4–9, 9–1) has been a great boon to hybridizers, providing red color where none might issue from crosses between *A. coerulea* and *A. chrysantha*.

It grows best in light shade and with ample moisture and, for me, is quite short-lived. This attractive columbine is highly variable and assumes many forms in its widely distributed habitats up and down the West coast of North America and inland to Utah and Wyoming.

Best-known of the red-flowered columbines is Canadian columbine (*A. canadensis*, Zones 4–9, 9–1), the only columbine native to eastern North America. A woodland species that grows two to three feet tall, it is found almost everywhere east of the 100th meridian except in some parts of the Gulf Coast states. Its slender nodding flowers are red with yellow blades. Dwarf forms flit in and out of the trade from time to time; the most popular is a yellow-flowered one called 'Corbett' that grows to only 10 inches.

There are too many other columbines native to North America to cover here, but several other native species worth seeking out are listed in the chart on page 17.

ASIAN COLUMBINES

Easily-crossed North American species have become a fertile resource for columbine breeders. Not so the green-flowered Asian *A. viridiflora* (Zones 4–9, 9–1), which steadfastly refuses to surrender its genetic material to a number of columbine species.

Native to northern China, *A. viridiflora* grows about 15 inches tall, with finely pubescent stems and nodding to near upright green flowers that have brownish to purplish blades and spurs.

The prospect of green flowers may not



Incandescent yellow flowers seem to explode from *A. chrysantha* 'Yellow Queen'.



Above left: Himalayan columbine's flowers resemble pastel petticoats. Above right: Collectors are drawn to the unusual green and brown flowers of *A. viridiflora*.

cause a stampede to the local nursery, but this species has a certain peculiar elegant beauty, especially in its botanical variety *A. viridiflora* var. *atropurpurea*, which has very dark purplish-brown petal blades. This variety is readily available as seed, sometimes under the name “chocolate soldier.”

Surely one of the most familiar of all columbines is *A. flabellata* (Zones 4–9, 9–1). Native to Japan, China, and Korea, it is widely available in the nursery trade both as the species and in a number of seed strains. It grows two feet tall with nodding blue to blue-purple flowers that have yellowish tips. A word of warning, though: This species has more names attached to it than almost any other plant in existence, and the most recent decision by botanists—not likely to be followed by horticulturists—is to call it *A. japonica*.

Anyway, of all the thousand incarnations of *A. flabellata*, my favorite is *A. flabellata* var. *pumila*, which grows maybe four inches tall at its best with leaves that are less leathery than in the typical plant. Seed of a ravishingly beautiful pink-flowered dwarf selection, ‘Rosea’, also appears from time to time in the various rock garden society seedlists.

Yet another Asian, the sweetly scented Himalayan columbine (*A. fragrans*, Zones 5–9, 9–1) from Kashmir and the Punjab, is also fairly readily available as seed. This white-and-pale purple-flowered species is

also quite distinctive, its widely flaring laminae making it look as though it had tried on too many petticoats at once. Even though it reaches elevations of 12,000 feet in its native habitat, I still regard its hardiness as suspect. Fortunately, plants are also available from mail-order nurseries, so it’s easy to replace if you lose one.

Seed of this magnificent *A. glandulosa* is exceedingly difficult to come by these days. Legendary garden writer and plant hunter Reginald Farrer called it “the unquestionable sovereign of the race” for its combination of very large—four-inch wide—blue to violet tiny-spurred flowers on a relatively small plant. But if you should ever see seed available, acquire it. Seeds of its lower-elevation counterpart, Siberian columbine (*A. sibirica*, Zones 4–9, 9–1), an *A. vulgaris* lookalike, is more likely to be available. It has a tuft of basal leaves and wiry, leafless stems that leave the purple flowers dancing, as it were, in mid-air.

Columbines offer something for every type of gardener, from beginner to fanatic. There can be no doubt that their beauty, and the ease with which they can be grown, will endear them to gardeners for centuries to come, just as they have in centuries past.

A resident of Lakewood, Colorado, Robert Nold is the author of Columbines and Penstemons, published by Timber Press in 2003 and 1999, respectively.

Resources

Columbines: Aquilegia, Paraquilegia, and Semiaquilegia by Robert Nold. Timber Press, Portland, Oregon, 2003.

Sources for Seeds

The North American Rock Garden Society, P.O. Box 67, Millwood, NY 10546. www.nargs.org.

The Alpine Garden Society, AGS Center. Avon Bank, Pershore, Worcestershire WR10 3JP. United Kingdom. www.alpinegardensociety.org/index2.html.

Northwest Native Seed, 17595 Vierra Canyon Road, #172, Prunedale, CA 93907. Catalog \$2.

Southwestern Native Seeds, P.O. Box 50503, Tucson, AZ 85703. Catalog \$2.

Sources for Plants

Forest Farm, Williams, OR. (541) 846-7269. www.forestfarm.com. Catalog \$3.

Rocky Mountain Rare Plants, 1706 Deerpath Road, Franktown, CO 80116-9462. www.rmrp.com. Catalog \$1

Roslyn Nursery, Dix Hills, NY. (631) 643-9347. www.roslynnursery.com. Catalog \$3.

Creative Pruning



Cutting back certain herbaceous perennials and grasses at the right time
will yield shapelier, more floriferous plants.

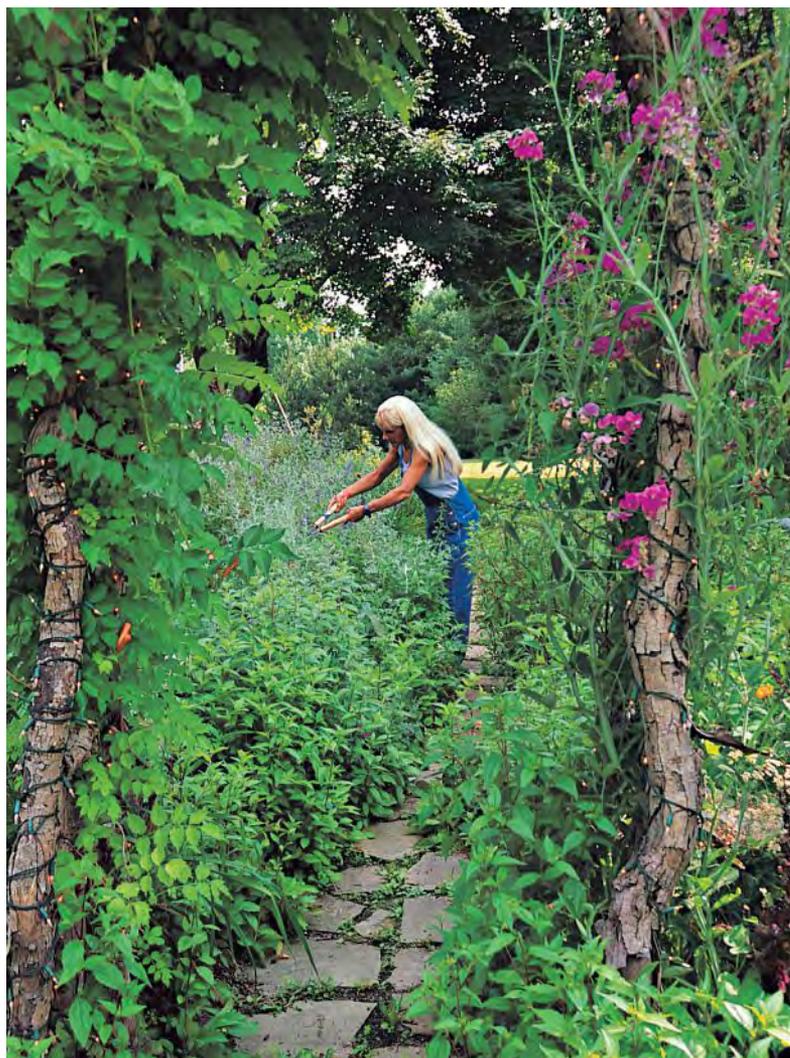
ARTICLE AND PHOTOGRAPHS BY CAROLE OTTESEN

WHEN IT COMES to herbaceous perennials and grasses, most people lump “grooming,” “deadheading,” or “cutting back” into the catchword “pruning.” Pruning is a necessity in a perennial garden and almost always performed after the fact—after the winter, after the flowers have come and gone, after the growing season. Grooming removes winter-damaged leaves that detract from an evergreen plant’s appearance. Deadheading neatens and removes spent flowers in the hopes of more to come. Cutting back eliminates tired foliage and restores the perennial’s neat and youthful basal clump. If you combine this kind of necessary housekeeping with a little weeding, a nutritious top dressing, and mulch, it’s the equivalent of treating your plants to a day at the spa with the works—hairstylist, massage, manicure, pedicure. It allows perennials to be their best selves, to stay healthy, and to contribute to a tidy garden.

But there’s another kind of pruning that is less commonly practiced in the perennial garden, except perhaps among those who still compulsively pinch their old-fashioned chrysanthemums until July 4. You might call it pre-emptive pruning because it takes place *before* anything happens—before a perennial achieves its potential growth, before bloom. It isn’t strictly necessary, and that is part of its appeal. Pre-emptive pruning transcends mere maintenance and becomes a creative act. It is pruning as art, an adventure that allows certain perennials to grow into their better-than-normal selves. It is the equivalent of taking your plants to a talented plastic surgeon.

That would be *you*. If that thought gives you the willies, listen to Tracy DiSabato-Aust, author of *The Well-Tended Perennial Garden*, a must-have manual for anyone who grows perennials. Renowned for performing cosmetic surgery on perennials, she says, “perennials are quite forgiving. The worst thing they’ll do if you prune too much is not bloom for a year.” And they never sue!

Remember last summer’s Joe-Pye weed (*Eupatorium* spp.) with those eight-foot-tall flowers that required a ladder to see? A pre-emptive height-reduction operation would have brought those flowers down to eye level or below. And that killer aster that flopped and smothered everything around it? It would have been an ideal candidate for cosmetic surgery. Some nips and tucks in midsummer would have kept it at a trim size six and turned it into a bet-



Above: Tracy DiSabato-Aust prunes artemisia growing amid bluebeard (*Caryopteris* sp.) in her garden. **Opposite:** Cut back in early summer, these New England asters (*Aster novae-angliae*) stand tall in autumn with hundreds of purple flowers, making good companions for fountain grass (*Pennisetum alopecuroides*).



Without pruning, many fall composites, such as this *Aster tataricus*, tend to grow lanky and disproportionately taller than their companions.

ter citizen. “We cut back the asters by about one-half on July 4,” says Eric Hammond, head propagator at Heronswood Nursery in Kingston, Washington. “And then we deadhead to get rebloom.”

Other late-blooming perennials may be cut back by up to two-thirds for less flopping and more tidiness overall later. The most logical candidates are those with robust growth habits—the big, the tall, and those that sprawl. Like tall Joe Pye



Sedum 'Autumn Joy', above left, trim even without pruning, becomes extraordinarily compact with it. Cutting back *Miscanthus sinensis 'Zebrinus'*, right, keeps it from flopping.

TRY YOUR PRUNERS ON THESE PERENNIALS

The following mid- to late-summer bloomers shape up after being cut back:

BOTANICAL NAME

Artemisia ludoviciana
Aster novae-angliae and cultivars
Aster novi-belgii and cultivars
Aster tataricus
Asteromoea mongolica
 (also listed as *Kalimeris mongolica*)
Boltonia spp.
Chrysanthemum spp.
Echinacea purpurea
Eupatorium fistulosum
Eupatorium maculatum
Helianthus spp.
Miscanthus sinensis 'Zebrinus'
Monarda spp.
Phlox maculata
Phlox paniculata
Rudbeckia nitida
Solidago spp.
Tricyrtis spp.

COMMON NAME

white sage
 New England aster
 New York aster
 Tartarian aster
 Mongolian aster
 boltonia
 mums
 purple coneflower
 Joe-Pye weed
 spotted Joe-Pye weed
 perennial sunflower
 eulalia
 beebalm
 wild sweet William
 garden phlox
 shiny coneflower
 goldenrod
 toad lily

weed, many perennial sunflowers (*Helianthus* spp.), often grow disproportionately taller than the rest of their companions. Cutting them back yields fuller, more graceful, and far more companionable plants.

In addition to asters, other perennials that DiSabato-Aust likes to cut back before flowering include *Heliopsis*, *Boltonia*, and sneezeweeds (*Helenium* spp.). But there probably isn't a perennial alive she

hasn't experimented with. “I love playing with garden phlox,” says DiSabato-Aust, “You can pinch early or cut it back by one half. Or cut it back by four to six inches when it's in bud. It's a really fun one to experiment on.” Not only does cutting back limit the height of some phlox, adds Hammond, when undertaken just before bloom time, it “delays it nicely.”

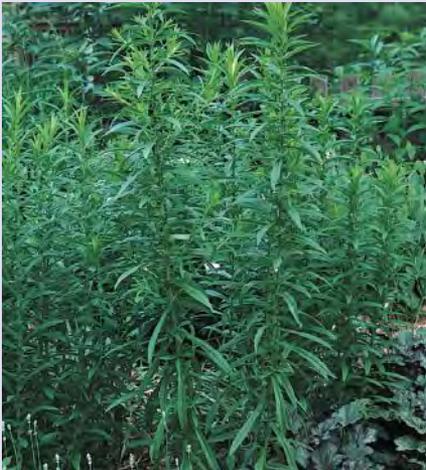
DiSabato-Aust has also achieved unusually showy results with unlikely choices—smaller, more compact plants such as balloon flower (*Platycodon* spp.) and *Sedum 'Autumn Joy'*. The latter is not a typical candidate for cutting back because of its naturally neat and uniform habit. However, pruning this sedum produces a remarkable effect. After pre-emptive pruning, it seems to flow over the ground like a tide of copper flowers.

Salvias might also seem to be unexpected candidates for pre-emptive pruning, yet California gardener Betsy Clebsch, author of *The New Book of Salvias*, practices what she calls “creative pruning” on certain species. In addition to deadheading, she says that to keep the heavy flowering going with a few salvias, “some heavy pruning must be done yearly.” According to Clebsch, tender salvias



CUTTING BACK HERBACEOUS PERENNIALS

Many tall herbaceous perennials that flower in late summer and early fall, such as the New England aster (*Aster novae-angliae*) shown below, can be cut back in early to midsummer, when they are about two feet high. Cutting back later in the season will not usually harm plants, but you risk losing a season of flowers, especially in areas with short summers.



1. At 16 to 24 inches high in early summer, these plants will continue to shoot up and eventually sprawl if left to grow unchecked.



2. To counter this tendency, use pruning shears to cut plants back by half to two-thirds of their height.



3. By fall, the pruned plants have grown back shorter, with a more sculpted appearance and yielding abundant blooms.

such as *Salvia microphylla*, *S. greggii*, and *S. ×jamesis* and their many cultivars “need the protection of old growth until there is no danger of frost. Then they should have heavy wood removed and the whole plant should be cut back to a reasonable size.” She cuts *S. microphylla* back to two inches and the others a little less.

Ornamental grasses are especially good subjects for pre-emptive pruning. Cutting them back not only keeps them shorter, it can prevent their flopping over—especially variegated *Miscanthus sinensis* ‘Zebrastrinus.’ Mowing a field of ornamental grasses such as switch grass (*Panicum virgatum*) in early summer will produce a shorter, neater, more uniform mass.

TIMING IS KEY

Because climate, location, and weather conditions make for enormous differences in growth and bloom time, DiSabato-Aust gauges the time to cut back late summer- and fall-blooming perennials by size rather than by date. “When a plant reaches roughly 16 to 24 inches,” she says, “it can be cut back. Normally it’s cut back by half, but sometimes it can be two-thirds of the plant.” The more vigorous the plant, the more can be trimmed away. In her ex-

perience, depending upon the weather, the foliage will usually regrow within 10 to 14 days.

Pre-emptive pruning does much more than simply limit size. Perennials such as asters can be sculpted into elegant mounds of flowers by cutting the plants shorter around the edges and leaving the center a little taller. Or, for a mass of perennials that all face in one direction, cutting those in front very short and graduating the plants’ heights as you move back will result in a slope of flowers with all plants in view.

Pre-emptive pruning can also be used to delay bloom time. You can work this delay to your advantage by cutting back

portions of a planting to stagger and lengthen overall bloom times by weeks. When mid- to late-spring blooming perennials are cut back at Heronswood Nursery, Hammond says, “they are more like summer bloomers.”

Just be careful not to overdo the delaying tactic, cautions DiSabato-Aust. “The closer to the bloom time you cut, the greater the delay of flowering will be. And it is possible to cut back so late that flowers for the current year are lost,” she says.

And there are a few perennials that don’t take kindly to pre-emptive pruning, including crocosmias, torch lilies (*Kniphofia* spp.), and astilbes. Nevertheless, most others come out from under the knife with better form, a later and, possibly, longer bloom period, and a shorter, more compact habit.

So as you head out to neaten up the garden, think beyond your usual maintenance chores. Experiment! You can use your pruners like a scalpel to enhance your plants’ natural beauty. And as you snip, chant the mantra “less is more, lessismore, lessizmore.”

Carole Ottesen is associate editor of The American Gardener.

Resources

Herbaceous Perennial Plants (second edition) by Allan M. Armitage, Stipes Publishing, Champaign, Illinois, 1997,

The Well-Tended Perennial Garden by Tracy DiSabato-Aust. Timber Press, Portland, Oregon, 1998.



landscaping with **Roses**

It's time to take roses out of the rose garden and explore the many other ways they can be used in the home landscape.

by Mary Yee

FOR ALL THEIR BEAUTY and the devotion they inspire, roses are underutilized in the garden. There are several reasons for this. Probably anyone who has ever grown at least one rose has quickly discovered that in regions with severe winters, many won't make it to spring without protection; in warm, humid climates, many are prone to disfiguring diseases such as blackspot and rust. The idea of regularly having to use toxic chemical sprays to maintain a plant's health and appearance has deterred many gardeners from growing roses. And, until a few years ago, our views of how to use roses in the garden were limited by the long-held custom of segregating them in unappeal-

ing rows in large beds—sometimes referred to as “rose prisons.”

In the past few decades, plant breeders have been trying to make roses even more popular by creating varieties that suit many landscape needs and meet consumer demands for improved adaptability and pest and disease resistance. Rambling roses have long been used to cover arbors and soften harsh fence lines. Now there are also roses bred to serve as ground covers and mini roses that can provide an unusual edging for a sunny path or be grown in outdoor containers. Many of these have varying degrees of pest and disease resistance; some have been bred especially to withstand severe winter cold.



Above: Many shrub and species roses can be used as hedges. Here, a dense row of *Rosa rugosa* hugs the wall of this seaside New England home. Its deeply wrinkled leaves give it a coarser appearance than its more refined relatives, but it is among the toughest of roses. It tolerates salt, cold, pests, and diseases—and is a good repeat bloomer, to boot. When selecting roses for a hedge, avoid those with upright habits—they won't spread together well. It's also a good idea to use a single variety for the most uniform appearance.

Opposite: In this Connecticut garden designed by Judith Gries, roses have been seamlessly integrated into the landscape. On the left the large semi-double pink flowers of 'Applejack' harmonizes with the lower-growing pink flowers of a weigela. On the other side of the grassy path, the graceful canes of *Rosa glauca*—a species grown primarily for its bluish-green foliage—arch over a predominantly white bed that includes variegated hostas, phlox, and a birch tree.

KNOW YOUR ROSES

Contrary to common perception, it *is* possible to grow roses without resorting to a regimen of chemical pesticides and fertilizers. To begin, remember that almost all roses will perform their best if they are planted where they can get good air circulation and about eight hours of sun a day.

Once you've identified a good site for roses, it's important to find out which roses do well in your region. "There are thousands of roses to choose from," says Peggy Bowers, rose enthusiast and horticulturist at AHS headquarters at River Farm, "so you have to do your homework on a rose's disease resistance and cultural requirements rather than just being taken in by a pretty face." (See sidebar on page 27 for some all-around good roses and "Resources" on page 29 to begin your research.)

If you're looking for lower-maintenance roses, avoid many of the older hybrid Teas, Floribundas, and Grandifloras. These have spectacular blooms but delicate constitutions. The more rugged species roses and their hybrids are better choices. Bowers also suggests picking own-root roses whenever possible. "They will usually start out smaller," she says, "but—in my experience—over the long run, they outperform their grafted counterparts."

MIXING IT UP

Once you have selected the right roses, deciding where to plant them can be the difference between success and failure. It's best

to avoid planting all of them together in one bed. "Monocultural rose gardens are notorious for spreading disease and encouraging insect problems," says Bowers. "We use roses in mixed borders throughout River Farm to cut down on the spread of disease and provide habitat for beneficial insects."

In fact, she notes, growing roses organically is actually easier on the gardener. "Predatory insects do a good job of taking care of pests if they have not been killed with insecticides," she explains, "and using organic fertilizers promote healthier plants that are less susceptible to disease and insect damage."

In addition to being earth-friendly, integrating roses with other plants is more in keeping with most informal contemporary garden styles. Integrating roses is easy, because roses seem to work well with just about any plant. While the flowers are always of primary interest, many roses produce attractive hips that add color to the garden in fall and winter, and the foliage of some even turns red in autumn.

With all the improved rose varieties available today, there's no reason not to be creative. It's time to stop looking at roses as garden trophies and consider their potential in a garden's overall design. The photos on these and the following pages offer just a few ideas to get you started.

Mary Yee is managing editor and designer of The American Gardener.



The classic rose-and-arbor combination never goes out of style. Any climbing rose or shrub rose with long canes can be trained to grow and drape over the structure. Two specimens of 'William Baffin'—one of the hardy Explorer series roses from Canada—meet at the top of this latticed archway to form the proverbial bower of roses. Roses grown this way in cold climates—even hardy ones—will need some winter protection because the bare canes are so exposed to the elements.



Any wall looks more attractive when covered with roses. A variation on this theme is to train roses to frame a window or to train them on a trellis either freestanding (as in a screen) or set close to a wall. Climbers, ramblers, and shrub roses with long canes such as 'Constance Spry', shown here, work particularly well. Though growing roses on the vertical does require some labor, it's a good way to enjoy them in the garden where space is limited.



Roses with tree shapes—called tree roses or standards—are the result of grafting roses atop a bare rootstock. Because of their stylized silhouette, standards become instant focal points wherever they are located. This floriferous 'Charles Aznavour' standard provides a mass of color above a bed of low-growing mugo pine and euonymous. Standards are susceptible to cold damage and need winter protection.

Reliable Roses for Landscape Use

Here is a selection of roses that have proven to be generally disease-resistant in most parts of the country. Because environmental factors affect plant performance, check with a local rose society for the most reliable choices in your area. You can find a local society by checking the Web site of the American Rose Society (www.ars.org). —M.Y.

SPECIES ROSES

Rosa laevigata. Known as Cherokee rose, it is native to Asia but naturalized in the southeastern United States. Lax canes can grow to 15 feet as a ground cover, or be trained as a shrub about 6 feet tall and wide. Single, fragrant white flowers bloom once in spring.

Rosa rugosa. Native to Asia, but naturalized in the northeastern United States. Grows from 4 to 12 feet tall and wide. Fragrant purple-pink flowers bloom several times a season. Hardy, tolerates salt, drought, heat, and poor soils and is very pest- and disease-resistant.

Rosa woodsii. Native to western and central North America. Shrubs to 3 feet tall with fragrant, single, deep pink flowers in early to midsummer. Leaves turn red in autumn; bears red hips for autumn interest.

OLD GARDEN / ANTIQUE ROSES

'Souvenir de la Malmaison'. Grows 3 feet by 3 feet. Pink double flowers to 5 inches across in spring. Suited to warm, dry climates.

'Cécile Brunner'. Grows to 3 feet high and 2 feet wide. Produces clusters of small pale pink double blooms all sea-

son. Canes are sparsely leaved and almost thornless.

CLIMBERS

'City of York'. Grows 10 to 12 feet. Large white fragrant semidouble flowers bloom late spring to early summer.

'Eden Climber'. (also sold as 'Eden', 'Eden Rose 88', 'Pierre de Ronsard'). Grows to 10 feet. Large, fragrant, double, cream-colored flowers flushed with pink bloom in early summer and intermittently throughout season.

'New Dawn'. Grows to 12 feet or more. Abundant soft pink to nearly cream-colored loosely double flowers bloom in early summer and again in late summer.

SHRUB

'Bonica'. Versatile and vigorous, grows to 5 feet tall and 4 feet wide with clusters of double pink flowers in early summer; a repeat bloomer.

'Carefree Beauty'. Has upright habit to 5 feet and about 3 feet wide. Semi-double deep pink flowers in late spring to early summer. Red hips in fall. Very disease resistant.

'William Baffin'. Extremely hardy and disease-resistant, a vigorous grower

that can grow to about 8 feet; 12 feet if trained as a climber. Abundant deep pink semi-double to double flowers on sturdy stems bloom from late spring to midsummer until fall.

Knock Out™ ('Radrazz'). Grows to 3 feet high and wide. Large cherry-red semi-double flowers bloom from late spring to fall. Grows well in all regions of the country; adapts well to drought, heat, and semi-shade, and most soils.

'Scarlet Meidiland'. Grows to 4 feet high and spreads 5 to 7 feet. Clusters of red double 1½-inch flowers bloom in late spring to early summer with sporadic reblooming later. Red hips add fall interest. Tolerates some shade.

GROUND COVER

Flower Carpet® series. Grow from 2 to 3 feet high and wide. Small semi-double clusters of blooms available in six colors, including yellow. Long period of bloom from late spring to fall. Heat tolerant.

'Nozomi'. Trailing canes grow 2 feet high and spread 6 feet wide. Numerous small pale pink to white single flowers bloom in early summer with repeats later in the season.

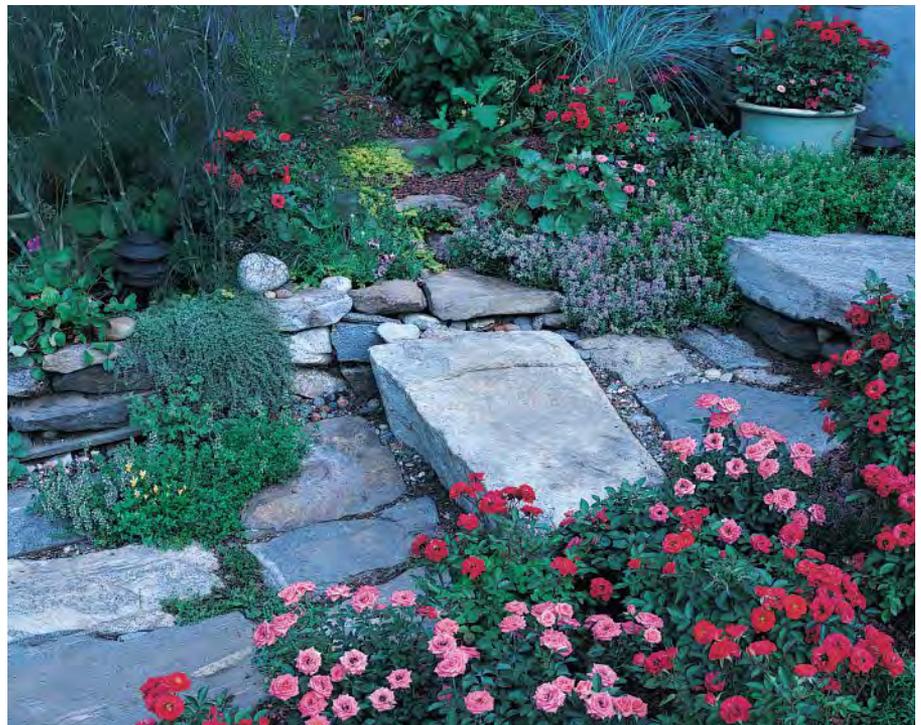


Roses with lax habits can generally be grown as ground covers for sunny sites. 'Red Cascade' is a miniature rose (one with small leaves and flowers) that is usually trained as a climber. But left to its own devices, it sprawls, making a cover about three feet high and up to 10 feet wide. Its extremely prickly stems bear a multitude of small, deep red flowers, and it tolerates poor soil and semi-shade. Here, in company with a low spreading juniper, it spills over the edge of a retaining wall.



One of the virtues of roses is that they suit any garden style—from the highly formal to the informal. This 'Bonica' rose is perfectly at home in a field of daisies in the garden of the late Pennsylvania plantswoman Joanna Reed. Situated next to a fence, this modern shrub rose makes an excellent specimen plant with its height, rounded form, and masses of light pink blossoms; it also has good disease resistance.

In the rose world, "miniature" designates roses with small flowers and leaves, not the size of the plant. But the really mini miniatures, sometimes called micro-miniatures, grow only 8 to 10 inches high. These petite plants need to be placed where they can be seen. In this garden, 'Autumn Sunblaze' and 'Salmon Sunblaze' edge a sunny pathway together with thyme and a variety of other creeping plants. The microminis also grow well in outdoor containers.



TOP: ROB CARDILLO; BOTTOM: KAREN BUSSOLINI

Resources

American Rose Society, Shreveport, LA. (318) 938-5402. www.ars.org.

■ This educational membership organization publishes a monthly magazine, *American Rose*, and maintains the American Rose Center garden in Shreveport with more 20,000 rose bushes representing 400 varieties.

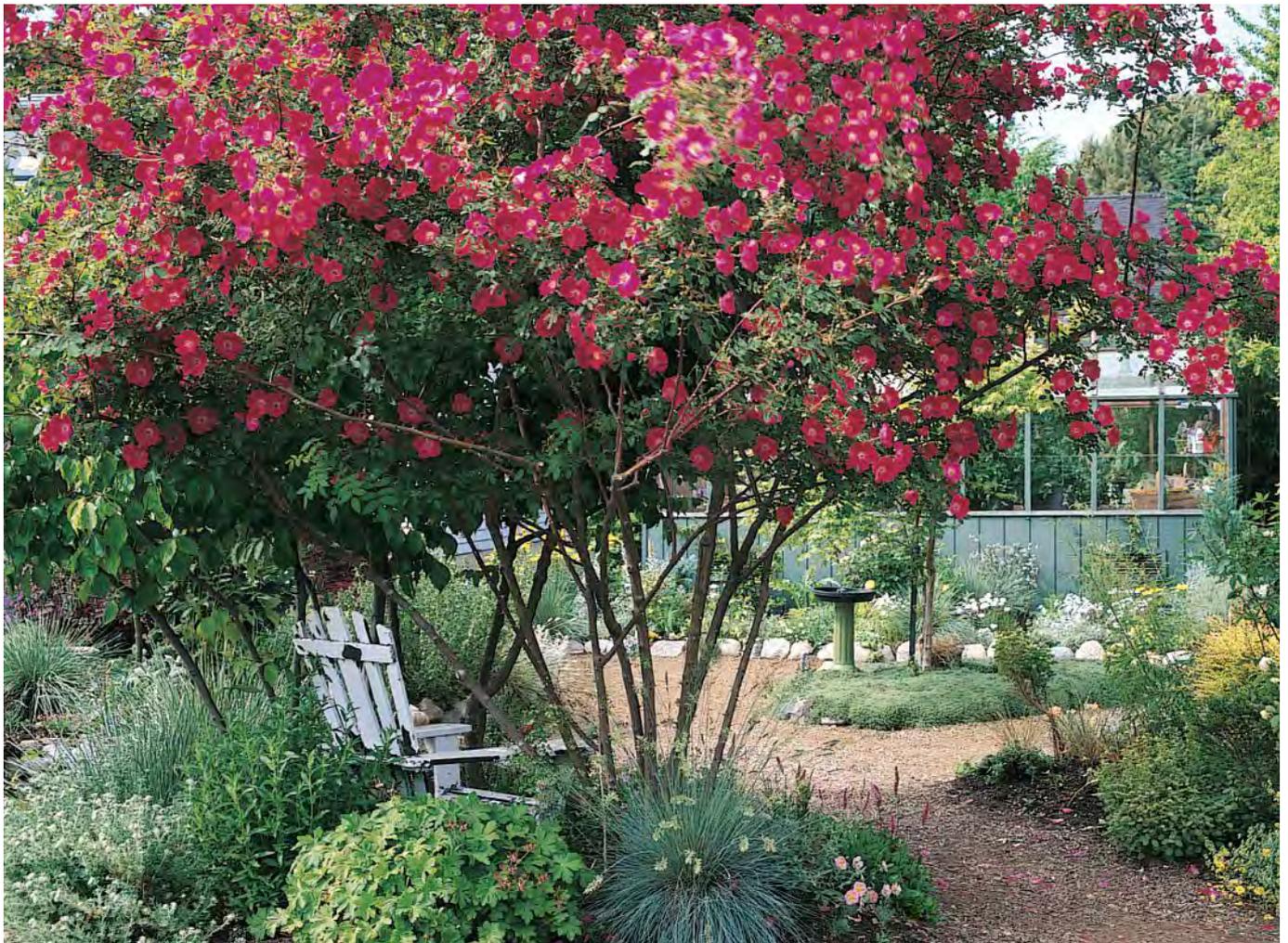
The Encyclopedia of Roses: An Organic Guide to Growing and Enjoying America's Favorite Flower by Judith C. McKeon. Rodale Press, Emmaus, Pennsylvania, 1995.

Growing Roses in Cold Climates by Jerry Olson and John Whitman. Contemporary Books, Chicago, Illinois, 1998.

Landscape with Roses by Jeff Cox. Photographs by Jerry Pavia. Taunton Press, Newton, Connecticut, 2002.

Simply Roses: The Essential Guide to Easy Gardening by Karen L. Dardick. Universe Publishing, New York, New York, 2003.

Taylor's Guide to Roses by Nancy J. Ondra. Houghton Mifflin, Boston, Massachusetts, 2001.



Some large roses make striking specimen plants when given room and time to attain their natural habit. In Sue Kenney's garden in the Pacific Northwest, this *R. moyesii* hybrid, 'Eddie's Jewel', has developed a vase-like shape reminiscent of a crape myrtle without the help of pruning or training. A vigorous grower to 12 feet and more, 'Eddie's Jewel' bears sparsely thorned canes. Its red-flowered canopy provides shade for a sitting area amid a bed of mixed herbaceous perennials including blue fescue (*Festuca glauca*), *Geranium macrorrhizum*, and *Teucrium polium*.

Kitchen Gardens—

Today's kitchen gardens are bringing new excitement to American landscapes and appetites alike.

BY KRIS WETHERBEE

PHOTOGRAPHS BY RICK WETHERBEE

WHEN YOU think of a kitchen garden, what exactly comes to mind? Do you envision a traditional four-square cottage garden influenced by the geometric art form of the French potager, its symmetrical beds overflowing with flowers, vegetables and herbs? Or do you see long straight rows of vegetables, freshly tilled soil between?

As a child I first caught sight of a kitchen garden while visiting my Uncle Tom's farm in Indiana. It was a classic example of the '60s style, with tidy rows of colorful vegetables located within a stone's throw of the kitchen door. With my suburban Californian convenience food roots I wasn't prepared for beets that weren't canned, carrots with the green tops still attached, and radishes that didn't grow in bunches. When we got home, though, our family decided to grow a few vegetables of our own, improvising on Uncle Tom's kitchen garden by mingling vegetables with the existing flowers and fruit trees that surrounded our backyard pool.

Our first kitchen garden was about growing what we needed, but now it's about growing what we like—from an array of decorative kitchen edibles that rival the showiest ornamentals to fresh herbs and a variety of gourmet, heirloom and specialty vegetables that we simply can't find at the supermarket.

BETTER-TASTING VEGETABLES

Heirloom and specialty vegetables are not only influencing what we grow, they're also



changing the way we think about food. Kitchen gardeners are cultivating an awareness of how the “freshness factor” affects both the nutritional value and the taste of foods that go directly from garden to table. “More people today are coming to kitchen gardening from the gastronomical standpoint,” notes Roger Doiron, founder of Kitchen Gardeners International (www.kitchengardeners.org), a new, international non-profit group that seeks to promote kitchen gardening in its many forms. An

avid kitchen gardener with dual interests in sustainable agriculture and food, Doiron says that the “delicious revolution”—a term coined by chef Alice Waters to describe the alternative to so-called convenience foods—is taking hold in American kitchen gardens. “We’re tuning in to more of the specialty catalogues for heirloom and imported gourmet vegetable varieties,” he observes, “like black tomatoes from the south of Russia, French *haricot verts* (tiny green beans), heirloom striped

American Style



Above: The author's neighbor, Tiara Lopez, shows off ripening 'Pineapple' beefsteak tomatoes, a long-season heirloom variety.

Left: In the author's kitchen garden, colorful annuals like cosmos and flowering tobacco grow among beds of vegetables and herbs.

beets from Chioggia, Italy, and colorful Oriental eggplants." Even flowers, once grown in kitchen gardens only for arranging, have made it on the plate: nasturtiums are grown not only for their ability to spice up a medley of salad greens, but also—along with marigolds, calendulas and others—for their bright and healthful petals, which are used for garnishes.

Though the "freshness factor" and gastronomic appeal remain a consistent thread, what really makes kitchen gardens

so popular is that they can take many forms and are widely adapted to different lifestyles. Vegetables and herbs could be the main feature, or fruit might be the focus; even cutting flowers can star, so long as they're destined for the table.

Location is no longer a deciding factor, either, as evidenced by high-rise rooftop gardens and the community gardens now scattered throughout the country.

Whether tucked in a tiny corner or displayed as a large-scale family garden,

today's kitchen gardens are also as pleasing to the eye as they are to the appetite, and there's no cookie-cutter approach in terms of one particular style. In our increasingly global society, America's kitchen gardens have become as eclectic as its people, and the design, layout, and plant choices are affected by elements as diverse as the topography, climate, and the culture and interests of the gardener.

The goal is to choose a design suited to the size and shape of your area and your own kitchen needs. After all, if you're dealing with significantly sloped ground it would be fruitless to plan a four-square design separated by two intersecting paths.

REGIONALITY

There do seem to be characteristic regional differences, however. Rosalind Creasy, whose 1982 book, *The Complete Book of Edible Landscaping*, changed the face of American yards, has toured private and public kitchen gardens from coast to coast and has noticed these re-

gional flavors. While a Northwest garden might incorporate more evergreens into the design, “in the Southwest I see chili peppers and tomatillos everywhere,” she notes.

The southwestern influence is also strong in northern Colorado, where Sue and Matt Oberle of Oberle Botanical, specialize in designing kitchen gardens. One element essential to most Colorado kitchen garden designs is drip irrigation. “People who are serious about gardening are putting in drip irrigation,” says Sue, who relies on a drip system to irrigate their own two-acre market garden.

In the Northeast, the focus is on extending the season. Cold frames and hoop houses are becoming more of a common sight, partly due to the influence of Maine authors Eliot Coleman and Barbara Damrosch, whose books on four-season gardening are perennial best sellers. “I suspect a little bit of Yankee frugality is also involved,” adds Roger Doiron. Like many Northeast gardeners, Doiron harvests a wide variety of herbs, leeks, kale, and European salad greens such as mâche throughout winter from his intensively planted 25-by-25-foot family kitchen garden.

SITE SELECTION

Deciding where to put your kitchen garden boils down to three basics: size, sun, and soil. Few gardeners have the time, energy, or space to create a two-acre kitchen garden like the Oberles’, or the historic example at Thomas Jefferson’s Monticello, a 1,000-foot-long terrace 80 feet across. Yet even in small spaces you can find room to tuck in a few herbs and flowers as well as a dwarf blueberry bush, a bed of strawberries, or fingerling potatoes in a tub.

A wholly satisfactory salad garden, including fresh herbs, can be grown as a container kitchen garden on the patio or in a plot as small as, say, five feet by 10 feet. Increase the size to 500 square feet and you have room enough for growing space-hungry fruits and vegetables like water-



Useful features that help to make the most of a kitchen garden include, top, planting in boxed beds and leaving paths to provide easy access, and, above, installing a drip irrigation system to conserve water; interplanting also saves valuable garden space.

melon, high bush blueberries, corn, winter squash, and tomatoes.

Remember, too, that the harvest can be increased by using space-saving techniques. Perimeter fences can serve as supports for crops such as climbing peas, beans, table grapes—even hops for brewing your own beer. Teepees, arbors, and trellises provide an attractive framework for indeterminate tomatoes, French melons or cucumbers, make the most of your space, and help prevent disease in the bargain. Even dwarf fruit trees can be trained to grow flat against a wall or fence, espalier-style as they do in the famous potager at

Villandry, in the Loire valley of France.

Ideally, your kitchen garden should be located in an area that gets at least eight hours of full summer sun a day and has a fairly rich, well-drained soil. While you can always enrich an average soil with organic amendments and fertilizers, the amount of sun an area receives is usually set in stone, so you should make that your first priority, even if it means foregoing an area next to the kitchen door that is in half-day shade. In the north, it helps to have ground that slopes ever so slightly to the south so as to create a microclimate protected from frosts and harsh winds.

A HISTORY OF KITCHEN GARDENS

The concept of kitchen gardens most likely began when humans first started growing food for the table. The ancient pleasure gardens of the Middle East were elaborate, villa-style gardens surrounded by walls, and as practical as they were beautiful, complete with central pools that teemed with fish. While few original examples remain today references to these bits of “paradise” abound in classic literature.

The formal four-square garden, which the French eventually raised to an art form of elaborately designed geometric beds delineated by tightly clipped borders of evergreen herbs and shrubs, actually began centuries earlier in the Middle Ages with the emergence of monastic gardens where fruits and vegetable were interplanted with medicinal herbs. At their height in the 18th and 19th centuries, the grand French potagers often featured elaborate topiaries and statuary as well as fountains, pergolas and espaliered or cordoned fruits. Exotic plants from all over the world were showcased in containers and carried through the harsh winters in *orangeries*, winter storage houses that predate even the earliest true greenhouses. In contrast, the more modest English cottage style garden emerged from the terror of the Black Death in the 12th century, during which landowners bartered away land and cottages to their peasants in exchange for crops.

Across the ocean, kitchen gardens in Colonial America evolved in a much more practical and relaxed way from familiar European styles, sometimes in a simplified four-square design or more often as a farm style plot of straight, widely spaced rows out back of the house. The Victory Gardens planted with such patriotic fervor to compensate for food shortages and escalating food prices of both World Wars highlighted the utilitarian aesthetic that has continued until very recently. Then the industrialization of food production and distribution, with its swarms of supermarkets selling food from around the world around the calendar brought kitchen gardening to a slow crawl.

But that all started to change in the 1980s and now there is a resurgence of interest in growing food close to the kitchen. Today's kitchen gardens are as individual as our tastes, with just the right mix of practicality and desire. Whether rooted in historical design or a casual melting pot of plants, the new kitchen garden is a fusion of both beauty and function that appeals to every sense. Need a little inspiration to help you design your own? See page 35 for a list of classic and innovative kitchen gardens where you're bound to discover a few ideas that you can use in your own garden. —K.W.



Perhaps the most famous kitchen garden in the world is the classic potager at the Chateau de Villandry in France.

Fences, walls, or an evergreen hedgerow can be used to create or enhance your microclimate if you are not blessed with perfect conditions. Just don't create shade in the process!



EASE OF ACCESS

If your garden will have enclosed beds, give some thought to the hardscape—the permanent features of the landscape. Paths composed of brick, stone, decomposed granite, wood chips, or mowed grass provide easy access to beds. You can tuck in your favorite “steppable” ground cover or thyme between the bricks or stones to add a bit of Old World charm.

Training climbing vegetables up a structure helps increase yields and reduce disease, as with these ‘Charentais’ melons growing up bamboo teepees.

Existing plants or structures can be used as functional elements, such as a vine-covered fence to define the perimeter of your garden, or a water feature to entice birds (which will, in turn, help reduce your pest insect population). Plant diversity also attracts birds, pollinating bees, and beneficial insects that feast on bad bugs. Good pollen- and nectar-producing plants include yarrow, alyssum, sweet cicely, and beebalm (which makes great-tasting tea), along with flowering herbs and composites such as cosmos, zinnias, coneflowers, tickseeds, and sunflowers.

You can add dimensional interest and make your space more inviting by considering the color, texture, and form of the plants in your overall design. Imagine how much more striking a row of red cabbage



Permanent features of the garden should be well thought out. Here, uniform pavers define the beds and steps, with fragrant herbs as accents.

looks when intermingled with bright orange calendulas, how the textural interest of ribbed celery accents the softer side of petunias, or the architectural impact that an artichoke or rhubarb can bring as the focal point in a bed of mixed greens.

An aesthetically pleasing garden is always more enjoyable to work in than a garden that is all function and no form. The key is to find the right blend of aesthetics and practicality by creating a design suited to the size and shape of the area, making it visually pleasing and easy to work in a way that's practical for you.

If a classic four-square design or formal beds shaped in diamonds, circles, or triangles isn't feasible, then opt for simple straight rows or no-nonsense rectangular-shaped raised beds, which define your planting area and help reduce your workload since you only water, fertilize, and weed your growing beds.

WHAT TO PLANT

"Many people have preconceived ideas as to how a kitchen garden should look and what kind of plants it should have," says Sue Oberle. "Instead, think about what flavors, scents, and colors you like, then incorporate those plants in your garden." Be sure to grow foods that you like to

cook and your family likes to eat. Perhaps you find fresh herbs essential or would like to grow ingredients for fresh salsa or mixed salad greens complete with edible flowers. Focus on things that add value to your quality of life, whether gourmet popcorn, sugar snap peas, exotic herbs, or heirloom tomatoes.

Experimenting with different varieties is half the fun, but if you're looking for a

shortcut to winning varieties, I recommend starting with colorful heirloom tomatoes like 'Black Prince', 'Green Zebra', and 'Caspian Pink', all of which have exceptional flavor. The geometric spikes of Romanesco broccoli make it an architectural wonder with equally distinctive taste.

Herb lovers will appreciate Italian oregano (*Origanum vulgare*) as well as 'Genovese' and 'Purple Ruffles' basil, whose richly colored foliage makes it an outstanding ornamental plant. If you can't grow lemons, then plant lemon verbena—a tender, shrubby herb that grows easily as an annual—which offers zesty lemon flavor. Our garden is surrounded by an edible barrier of a dozen different varieties of seedless grapes, including 'Pink Reliance', 'Himrod', and 'Glenora'.

MAINTENANCE TIPS

There are a variety of gardening techniques you can use to help save time while keeping your kitchen garden looking beautiful and growing strong.

Companion planting helps produce healthier plants and bigger yields by attracting good bugs, repelling those that are pests, and by nourishing neighboring plants.

Interplanting two or more vegetables in the same space at the same time—such as quick-growing radishes with slower-maturing carrots—can double or triple your harvests, a great way to get more yield from small spaces.



Colorful 'Royal Burgundy' bush beans are tasty young, and decorative at any stage.



Tasty quarter-pound 'Black Prince' tomatoes have unique chocolate and red coloring.

And succession planting—replanting each area as soon as the previous crop is harvested—will help keep your garden producing right through the season and keep bare spots down to a minimum.

At the Biltmore Estate's 10-acre kitchen garden in Asheville, North Carolina, garden supervisor Eli Herman employs these and a variety of other proven gardening techniques such as crop rotation, cover cropping, and sheet composting. Over 100 varieties of vegetables, herbs and fruit are grown for use in the estate restaurants, from home-grown favorites like berries, tomatoes, and squash to slightly unusual offerings such as red okra, purple asparagus, pawpaws, and persimmons. Fairly close plantings shade out most competition from weeds. "Our beds are a hybrid between square foot gardening and row cropping," notes Herman.

Because freedom from residues is one of the key components of the freshness factor, an organic approach is essential in any kitchen garden producing food for the table. Non-selective pesticides also kill the beneficial insects purposely attracted by a diverse garden design.

As a general guideline, a one-to-two-inch layer of finished compost or a thin layer of aged manure (allow at least 90 days before planting) added to the growing beds annually will provide sufficient fertility for a kitchen garden.

In my own plot, I rely on these additions of organic matter plus garden teas (made from them) to improve soil struc-

Resources

The Art of the Kitchen Garden by Jan & Michael Gertley. Taunton Press, Newtown, Connecticut, 1999.

Complete Book of Edible Landscaping by Rosalind Creasy. Sierra Club Books, San Francisco, California, 1982.

How to Create a Beautiful and Functional Culinary Garden by Cathy Wilkinson Barash. Houghton Mifflin Co, Boston, Massachusetts, 1998.

Kitchen Gardens of France by Louisa Jones, Thames & Hudson, London, 1999.

Kitchen Gardeners International, 7 Flintlock Drive, Scarborough, ME 04074. www.kitchengardeners.org.

Historical Kitchen Gardens to Visit

George Washington's Mount Vernon, Mount Vernon, Virginia. (703) 780-2000 www.mountvernon.org.

Pounder Heritage Vegetable Garden, Ithaca, New York. (607) 255-2018. www.plantations.cornell.edu/collections/botanical/vegetable.cfm.

Old Sturbridge Village, Sturbridge, Massachusetts. Phone: (508) 347-3362. www.osv.org.

Thomas Jefferson's Monticello, Charlottesville, Virginia. (434) 984-9800. www.monticello.org.

Contemporary Kitchen Gardens to Visit

The Kitchen Garden at Copia, Napa, California. (888) 512-6742. www.copia.org/pages/home.asp.

The Potager at Madoo Conservancy, Sagaponack, New York. (631) 537-8200. www.madoo.org.

ture, increase fertility, and reduce disease. Except for speedy growers like radishes and spinach—and hard-to-transplant vegetables—I use seedlings rather than seeds, both to shorten the time to harvest and fill in the design quicker. After the soil has warmed, I cover the beds with a layer of organic mulch such as hay or straw that not only holds moisture and protects the soil from erosion, but, as it decomposes, adds long-term fertility to the soil.

We raise the bulk of our annual and perennial edibles in our 8,000-square-foot, raised-bed kitchen garden, though I confess to stealing quite a bit of space for a tropical garden, a woodland retreat, a tool shed, and a chicken coop. But these

components all add to the ambiance I want, and a Mediterranean courtyard garden—with a large section devoted to culinary herbs, edible flowers, figs, and European vegetables like eggplant and arugula—grows within steps of my kitchen, just outside the front door. I've always deemed that no garden is complete without the intermingling of at least some vegetables, fruits, and herbs. A kitchen garden is a great way to do just that. Beauty with bounty—what a pair!

Kris Wetherbee is a free-lance writer who specializes in gardening and environmental issues. She and her husband, Rick, live in Oakland, Oregon.



Peonyland

a Dream Come True

BY GAY KIMELMAN

PHOTOGRAPHS BY ROB CARDILLO



Peonyland is located at 475 Church Road in Richlandtown, Pennsylvania. It is open by appointment only from May to mid-June for retail sales. Call (215) 536-9388 to schedule a visit. Log on to www.peonyland.com for more information.

A father and son growing Chinese tree peonies in the fields of Pennsylvania discover the trials and rewards of the nursery business.

MOST PEOPLE first meet Peonyland nursery owner Michael Hsu at the Philadelphia Flower Show. Each year, his booth in the retail section is filled with gorgeous, fragrant tree peonies that he has forced for the March event, and though none of them are for sale, there is always a fervor surrounding his booth. Energetic and totally disarming, the 34-year-old Michael answers questions, gives advice, and hands out literature to a constant stream of visitors. His message is simple: Everyone should grow tree peonies, and if he can do it, they can do it.

The peonies Michael shows off at the flower show are coaxed into early bloom in an old stone barn at Peonyland, a primarily retail nursery in Richlandtown, Pennsylvania, about 45 minutes' drive north of Philadelphia. The nursery is run by Michael and his father Chao-Kuang, or C.K., as Michael calls him. Each spring, in May and June, the nursery's fields are ablaze with tree

peonies in glorious bloom, drawing visitors and customers like moths to a flame.

Seeing all those peonies, and Michael's confident answers to the questions he gets at his booth, you might assume he has grown peonies all his life. But that assumption would be wrong.

RETRACING ROOTS

Michael and his brother, Victor, were raised

in Baltimore, where his parents worked as research scientists at Johns Hopkins University. Both parents have doctorates; C.K. in comparative medicine and Michael's mother, Susan, in genetics. The family moved to the Philadelphia area when the boys approached college age. Victor attended medical school en route to becoming a doctor, and Michael graduated from Drexel University in 1992 with a degree in business operations.

Yet, for all their success and sophistication, the Hsu family (pronounced shu) is just one generation removed from the land. Michael's father's relatives in Taiwan, from which he emigrated 1965 are all farmers, and as a boy, Michael remembers his father musing about farming. At one point his father even bought four acres outside Baltimore. "We sometimes used to drive out and look at it," says Michael, "but after a while, we sold it. My dad had no idea what to do with it."

That all changed one day about six years ago when Michael was driving his father to visit friends in the Bucks County countryside.



Top: Michael Hsu, right, and his father, C.K., amid their field of tree peonies at their Peonyland farm. **Right:** The old stone barn at Peonyland. **Opposite:** Tree peonies blossom in fields covered with black weed barrier. This variety is 'Silver and Red Perfectly Matched', one of Michael Hsu's favorites.

Coming around a sharp turn in the road, an old stone barn caught their eye. There was a “For Sale” sign at the end of the tree-lined driveway. C.K. made Michael stop the car, as he had many times before on their trips together. They surveyed the clearly neglected 50-plus acres with the large pond and a house in obvious need of repair, and the rest, as they say, is history.

“The price was right,” Michael says with glee, “so we just bought it.”

A SEARCH FOR THE PERFECT PLANT

Now that C.K. Hsu’s dream had come true, the problem arose of what to do with it. This time around, C.K. was determined to work the land he’d bought. One day, not long after, they were at an aunt’s house discussing the possibilities, and she said, “I have these lovely tree peonies in my garden. Why not grow them? They are beautiful, and they are Chinese.”

The whole family agreed that growing tree peonies made some kind of sense.

Although no member of the American Hsu family knew anything about farming or horticulture, tree peonies had been cultivated in China for over 2,000 years, not just for their flowers—which have long been celebrated in Chinese art and literature—but for the reputed healing properties of the roots.

Called *moutan* in Chinese (usually translated as “the Emperor” or “the King of Flowers”), tree peonies can grow up to four to six feet tall and almost as wide in



Top: Young tree peonies grow both in containers in the partly shaded hoophouse and in the fields. Right: Peonies are tagged with their Chinese names and English transliteration. Above: A refrigerated truck brings new dormant stock to Peonyland.

Michael Hsu's Favorite Peonies

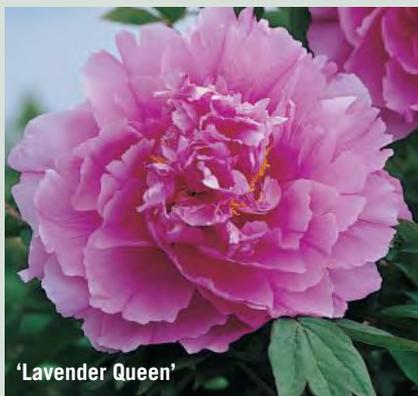
Tree peonies varieties vary tremendously in flower shape and color, from an elegant single bloom to ravishing “bomb” types—despite the fact that all species tree peonies are single. Their range of colors include pure white, soft pink or lavender, yellow, bright red, purple, maroon, and “black” (a very, very dark maroon). Here are a few of Michael Hsu's favorites:



'Paeonia rockii 'Pink form'. “It looks like an oriental poppy and is smaller than most peonies,” says Michael. “It's super rare.”

'Twin Beauty'. Rose form. “This one is sometimes bicolor, or with separate pink and purple flowers on the same plant,” says Michael. “It was named for two sisters who were the greatest beauties of the three kingdoms period in China around 104 to 178 A.D.”

'Lavender Queen'. Golden circle form. “For people who love doubles,” says Michael, “this is a great plant. It's not really a full double, but has a mass of undeveloped petals coming up from the center.”



'Silver and Red Perfectly Matched'. Rose form semi-double. “This is the most prolific flowering one I have,” notes Michael. “Even as a small plant, it will be covered with flowers. Each petal is a hot pink color with silver tinges at the edge. The flower looks hot pink from a distance, but at close range you can see the two colors on each petal. It has a dense fragrance that reaches out to you.” (See photo on page 36.)



'Gold Hidden in Ebony Tower'. Lotus form. “When the outer petals first open, they cup in such a way that the gold inside is hidden,” Michael explains. “The inner petals open a little bit later, revealing the hidden gold. This is another one that flowers prolifically; you can barely see the leaves when it's in bloom.”



'Phoenix Pink'. Single. “This is a beautiful single blush pink. It is a hybrid,” Michael points out. “It's a fast grower,” he adds, “and you can graft many different peonies onto the root stock so that you could conceivably have a plant with five different kinds of flowers on it.”

'Tipsy Concubine'. Lotus form. Semi-double, pink. “This one is very blushing, as you might imagine,” says Michael. “The full Chinese name is 'The Drunken Concubine Yao'.”

CARING FOR PEONIES

Most of the tree peonies at Peony-Land are planted in full sun, but the flowers will last longer if provided a bit of shade in warmer climates; high dappled shade is best. The plants are remarkably easy to care for: They have very few pest or disease problems (even rabbits and deer won't eat them), and they are very drought tolerant once they have been established in the garden for a full year. Most are hardy to USDA Zone 5 and heat tolerant to AHS Zone 8.

Planting and dividing peonies are the only tricky parts. The crown needs to be at least two inches below ground or they won't bloom properly, but you can plant them as much as four inches deep to promote root growth and stem production.

Bare-root plants must be planted in autumn, but potted plants may be planted anytime during the growing season. Peonies like good drainage.

Michael Hsu fertilizes his peonies twice a year—once when the plants start to leaf out in spring, and again after the flowers fade. Any balanced, all-purpose fertilizer is fine, but Hsu prefers composted horse manure because its nitrogen level is lower.

Because they have a beautiful natural shape, tree peonies do not need regular pruning. Hsu only prunes away dead wood in fall.

—G.K.

good conditions, but they grow slowly and are very long-lived—a single plant can live 200 years. They differ from standard garden peonies in that the stems are woody and persist through the winter rather than dying back to the ground.

Until recently, most tree peonies were considered to be varieties of *Paeonia suffruticosa*, but taxonomists now classify them in five to as many as eight separate species indigenous to different regions of China.

LEARNING A BUSINESS

In the beginning, the Hsus did not know a thing about growing tree peonies, but



Peonyland attracts numerous visitors each spring. Above: Michael Hsu explains the fine points of growing peonies to two visitors during a tour of the fields. Left: Another visitor gets up close to admire the huge blossoms of 'Gold Hidden in Ebony Tower'.

C. K. Hsu, who had been an official advisor to the Chinese Ministry of Agriculture before emigrating to the United States, had some connections. Before long, two directors and two technicians from a large peony exporter in Luoyang, China, were walking the Hsus' fields to determine their agricultural prospects. After some inspection, the technicians pronounced the site fit for peonies.

Michael was in business. He spent two months that summer learning his new trade in Luoyang, a city in eastern China where thousands of peonies grow in public gardens and where the peony is honored each April in a festival.

Upon his return to the Pennsylvania farm in late September, Michael discovered there was still a lot more to learn. One of the first things he did was to rent a large skid-steer machine with an auger and drill 7,000 holes for a display garden, which—with the same innate sense for marketing that makes him so engaging a salesman—he knew would be essential to establishing his reputation in the competitive world of peonies.

Unfortunately, it rained soon afterward, and the holes filled up—and stayed that way. A neighboring farmer who had observed all the activity explained to Michael that he had just dug 7,000 clay pots. Undeterred, Michael started again, this time preparing the area in a more conventional farm fashion, with plow and harrow.

The days passed quickly as he scrambled to be ready for his first delivery. On November 3, 1998, a 44-foot tractor trailer toiled up the drive with 40,000 bare-root peonies aboard in 80 boxes, each weighing 50 pounds.

"It was the Great Wall of China made out of cardboard," Michael remembers. "We were really scared."



Thousands of tree peonies flower in the fields in late May. All peonies at Peonyland are grown for two years before they are sold.

FRUITS OF LABOR

Fortunately, Wang Ru Xian and Shong Yuan Tsao had arrived from Luoyang to help Michael and C.K. with the planting. The men stayed for four months, working backbreaking 12-to-16-hour days with Michael and C.K.

First, the boxes were carried into a rented storage trailer to protect the dormant plants until they could be planted. The next challenge was to translate the Chinese cultivar names into English and make name tags for each peony. Then the divisions were soaked in large barrels of light manure tea to rehydrate them. “We were working at a furious pace, often putting in two plants per hole or pot,” says Michael.

When they were finally done, the men stood before a vast field of black weed barrier punctuated by small woody sentinels standing stiffly upright in neat rows like some ancient army. Shong and Wang returned to China; Michael and C.K. waited anxiously for spring.

Spring came. Buds began to swell on the short bare branches, and then the flowers began to open. The peonies, with names such as ‘Crimson Flooding into the River’, ‘Young White Heart’, ‘Purple Haze at Twilight’ and ‘Great Happiness’, transformed the dark field into color and poetry. “The first time I saw the blooms is

when I fell in love,” Michael says. Looking at the same field, five years later, it is easy to see why. “I mean, look how awesome they are,” says Michael.

A WORK IN PROGRESS

Michael now lives full time on the farm, surrounded by acres of peonies. C.K., too, is living his dream. Last autumn when I visited, he was in the barn, just back from a trip to China, unpacking, labeling, and soaking hundreds of peonies.

It is clear that Michael has not only fallen in love with his peonies, but also with the land. At the same time, he has reconnected to his own ethnic and family traditions. “The peony is the national flower of China,” he says. “It is a perfect symbol of Chinese culture.” During the busy fall planting season, many family members gather on the farm to help out.

The nursery is still a work in progress. It will be another 15 years before the display garden is mature, and, Michael admits, he is still learning his trade. But in a few short years the farm has already gained widespread recognition. Every year, more and more people come to Peonyland by the bus load from arboreta, plant societies, and garden clubs to see the fields of peonies in spectacular bloom in late spring.

Mail-Order Sources

Cricket Hill Garden, Thomaston, CT.
(877) 723-6642.
www.treepeony.com.

Song Sparrow Perennial Farm,
Avalon, WI. (800) 553-3715.
www.songsparrow.com.

Resources

The American Peony Society, c/o
Claudia Schroer, 713 White Oak
Lane, Gladstone, MO 64116.
www.americanpeonysociety.org.

The Gardener's Guide to Growing Peonies by Martin Page. Timber Press, Portland, Oregon, 1997.

“We have individuals who come again and again, just to look at the flowers,” Michael says. “Even if they don't buy anything and just look—I love that.”

Gay Kimelman teaches horticulture at the Barnes Foundation Arboretum School and is an instructor at Longwood Gardens. She lives in Philadelphia, Pennsylvania.

Think *You* Have Design Problems?

This is the second article of an ongoing series on garden design written by Tres Fromme, planning and design leader at Longwood Gardens in Kennett Square, Pennsylvania. Nationally known for his creative approach to garden design, Tres lectures and teaches classes on garden design. He has also contributed articles on design to magazines such as Country Gardens and Landscape Architecture. Tres earned his Master's of Landscape Architecture from the University of Georgia's School of Environmental Design in 1996.

CLEARLY NOT everyone has the ability or the desire to be a professional garden designer, any more than everyone can be a novelist or a NASCAR driver. This is a fact of life, but it does not prevent anyone from learning basic ideas about topics of interest to them. I am quite confident that while I will never write the “great American novel”—and I am comfortable with this limitation—nevertheless, I have learned how to enjoy, appreciate, and discuss literature.

The same goes for garden design. Unfortunately, few people appear to want to talk about it in anything but a superficial manner; the ones who do often confuse more than they clarify.

DESIGN MISCONCEPTIONS

If you listen to garden design “gurus” and read the popular literature, you will notice that many people equate design with solving “problems” of varying annoyance and complexity. From the way people go on about design, you would expect to see droves of otherwise content people waking up in the middle of the night to ponder their “color anxieties,” “screening problems,” “circulation difficulties,” and “seasonal interest shortcomings.”

Creating a magical garden is just not as simple as the makeover shows and magazines want us to believe. Instant gardens are the design equivalent of liposuction or tummy tucks. They are ephemeral and often unconvincing quick fixes mysteriously free of any obvious labor. They portray design as quick, painless, and seductively glamorous.

The “design as problem solver” men-

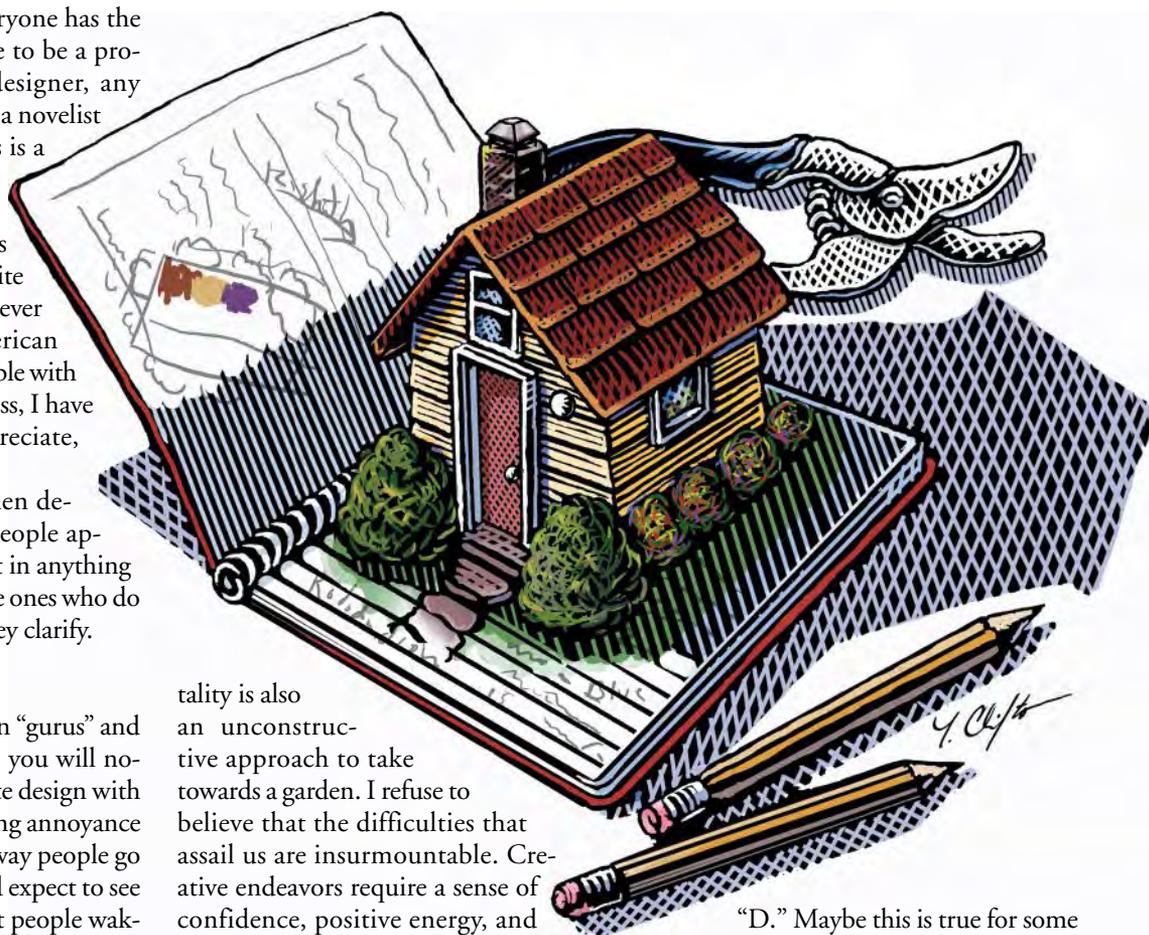
tality is also an unconstructive approach to take towards a garden. I refuse to believe that the difficulties that assail us are insurmountable. Creative endeavors require a sense of confidence, positive energy, and humor. How can we achieve this attitude if we begrudgingly wrestle our yards into gardens? Or, worse yet, if we focus on hiding the shortcomings of the spaces in which we live rather than highlighting their strengths.

This soft-pedaling of garden design plays right into the culture of instant gratification that is sweeping our society. In many cases it also amounts to diluting or “dumbing down” the concept of design so it is more accessible to a mass audience. Design with a small “d” is less intimidating, apparently, than design with a big

“D.” Maybe this is true for some people, but from my personal experience there are plenty of gardeners out there who are eager and willing to embrace the bigger picture.

SO, WHAT IS DESIGN?

Design is a process (a verb, an action) not a problematic product (a noun, a thing). We should speak of designing as an ongoing creative endeavor that involves thought, conscious intent, and time—not a quick fix to screen the patio from a neighbor’s ill-conceived garden structure.



Design is a process of giving concrete substance and form to functional needs, glimmering hopes, ardent desires, and varied emotions using the raw materials of the landscape. It is a process of thinking, feeling, and doing. Designers collect and generate intangible ideas and work to make them a reality we can experience. We labor to bring the world of the mind into alignment with the world of the physical senses.

To design gardens is to coordinate experiences between people, plants, and materials in a specific place over time. Designers put a spin on what already exists to provoke delight, contemplation, remembrance, and/or usefulness. A compelling design fully engages a person's body, mind, spirit, and senses. It initiates an ongoing relationship between the person and the garden.

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Ultimately, design is an act of will, the layering of a person's or group's ideas onto the world. Although we don't always like to admit it, designers and gardeners are control freaks who seek order (yes, even in "natural" gardens). It takes a control compulsion to look at reality and then say, "Hmm, the world would look *much* improved if re-built according to my ideas of what should be. Let's add some shrubs and a water feature." Human agency and intent make much of the world we live in, for better or worse. We need to be honest with ourselves and accept this responsibility.

NO HARD AND FAST RULES

The design process demands varied ways of thinking about and perceiving the world. Avoiding hard and fast rules, designers must learn and develop a "tool kit" of creative mental frameworks and strategies from which they can draw when addressing the specific context for each garden project. The more strategies, the more flexible and effective a designer will be. If one approach lacks effectiveness, the designer must be capable of switching to others.

The trick is to learn as many ways of thinking about and approaching the design process as possible. One way of doing this is by using "metaphors," which I will discuss in a future article.

Having no hard and fast design rules is both liberating and terrifying. Lawlessness allows for freedom but also confers the previously mentioned responsibility. The factors shaping a design process are too diverse, complex, and dynamic to allow for slavish following of specific protocols. What works for one project will most likely not apply directly to another. The most wondrous gardens of the world have grown from people using their minds and imaginations over time to shape specific spaces for specific reasons. Versailles was not built in a day (probably to the eternal chagrin of King Louis XIV).

Since designing gardens is a process of thought, thinking about design and gardens is critical to developing a more sophisticated understanding of the topic. This may seem academically heady and intimidating, but I like to point out in my lectures that people are designing every day, in all aspects of life. You are designing when styling your hair, selecting an outfit to wear, or making a meal. Much of this is done on a subconscious level—as is often the case with garden design. What I am going to do in the course of the next several articles is show you ways to think of garden design on more conscious level.

Now, having peered into the murky waters of design, we are ready, in the next issue, to plunge into the very idea of what a garden is.

Tres Fromme is a landscape designer at Longwood Gardens in Kennett Square, Pennsylvania.

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Collaborative Conservation in the Texas Hill Country

by Elizabeth Garcia-Dominguez



Botanists train volunteers, left, to identify the endangered twisted bractflower, far left.

WHEN ATTORNEY and amateur gardener Mary Ruth Holder signed up to be a master naturalist in the parks and preserves of her Texas Hill Country hometown, she didn't expect to fall in love with a rare, dwindling wildflower—let alone discover hundreds of the vulnerable plants growing practically in her backyard. But Holder and other volunteers like her are playing key roles in a collaborative effort with conservation botanists, park managers, and landowners to preserve a jewellike native called the bracted twistflower (*Streptanthus bracteatus*).

Endemic to the Edwards Plateau in south-central Texas, bracted twistflower is an annual with lavender-purple flowers and waxy leaves. Surveys by the Texas Parks and Wildlife Department had located about 20 widely scattered populations. But, as Center for Plant Conservation scientist Flo Oxley of the Lady Bird Johnson Wildflower Center reports, finding those historic populations, and securing them for the future, is no easy task.

"Many of the known populations are located on private land," says Oxley. "When that land is targeted for development, we collect seeds from those plants and store them in a seed bank for future restoration. We're taking a proactive ap-

proach. We know this plant is having some problems, so we do something now, *before* it becomes a gigantic blip on the radar screen."

Working Together

The power of collaboration truly blossomed when Holder's volunteer group made a somewhat serendipitous connection with Oxley and other botanists. "About five years ago, I was visiting populations of bracted twistflower plants on public land with a group of high school students on a volunteer monitoring project," says Holder. "When I became acquainted with the plant, I realized just how threatened it is in its habitat.

"Then one day I was walking in my neighborhood and looked at a vacant lot, and there were about 300 of these plants right there," recalls Holder. "I knew there were plans to build a house on the lot, and I didn't know what to do." She contacted a botanist with the Texas Nature Conservancy, who referred her to Flo Oxley.

By working with landowners, Oxley and Holder secured permission to collect seeds from the plants in Holder's neighborhood before the site was bulldozed. Back in the laboratory, Oxley has been banking those seeds in case restoration of twisted bractflower is ever needed.

Training Volunteers

Meanwhile, Holder continues helping Oxley build a network of volunteers and parkland scientists who can keep an eye out for the unusual plant. At an annual training session each spring, botanists teach volunteers how to identify bracted twistflower by key elements of its morphology.

Holder is the first to admit that finding and saving endangered natives is hot and difficult work. "You might have to crawl around on your hands and knees to collect seeds, and this wildflower tends to grow in steep areas," she says.

But for this budding botanist, the pleasure of helping save a rare native plant is worth a few scratches and bruises. "I can't tell you the thrill of sitting in the middle of a population of these with your measuring tape," she reflects. "It's just magic to think I'm out there trying to help something so beautiful and so rare hang on." 

Elizabeth Garcia-Dominguez is the communications coordinator for the Center for Plant Conservation.

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Horticultural News and Research Important to American Gardeners

Epimediums for Midwest Gardens

Although saddled with an unfortunate common name, barrenworts (*Epimedium* sp.) are a group of long-lived spring-blooming perennials valued for their attractive foliage. They excel in any shade garden but are especially useful where conditions are less than ideal. By virtue of their rhizomatous roots and sturdy constitution, barrenworts serve as tough ground covers that can compete with tree roots and withstand dry shade.

In 1995, the Chicago Botanic Garden (USDA Hardiness Zone 5, AHS Plant Heat Zone 5) began an evaluation of 40 *Epimedium* species and cultivars. They were planted in the Pullman Shade Evaluation Garden, a site with clay-loam soil, a pH of 7.5, dappled shade, and some protection from wind provided by a wood fence. Minimal maintenance was undertaken to simulate home garden culture. All plants of *Epimedium* ×*cantabrigiense*, *E.* ×*perralchicum* 'Frohneleiten', *E.* ×*youngianum* 'Roseum' and 'Yenomoto', and *E.* ×*warleyense* perished in the first winter.

In addition to hardiness, which is of supreme importance in the Chicago climate, the barrenworts were judged for plant health, habit, and flower coverage. As barrenworts are never fully covered with bloom, 60 percent coverage was considered outstanding. The nearly 60-percent flowering of three cultivars, *Epimedium* 'Crimson', *E. grandiflorum* 'Sonoyski', and *E. ×versicolor* 'Neosulphureum', earned them the highest ratings in the study, which ended in 2001.

With the exception of flower production, other species and cultivars that performed well include: *Epimedium* 'Black Sea', *E. alpinum*, *E. ×rubrum*, *E. grandiflorum* 'Saturn' and 'Orion', and *E. ×setosum*.

For a copy of the CBG barrenwort study, send a check for \$3 payable to Chicago Botanic Garden with a request to Plant Evaluation Notes c/o Richard Hawke, CBG, 1000 Lake Cook Road, Glencoe, IL 60022.



Epimedium 'Crimson' (top) and *E. grandiflorum* 'Sonoyski' (above) were among the best performers in the CBG's barrenwort study.

IMMUNIZATION FOR PLANTS?

By now we all know the acronym SARS stands for Severe Acute Respiratory Syndrome, but drop the last "S" and you have the acronym of an important plant defense mechanism that is the focus of some groundbreaking work in the field of non-pesticidal plant protection.

Systemic Acquired Resistance (SAR) is a method by which plants, when attacked by a pest or pathogen, awaken their equivalent to our own human immune system. Messenger, marketed by Eden BioScience Corp. of Bothell, Washington, is the first commercially available product in what is likely to become a whole new class of biochemical compounds known as plant health regulators.

The active ingredient in Messenger is harpin, a protein isolated from *Erwinia amylovora* (the bacterium responsible, intriguingly, for the disease fire blight). When applied to plants as a foliar spray, Messenger doesn't attack the pathogen itself; instead, it triggers the natural defense mechanisms of the plant.

The Environmental Protection Agency fact sheet for harpin states that it is also effective against some viral diseases for which no other control is known, and certain nematodes and fungal diseases for which the only previously available control was methyl bromide, a widely used soil fumigant implicated in both human health problems and ozone depletion.

In addition, presence of the harpin protein apparently reduces infestations of some insects and enhances general plant vigor, leading to increased yields. Probably most significant, from a practical standpoint, because harpin has no direct effect on the pathogens themselves, it does not exert any selection pressure on pathogens that would promote development of resistance—a problem with many pesticides.

Another biochemical product in development by a company called Safe Sci-

ence, Elexa, has as its active ingredient chitosan, which is extracted from crab and lobster shells, and is chemically similar to the lawn treatment Clandosan, used for control of Japanese beetle larvae. Just as harpin seems to scare the plant into thinking it is under attack, chitosan appears to be sufficiently similar to the chitin in fungal spore covers that it also provokes a defense response in plants.

Perhaps most interesting is that this defensive response appears to involve salicylic acid (SA), which naturally occurs in most plants and whose presence is increased in response to pathogen attack. SA is, of course the active ingredient in aspirin, and while United States Department of Agriculture (USDA) researchers



Peter Landolt, a USDA researcher in Wapato, Washington, uses a spray bottle to apply an experimental treatment to a potato plant to induce chemical defenses against insects.

in Washington State are doing extensive research on the effect of SA sprays on various crops, home gardeners can conduct their own experiments by crushing three over-the-counter aspirin tablets in four gallons of water.

A PLACE IN THE SUN

The nursery at Garden in the Woods, home of the New England Wild Flower Society (NEWFS) in Framingham, Massachusetts, is the largest retail native plant nursery in New England. It serves as a model for other programs around the country wishing to specialize in the prop-



***Cypripedium kentuckiense* is among the rare plants available at the NEWFS nursery.**

agation of native plants for distribution. “But,” says marketing and public relations Director Debra Strick, “we’re in the woods. We have a fair amount of space to raise shade plants, but not a lot of space to raise sun-loving and woody plants.”

Now the garden’s production capabilities are expanding with the acquisition of the 75-acre Nasami Farm in Whately, in western Massachusetts. This site, purchased through the generosity of conservationists Bob and Nancy August, will allow for the propagation of sun-loving native plants.

Wildflowers propagated at both sites will be available for sale after April 15, when the nursery at Garden in the Woods opens officially for the season and the plant catalog goes online. The society also anticipates opening the Nasami Farm nursery on weekends, starting this spring.

Walk-in customers will be able to choose from more than 500 varieties of wildflowers, including the rare southern lady slipper (*Cypripedium kentuckiense*) and Turk’s-cap lilies (*Lilium superbum*) at the nurseries and at the annual wildflower sale on June 12 in Framingham. Wildflower seeds are also available by mail. For a catalog of plants and seeds for sale, visit www.newfs.org.

AWARD-WINNING PLANTS

In recent years, more and more horticultural organizations and institutions around the country have begun programs to rate the performance of ornamental plants in their regions, allowing home gardeners to benefit from these evaluations. For example, the Florida Plants of the Year program, undertaken

by the Florida Nurserymen and Growers Association, awards and promotes plants that are well suited to Florida gardens. Among their 2004 winners are red russelia (*Russelia sarmentosa*), lion’s ear (*Leonotis leonurus*), *Aglaonema* ‘Silverado’, and the native needle palm (*Rhapidophyllum hystrix*), hardy into USDA Zone 7. To find out more about regional and national plant award winners, visit the AHS Web site at www.ahs.org to read a special article with links to the various programs that evaluate plants.

WILD ONES TURNS 25!

It all started in 1977 at a natural landscaping workshop offered by the Schlitz Audubon Center of Milwaukee, Wisconsin. Some of the attendees, intensely interested in the then new concept of native plants as an alternative to lawns, delighted in the camaraderie of like minds. At some point during the lectures, tours, and digs of that workshop, someone suggested that interested parties meet again. They did—again and again—and subsequently became the nucleus of the Wild Ones organization that formed two years later.

This summer, Wild Ones members will celebrate the organization’s 25th anniversary. “We’re working hard to put our celebration together,” says national president Joe Powelka. “It’s going to be held in Madison, Wisconsin, from August 6th to August 8th. There will be programs on prairie, woodland, and wetland habitats.”

Fifty-one chapters strong and still growing, Wild Ones promotes the establishment of native-plant communities around homes and businesses, using ecologically sound practices.

To learn about the organization, visit Wild Ones Web site (www.for-wild.org).

AMENDING TREE-PLANTING RESEARCH

When it comes to transplanting trees, the conventional wisdom is to dig a hole as deep as the tree’s root ball and two to three times wider and to leave the soil as is. The current thinking is that soil amendments are either unnecessary or—worse—counterproductive because they create a “tea cup” of good soil from which the tree’s roots are reluctant to wander.

But as a graduate student at Cornell’s School of Horticulture, Angela Rivenshield found evidence to the contrary

while doing research on remediating compacted urban soil using organic amendments.

Rivenshield's test subjects were silver and sugar maples (*Acer saccherinum* and *A. saccharum*), which she planted in the compacted soil of a berm along one side of the university's Arboretum. She amended the soil around some of the trees with compost. Around others, she amended with peat. Still others were planted in unamended soil. These last merely survived. The trees planted in peat-enriched soil prospered, but not as much as those in compost-enriched soil, which were markedly more lush than the others.

According to Rivenshield, her research indicates that "the addition of organic amendments into a disturbed soil alleviates the negative effects of compaction." Despite these intriguing results, Rivenshield says more research needs to be done to determine the long-term benefits of adding compost at planting time. For more on this study, visit www.nysipm.cornell.edu.

In Memoriam

Charles Lewis, a horticulturist whose career focused on the beneficial, restorative effects plants have on people, died on December 19, 2003, in Albuquerque, New Mexico. He was 79. Born in Wilkes-Barre, Pennsylvania, Lewis grew up in Baltimore and studied horticulture at the University of Maryland and at Cornell. In 1972, he began a 20-year career at the Morton Arboretum in Lisle, Illinois. It was in the 1960s, when he organized a gardening contest for the New York City Housing Authority, that Lewis first became aware of the profound ways in which plants could effect people. His observations and research were detailed in his book, *Green Nature, Human Nature—The Meaning of Plants in Our Lives*, first published in 1966. Among the many awards he received during his career was the American Horticultural Society's G.B. Gunlogson Award in 1985.

Richard J. (Dick) Hutton of West Grove, Pennsylvania, former president and CEO of the Conard-Pyle Company, died on December 22, 2003, in Wilmington, Delaware. He was 79. Known as "Mr. Rose," Hutton spent his entire professional career with The Conard-Pyle Company (Star Roses). During that time, he also served terms as president of the American Nursery and Landscape Association and of All-America Rose Selections. He received numerous awards, including the AHS Meritorious Service Award in 1992.




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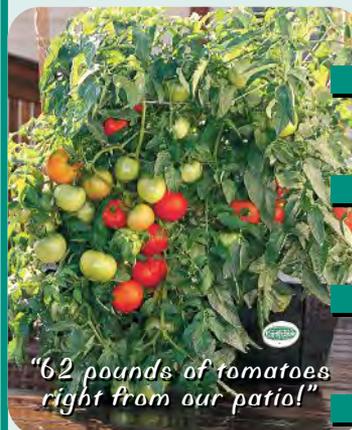
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Elements of Gardening

by Dr. H. Marc Cathey

EVER SINCE humans turned from gatherers to farmers, they have used chemicals of one form or another to improve the productivity of the plants they grow. Rapid advances in scientific research and industrial techniques in the last century provided farmers and gardeners with the tools to create, control, and destroy plants in the garden. As the world's population has grown, the development of chemical fertilizers, growth regulators, and pesticides has been critical to our ability to reliably raise many kinds of plants in quantities sufficient to serve millions of consumers.

But our success in growing healthy plants has always been overshadowed by the potential harm that readily available horticultural and agricultural chemicals can inflict upon our bodies and the environment around us. I learned more than 60 years ago that even the most essential chemicals in gardening can be highly damaging if not used properly.

WHEN GOOD CAN BECAME BAD

Take, for instance, something as simple as nitrogen, one of the basic nutrients required for plant health. Nitrogen—identified by the symbol “N” in the Periodic Table of the elements—is the basis for many essential plant cellular compounds including amino acids, amides, DNA, and coenzymes. It can be administered to plants in many chemical forms, including as urea, ammonia, and nitrates. Technological innovations over the years have led to many kinds of delivery systems for



Nitrogen is essential to the growth of plants, but applying excessive amounts in the form of fertilizers can damage aquatic ecosystems.

nitrogen. These include drip, hydroponic, or foliar solutions; or direct application of quick-release or encapsulated timed-release forms. The effective rate of nitrogen application can be determined by various post-application tests, including analysis of chloroplast content, fresh or dry matter, tissue uptake analysis, and direct observation of the overall productivity of the plants.

Unfortunately, nitrogen-containing compounds, including fertilizers, are also a major contributor, through leaching and runoff, to pollution in our lakes and waterways. In aquatic systems, excess nitrogen can cause massive algal blooms that deprive fish and other aquatic creatures of oxygen.

NOT-SO-ESSENTIAL CHEMICALS

Essential garden chemicals, such as nitrogen compounds, have become pollutants because of overuse or poor delivery systems, but some truly toxic elements have made their way into our soils as an incidental byproduct of pesticides,

paints, chemically treated landscaping timbers, and mining operations.

The most prevalent of these is arsenic, an element that is in the same group as nitrogen in the Periodic Table. Arsenic was a component in lead arsenate, an insecticide widely applied to tobacco and tree fruits in America in the 1950s. Arsenic does not biodegrade (neither does lead, of course) and it is readily released into ground and wastewater. It was also a standard component of a wood preservative that for decades was commonly applied to lumber used for outdoor building projects. Last year, the wood preservative industry, under scrutiny from regulatory agencies, stopped production and sales of arsenic-based wood preservative.

There are, fortunately, ways of removing arsenic and other toxins from the environment. Some of the most exciting developments are in the field of phytoremediation, in which certain plants have been shown to selectively absorb toxic soil contaminants. The toxins accumulate in the plants' stems and foliage, which can then be harvested and disposed of safely.

As described in an article in the November/December 2002 issue of *The American Gardener*, one very promising technique for arsenic removal was first identified by researchers at the University of Florida and is now being commercially licensed by Edenspace Systems Corporation, a company headquartered in Northern Virginia.

There are many other plants out there that have similar potential to remove toxic chemicals from the soil. Horticultural researchers in the 21st century will have to face up to these challenges and identify ways to restore the health and vitality of our landscapes. We must ensure that future generations can enjoy gardening as much as we do.

Dr. H. Marc Cathey is president emeritus of The American Horticultural Society.



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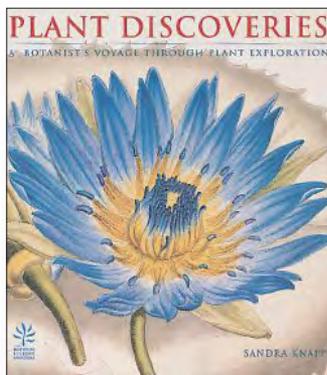
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Recommendations for Your Gardening Library

Plant Discoveries: A Botanist's Voyage Through Plant Exploration.

Sandra Knapp. Firefly Books, Toronto, 2003. 336 pages. Publisher's price, hardcover: \$60.

IN TELLING THE TALE of human endeavor to better understand the natural world, particularly the botanical world, Sandra Knapp focuses on 20 families of plants commonly found in gardens the world over to illuminate the history of botany as a science and the history of botanical art in its own right. Using her knowledge of botany and the vast resources of the Natural History Museum in London, she demonstrates how the science of botany and the art of botanical illustration mutually benefited and altered each other over the last three centuries.



The book is divided into 20 main sections, and each section, while not exhaustive, does provide a balance of art and science. For instance, the section on the aster family details its floral structure, illuminates the mathematical intricacy of sunflowers, and traces the origins and history

of the chrysanthemum, all alongside paintings that portray much of what the author discusses. The 300-plus plates are beautiful enough to make this book suitable for coffee table browsing, yet it is substantive enough to interest both avid home gardeners and accomplished botanists.

Each section is followed by a two- or three-page “proof-sheet” of the sketches, drawings or paintings used, including a small image of the piece, name of the original artist, original dimensions and a short historical note. Appendices include brief biographical entries on the artists presented (as well as others referenced in the text), a select bibliography for those seeking more information, a section on nomenclature and a thorough index.

Oddly, it appears the very same book was published by Scipitum Editions, London under the title *Potted Histories: an Artistic Voyage Through Plant Exploration*, also by Sandra Knapp, which is actually referred to twice during the preface. Regardless, this is a solid, substantive, class book. Highly recommended.

—Liam Kennedy

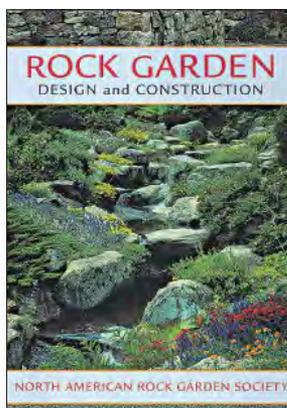
Liam Kennedy is a Research/Instruction Librarian at Shepherd College in Shepherdstown, West Virginia.

Rock Garden: Design and Construction.

Jane McGary, ed. Timber Press, Portland, Oregon, 2003. 316 pages. Publisher's price, hardcover: \$29.95.

THE CONTRIBUTORS LIST for this book, which reads like a Who's Who of rock gardening gurus, is almost enough reason to make space on your bookshelf for this new volume on the nuts and bolts of creating a rock garden. Individual chapters were written by more than 40 members of the North American Rock Garden Society (NARGS) who have risen to the top of their respective garden niches.

Though its pages are graced with more than 100 color images—many showcasing exquisitely conceived and executed



rock gardens—this is by no means a mere coffee table book, but rather a treatise that covers every aspect of rock gardening, from siting and construction to plant selection, culture, and ongoing maintenance. This book shatters the myth that you have to be an expert plantsman to create a rock garden, and left me believing that anyone, no matter where they live—from Alaska and Canada's Far North to the Mid-Atlantic and South-

east—can have a rock garden as long as they provide the proper conditions and care.

One of the sections I found most useful was the Appendix, “Ingredients for Rock Garden Soils,” which lists each ingredient, its characteristics and sources. The glossary is adequate, and the annotated bibliography a good jumping-off point for those inspired to graduate to the next level on their journey toward becoming a “Rockhead.”

I was disappointed, however, by the lack of a plant source listing, which would have been helpful for both beginning and novice rock gardeners. Of course, all one need do is join NARGS to receive the quarterly journal—a great companion to this highly recommended book—and you'll soon know where to procure almost every type of plant. You will also enjoy the camaraderie of other rock gardeners, which is unequalled in the gardening world.

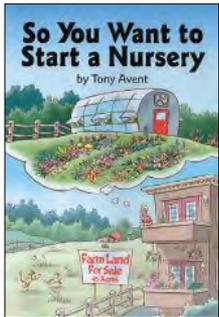
—Barry Glick

Barry Glick is a NARGS member who grows more than 10,000 different plants at his West Virginia nursery and botanic garden, Sunshine Farm & Gardens (www.sunfarm.com).

So You Want to Start a Nursery.

Tony Avent. Timber Press, Portland, Oregon, 2003. 340 pages. Publisher's price, hardcover: \$24.95.

TONY AVENT could have written this book just for me. I'm the gardener that he describes right off, the one who thinks: "I love plants and have some spare land, so I think I'll start a nursery. Plus, I'll recoup some of the money I spend on plants." Definitely me. I daydream incessantly about developing the perfect nursery.



This book shattered all my illusions, but it let me down gently because of Avent's ability to explain even the gruesomely mundane details of running a nursery with the humor that comes from loving his work. The author is the owner of Plant Delights Nursery near Raleigh, North Carolina, and he obviously learned the hard way. If I were truly thinking about starting a nursery, this book would be an indispensable starting point, and if I were already operating one, this book would make me closely re-examine my business practices, reduce costs, and increase profits.

What I particularly appreciate is that Avent does the necessary math. Included are the formulas for calculating all costs, from producing cuttings to each step of taking a mail order. He is exact enough that I can no longer, in good conscience, gripe about a

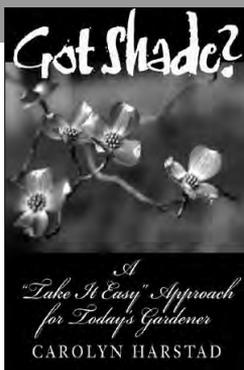
FOR YEARS, gardeners have been relying on the Taylor's Guide plant reference series. Now all that valuable plant information has been distilled into a single volume, *Taylor's Encyclopedia of Garden Plants* (Houghton Mifflin, Boston, 2003, \$45), by renowned garden book editor Frances Tenenbaum. Brief descriptions of more than 1,000 annuals, herbaceous perennials, grasses, vines, and woody plants are arranged alphabetically by genus and illustrated with 1,200 color photographs. Appendices include a section on plant propagation, a glossary of gardening terms, and a common name index for cross reference.

\$9 perennial—since he clearly and specifically defends its direct, indirect, and overhead costs and 20 percent markup. Indeed, nursery owners have such an incredible "row to hoe" that I ended up thinking they are underpricing that \$9 plant.

Even though Avent makes it interesting, writing a business manual must have been slow, even tedious, work, and Avent is to be commended for the sacrifice. It will spare every nursery owner (or dreamer) from the hundreds of headaches they are likely to encounter on the road to success.

—Rommy Lopat

Rommy Lopat is an Illinois free-lance writer, and editor of the Web site www.weedpatch.com.



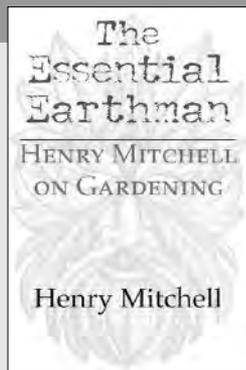
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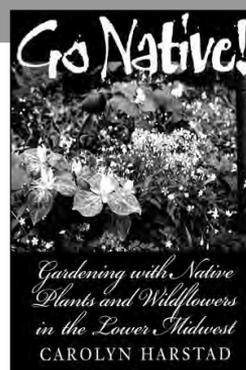
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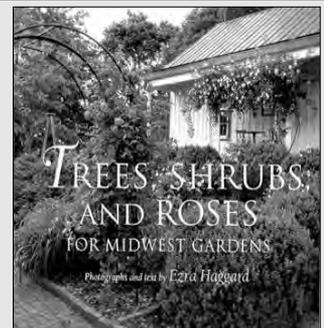
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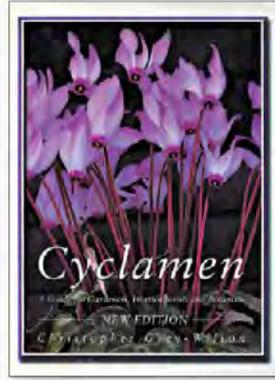
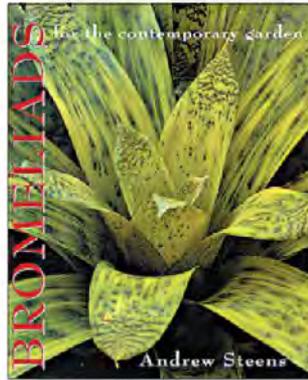
PLANT REFERENCES, which are tightly focused treatises on a particular genus or group of plants, vary widely in presentation, from those packed with taxonomic data and identification keys, to gorgeous coffee table pictorials. Here are a few of the most recently published monographs and other plant references that may be of interest to gardeners and plant collectors.

There are nearly 3,000 species within the 56 genera of the bromeliad family, but in *Bromeliads for the Contemporary Garden* (Timber Press, 2003), Andrew Steens concentrates on the 200 from 28 genera that are generally available in the horticultural trade.

For these he includes good descriptions and plenty of high quality photographs. In addition, there are the chapters on cultivation, propagation, and care in the landscape or greenhouse, also accompanied by illustrative photographs.

Cyclamen by Christopher Grey-Wilson (Timber Press, 2003) is an update of the 1997 classic, and includes some significant changes in the classification of the (now) 22 species of cyclamen based on analytical laboratory tests as well as conventional fieldwork and exploration. New images have been added, as well as a discussion of cultivated forms in commerce. There are also detailed notes on cultivation and propagation on a practical level.

A reissue of an out-of-print classic by the curator of ferns at the New York Botanical Garden, *Ferns for American Gardens* by John T. Mickel (Timber Press, 2003), is both comprehensive and accessible. With detailed descrip-



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*A flock of sheep that leisurely pass by,
One after one; the sound of rain, and bees
Murmuring; the fall of rivers, winds and seas . . .*

-William Wordsworth

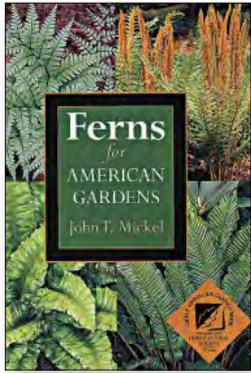


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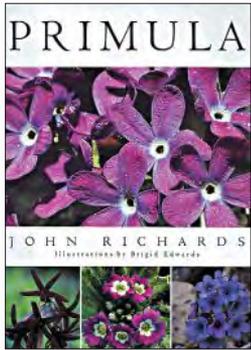
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tions of more than 400 ferns and 350 photographs, this book offers enough to satisfy any fern collector, but there is plenty of practical advice for gardeners who just want to grow ferns, too.

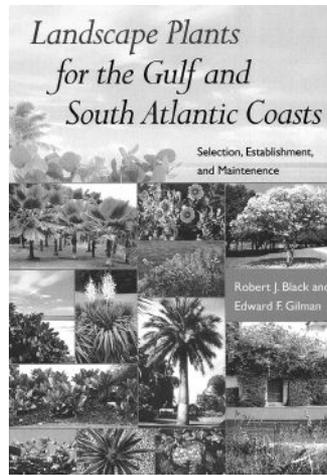
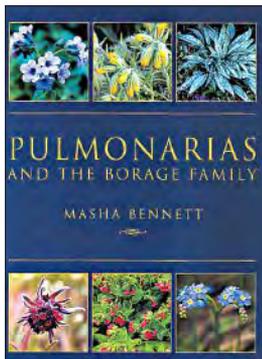
This book was chosen as one of 75 great American gardening books by the American Horticultural Society during its 75th anniversary in 1997.

A new, 10th anniversary edition of the classic monograph *Primula*, by John Richards (Timber Press, 2003), brings to the form all the latest tools of modern botany. Chapters include both the evolutionary history of the genus and the history of its cultivation as well as its unique botany.



A separate chapter covers the essentials necessary for success as a gardener. The bulk of the book, however, is devoted a detailed synopsis, complete with a center signature of color photography.

An exhaustive treatment of the plant family that includes such varied plants as comfrey, forget-me-nots, and heliotrope, with more than 100 striking color photos from all corners of the globe, *Pulmonarias and the Borage Family* by Masha Bennett (Timber Press, 2003) is a testament to the author's research travels. Appendices include a full list of genera and synonyms, a glossary and bibliography, and an index of common names in English. Though the source listing is mostly European, this is still an excellent plant enthusiast's book.

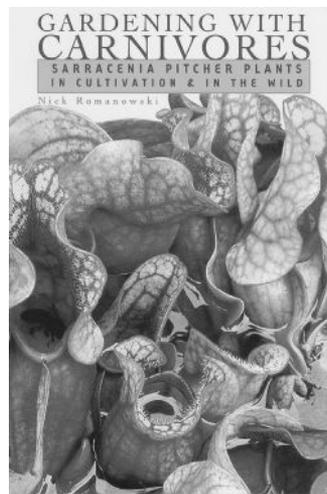


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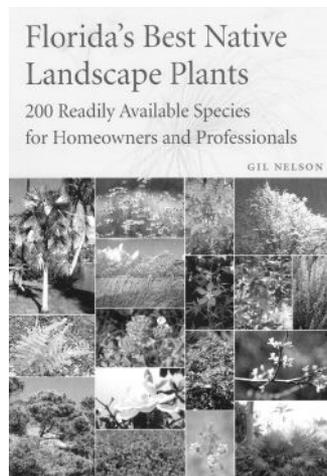


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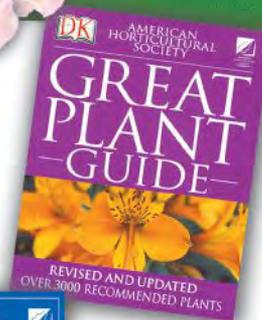
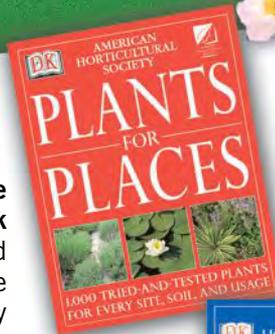


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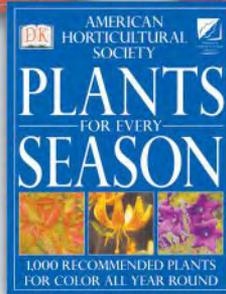


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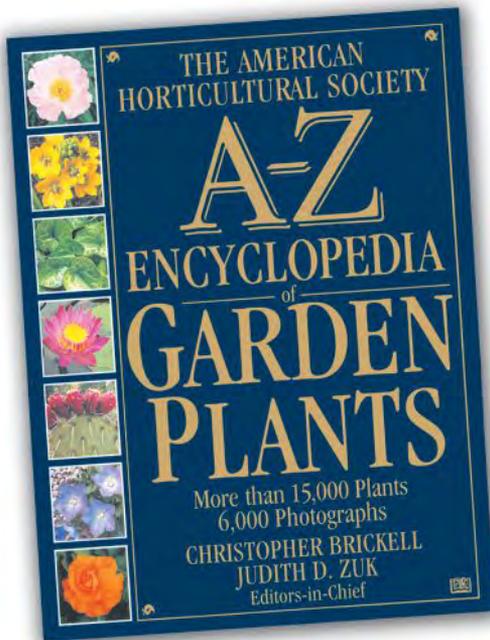
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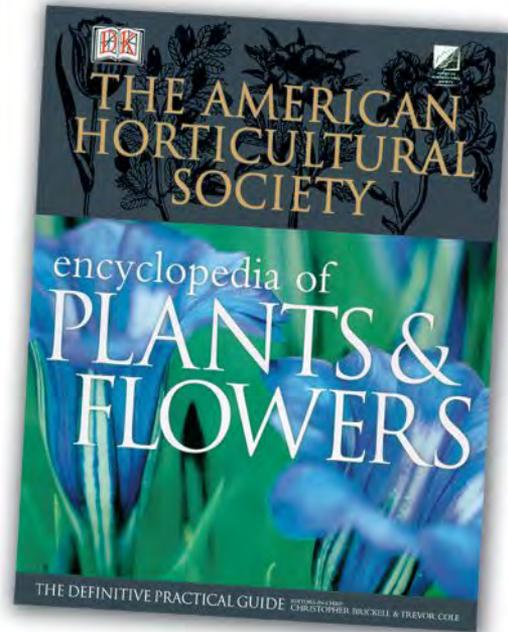
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REGIONAL HAPPENINGS

Horticultural Events from Around the Country

NORTHEAST

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

MAR. 6–21. **Spring Bulb Show.** The Botanic Garden of Smith College. Northampton, Massachusetts. (413) 585-2740. www.smith.edu/garden/home.html.

MAR. 27. **Spring Gardener's Day: Natural Landscape Gardening.** Blithewold Mansion, Gardens & Arboretum. Bristol, Rhode Island. (401) 253-2707. www.blithewold.org.

MAR. 27 & 28. **The Garden Expo 2004.** Fairfield Woods Middle School. Fairfield, Connecticut. (203) 394-5106. www.thegardenexpo.com.

APR. 10. **Gardening In Northern New England: A Symposium.** New England Wild Flower Society. Vermont Technical College. Randolph Center, Vermont. (508) 877-7630 ext. 3301. www.newfs.org.

APR. 15–18. **New York International Orchid Show.** Rockefeller Center. New York, New York. (201) 767-0621. www.gnyos.com.

APR. 24. **Elegant, Ecological and Exceptional Gardens.** The Coastal Maine Botanical Gardens, at Pineland Farms. New Gloucester, Maine. (207) 633-4333. www.maine gardens.org.

Looking ahead:

MAY 7 & 8. **27th Annual Plant Sale.** The Berkshire Botanical Garden. Stockbridge, Massachusetts. (413) 298-4897. www.berkshirebotanical.org.

MID-ATLANTIC

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

MAR. 27. **Native Plants: Landscapes in Balance.** 18th Annual Lahr Symposium. The U.S. National Arboretum. Washington, DC. (202) 245-5898. www.usna.usda.gov.

MAR. 28. **Scott Associates Spring Festival & Scott Medal Presentation.** The Scott Arboretum of Swarthmore. Swarthmore, Pennsylvania. (610) 328-8025. www.scottarboretum.org.

AHS APR. 1 & 2. **The AHS Gardening School: The Amazing World of Indoor Plants.** River Farm. Alexandria, Virginia. (703) 768-5700. www.ahs.org.

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

AHS APR. 2. **Great American Gardeners Awards Banquet.** River Farm. Alexandria, Virginia. (703) 768-5700. www.ahs.org.

APR. 4. **Spring Wildflowers Lecture and Walk.** Cylburn Arboretum. Baltimore, Maryland. (410) 367-2217. www.cylburnassociation.org.

AHS APR. 4–6. **The 58th Annual Heirloom Gardening Symposium.** Colonial Williamsburg. Co-sponsored by *Fine Gardening* and American Horticultural Society. Williamsburg, Virginia. (800) 603-0948. www.colonialwilliamsburg.com.

AHS APR. 8 & 9. **The AHS Gardening School: Creating Your Own SMARTGARDEN™.** River Farm. Alexandria, Virginia. (703) 768-5700. www.ahs.org.

AHS APR. 15 & 16. **The AHS Gardening School: The Art & Science of Garden Photography.** River Farm. Alexandria, Virginia. (703) 768-5700. www.ahs.org.

APR. 16 & 17. **The American Daffodil Convention.** The American Daffodil Society. Sheraton Premiere at Tyson's Corner. Vienna, Virginia. www.adconvention2004.org.

APR. 17–25. **71st Annual Historic Garden Week in Virginia.** The Garden Club of Virginia. Richmond, Virginia. (804) 644-7776. www.VAGardenweek.org.

AHS APR. 22–24. **River Farm Plant Sale & NCAFGC–District II Flower Show.** River Farm. Alexandria, Virginia. (703) 768-5700. www.ahs.org.

AHS APR. 23. **The AHS Gardening School: How to Nurture & Show Prize-Winning Plants.** River Farm. Alexandria, Virginia. (703) 768-5700. www.ahs.org.

APR. 24–MAY 15. **Maryland House & Garden Pilgrimage.** Some of Maryland's finest gardens and historic landmarks. (410) 583-5251. www.mhgp.org.

APR. 30. **The Great Plant Auction.** Phipps Conservatory and Botanical Garden. Pittsburgh, Pennsylvania. (412) 622-6914. www.phipps.conservatory.org.

Looking ahead:

MAY 3. **Annual New Jersey Botanical Garden Plant Sale.** New Jersey Botanical Garden. Ringwood, New Jersey. (973) 962-9534. www.njbg.org.

MAY 3. **Bartram's Native Plant Sale.** Historic Bartram's Garden. Philadelphia, Pennsylvania. (215) 729-5281. www.bartramsgarden.org.

MAY 14. **Spring Native Plant Symposium.** Adkins Arboretum. Ridgely, Maryland. (410) 634-2847. www.adkinsarboretum.org.

SOUTHEAST

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

MAR. 25–28. **Festival of Flowers.** Spring Hill College. Mobile, Alabama. (251) 639-2050. www.festivalofflowers.com.

MAR. 25–28. **Wildflower Fair.** Cheekwood Botanical Garden and Museum of Art. Nashville, Tennessee. (615) 356-8000. www.cheekwood.org.

MAR. 27 & 28. **South Florida Palm Society's Palm & Cycad Show and Sale.** Fairchild Tropical Garden. Coral Gables, Florida. (305) 667-1651. www.ftg.org.

APR. 1 & 2. **The Annual Callaway Plant Fair, Sale & Flower Show.** Callaway Gardens. Pine Mountain, Georgia. (800) 225-5292. www.callawaygardens.com.

APR. 2–4. **Azalea Festival.** Airlie Gardens. Wilmington, North Carolina. (910) 793-7531. www.nhcgov.com/AirlieGardens/AirlieMain.asp.

APR. 17. **Herb Plant Sale.** Chattahoochee Unit of the Herb Society of America. Atlanta Botanical Garden. Atlanta, Georgia. (404) 636-2577. www.cuhsa.org.

APR. 17. **Rose Show.** Harry P. Leu Gardens. Orlando, Florida. (407) 246-2620. www.leugardens.org.

APR. 24. **7th Annual Native Plant Sale.** Georgia Native Plant Society. Peachtree

Rock Gardeners Descend on Raleigh

THE PIEDMONT CHAPTER of the North American Rock Garden Society (NARGS) is hosting its 70th Annual Meeting, titled "Rebellious Rock Gardening," from May 5 to 8 at the Sheraton Imperial Hotel at Research Triangle Park in North Carolina. Among the many nationally and internationally acclaimed speakers who will be making presentations are garden writer and photographer Pamela Harper, Plant Delights Nursery owner Tony Avent, and Yucca Do Nursery owner Carl Schoenfeld.

Many outstanding garden tours are also slated, including visits to Plant Delights Nursery, Duke Gardens in Durham, and the renowned JC Raulston Arboretum in Raleigh. In addition, pre- and post-conference eco-tours will take attendees in search of wildflowers both in the mountains of western North Carolina and along the coastal plain.

The fee for the main conference is \$300 (\$275 for NARGS members). For registration information, contact Karen and Dave Duch at (919) 467-0653, by e-mail (kmduch@bellsouth.net) or visit www.nargs.org.

—Jessie Keith, Editorial Intern

Presbyterian Church. Atlanta, Georgia.
(404) 724-0296. www.gnps.org.

APR. 24 & 25. **Annual Spring Garden Tour.** The Dothan Area Botanical Gardens. Dothan, Alabama. (334) 793-3224. www.dabg.com.

NORTH CENTRAL

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

MAR. 1–APR. 30. **Foremost's Butterflies Are Blooming.** Frederik Meijer Gardens & Sculpture Park. Grand Rapids, Michigan. (888) 957-1580. www.meijergardens.org.

MAR. 19–21. **Midwest Gardening Symposium.** The Morton Arboretum. Lisle, Illinois. (630) 719-2468. www.mortonarb.org.

MAR. 20 & 21. **Ann Arbor Orchid Society Show.** Matthaei Botanical Gardens. Ann Arbor, Michigan. (734) 998-6205. www.lsa.umich.edu/mbg.

APR. 3–MAY 2. **Belle Isle Easter Floral Display.** Anna Scripps Whitcomb Conservatory. Detroit, Michigan. (313) 852-4064. www.bibsociety.org.

APR. 3–MAY 30. **A Child's Flight of Fancy.** Mitchell Park Horticultural Conservatory. Milwaukee, Wisconsin. (414) 649-9800. countyparks.com/horticulture.

APR. 10. **Spring Pansy & Orchid Sale.** Olbrich Botanical Gardens. Madison, Wisconsin. (608) 246-4550. www.olbrich.org.

APR. 16–18. **Central Ohio Daffodil Show.** Franklin Park Conservatory. Columbus, Ohio. (800) 214-7275. www.fpconservatory.org/contact.html.

APR. 17 & 18. **Bug Bowl.** Purdue University's Entomology Department. West Lafayette, Indiana. (765) 494-9061. www.entm.purdue.edu/bugbowl

APR. 22–25. **Extreme Arranging™ Special Event.** The Cleveland Botanical Garden. Cleveland, Ohio. (216) 721-1695. www.cbgbgarden.org.

APR. 25–27. **Wildflower Sale.** Fernwood Botanic Garden and Nature Center. Niles, Michigan. (269) 695-6491. www.fernwoodbotanical.org.

APR. 30–MAY 1. **Spring Plant Sale.** Leila Arboretum. Battle Creek, Michigan. (269) 969-0270. www.leilaarboretumsociety.org.

Looking ahead:

MAY 1–8. **Tulip Time Festival 75th Diamond Jubilee.** Holland, Michigan. (800) 822-2770. www.tuliptime.org.

SOUTH CENTRAL

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

MAR. 20–APR. 3. **5th Annual Nacogdoches Azalea Trails.** Ruby M. Mize Azalea Garden. Nacogdoches, Texas. (888) 653-3788. www.visitnacogdoches.org.

MAR. 26 & 27. **A Celebration of Herbs.** 9th Annual Herbal Forum. International Festival-Institute. Round Top, Texas. (979) 249-3129. www.festivalhill.org.

MAR. 27. **Oklahoma Gardening School.** Myriad Botanical Gardens and Crystal Bridge. OKC, Oklahoma. (405) 297-3995. www.myriadgardens.com.

APR. 3 & 4. **Mid-America Regional Lily Society Sale.** Missouri Botanical Garden's Ridgway Center. St. Louis, Missouri. (800) 642-8842. www.mobot.org.

APR. 13 & 14. **14th Annual Garden Symposium.** The Biedenharn Museum & Gardens. Monroe, Louisiana. (800) 362-0983. www.bmuseum.org.

APR. 17. **Spring Garden Festival & Plant**

Sale. Corpus Christi Botanical Gardens & Nature Center. Corpus Christi, Texas. (361) 852-2100.

APR. 17 & 18. **Spring Plant Sale and Gardening Festival.** Lady Bird Johnson Wildflower Center. Austin, Texas. (512) 292-4100. www.wildflower.org.

APR. 23–25. **Spring Herb Festival.** Fredericksburg Herb Farm. Fredericksburg, Texas. (830) 997-8615. www.fredericksburgherbfarm.com.

SOUTHWEST

AZ, NM, CO, UT

MAR. 13–28. **Annual Spring Landscaping Festival and Plant Sale.** Boyce Thompson Arboretum. Superior, Arizona. (520) 689-2723. arboretum.ag.arizona.edu.

MAR. 27 & 28. **Agave Festival.** The Desert Botanical Garden. Phoenix, Arizona. (480) 941-1225. www.dbg.org.

APR. 1–JUNE 30. **Big Bug Exhibit.** Red Butte Garden. Salt Lake City, Utah. (801) 581-4938. www.redbuttegarden.org/index.html.

APR. 3 & 4. **Southwest Conference on Botanical Medicine.** Tempe, Arizona. (800) 252-0688. www.botanicalmedicine.org.

APR. 16–18. **Cactus & Succulent Show.** The Desert Botanical Garden. Phoenix, Arizona. (480) 941-1225. www.dbg.org.

Looking ahead:

MAY 7 & 8. **55th Annual Plant & Book Sale.** Denver Botanic Gardens. Denver, Colorado. (720) 865-3500. www.botanicgardens.org.

MAY 8. **Sustainable Organic Gardening Workshop.** Giannangelo Farms Southwest. Ramah, New Mexico. (505) 783-4412. www.avant-gardening.com.

WEST COAST

CA, NV, HI

MAR. 27. **'Ohe kapala (bamboo stamps) Native Hawaiian Arts & Plants Workshops.** Amy B.H. Greenwell Ethnobotanical Garden. Captain Cook, Hawaii. (808) 323-3318. www.bishopmuseum.org.

APR. 3. **Spring Gardening Day!** Mendocino Coast Botanical Gardens. Fort Bragg, California. (707) 964-4352. www.gardenbythesea.org.

APR. 3 & 4. **Spring Iris Show.** The Arboretum of Los Angeles County. Arcadia, California. (626) 821-3222. www.arboretum.org.

APR. 4. **Australian Plants in the 21st Century.** The Arboretum at University of California Santa Cruz. Santa Cruz, California.

(831) 427-2998. www2.ucsc.edu/arboretum.

APR. 13. **California Natives in Style.** Strybing Arboretum Society. County Fair Building. San Francisco, California. (415) 564-3239. www.strybing.org.

APR. 21. **Xeriscape: Environmentally Friendly Pest Control.** Las Vegas Springs Preserve Desert Demonstration Garden. Las Vegas, Nevada. (702) 258-3205. www.lvspgarden.org.

APR. 24 & 25. **Pacific Rose Society Show.** The Arboretum of Los Angeles County. Arcadia, California. (626) 821-3222. www.arboretum.org.

MAY 1. **37th Annual Plant Sale.** Strybing Arboretum Society. County Fair Building. San Francisco, California. (415) 564-3239. www.strybing.org.

NORTHWEST

AK, ID, MT, OR, WA, WY

APR. 1-30. **2004 Skagit Valley Tulip Festival.** Mount Vernon, Washington. (360) 428-5959. www.tulipfestival.org.

APR. 10. **Early Bloomers Plant Sale.** Washington Arboretum. Seattle, Washington. (206) 325-4510. www.orgsites.com/wa/arboretumfoundation.

APR. 24. **Spring Plant Sale.** Idaho Botanical Garden. Boise, Idaho. (208) 343-8649. www.idahobotanicalgarden.org.

APR. 24 & 25. **FlorAbundance Spring Plant Sale.** Sand Point/Magnuson Park. Seattle, Washington. (206) 325-4510. www.orgsites.com/wa/arboretumfoundation.

APR. 24 & 25. **Glide Wildflower Show.** Glide Community Building. Glide, Oregon. (541) 677-3797. www.magicknet/magyan/GWS.htm.

APR. 26. **Meerkerk Magic: A Festival of Flowers!** Meerkerk Gardens. Greenbank, Whidbey Island, Washington. www.meerkerkgardens.org.

Looking ahead:

MAY 1. **Annual Bellevue Botanical Garden Society Spring Plant Sale.** Bellevue Botanical Garden. Bellevue, Washington. 425.451.3755. www.bellevuebotanical.org.

CANADA

MAR. 15, 22, & 29. **Designing Your Dream Garden. Workshops.** VanDusen Botanical Garden. Vancouver, B.C., Canada. (604) 257-8666. www.vandusengarden.org.

MAR. 19-21. **The Get Growing Garden Show.** Bingemans. Kitchener, Ontario, Canada. (877) 848-5831. www.getgrowinggarden.shows.ca.

Regional Arbor Day Celebrations

SHADE, BEAUTY, FOOD, and shelter—the rewards of trees are invaluable. Julius Sterling Morton, the pioneering naturalist, agriculturist, and father of Arbor Day would have certainly shared these sentiments. After moving from the wooded landscape of Michigan to the treeless prairies of the newly colonized state of Nebraska, he quickly learned to appreciate the value of trees. While a member of The Nebraska Horticultural Society and Board of Agriculture, Morton founded an official day to venerate trees. The first Arbor Day celebration was in 1872, and by 1885 Nebraska declared Morton Arbor Day a legal holiday.

In 1970, the last Friday of April was designated as National Arbor Day. Arbor celebrations are now observed across the globe from Brazil to China. Many western and southern states have also chosen their own Arbor Day dates at times when planting conditions are optimal. Arbor Day celebrations may even be combined with Earth Day when their dates fall closely together.

As National Arbor Day draws near, gardens and arboreta across the country have come up with many different ways to commemorate this important holiday.

If you recount a story about your favorite tree at **Bernheim Arboretum and Research Forest** (www.bernheim.org) in Clarmont, Kentucky on April 3 or 4, you will receive two free trees in exchange. Children can learn about trees on Arbor Day hikes and at Bernheim's new discovery stations.

Boyce Thompson Arboretum (arboretum.ag.arizona.edu) of Superior, Arizona, will offer a wide array of tree exhibits, crafts, and children's activities on April 24. You can get tips on tree care and planting techniques, or relax to the sound of live music beneath the canopy of the arboretum's Australian Forest.

The Morris Arboretum of Philadelphia's University of Pennsylvania (www.business-services.upenn.edu/arboretum) will provide an afternoon of tree-related crafts and activities on April 25. Highlights will include a big trees tour, tree climbing demonstration, Native American storytelling and dancing, and a special appearance by Woodsy The Owl.

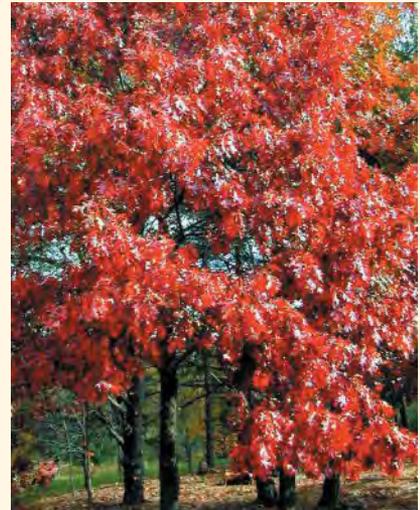
On May 1, learn about tree planting and forestry, plant a few plants, and take home a free tree seedling at **Taltree Arboretum and Gardens** (www.taltree.org) in Valparaiso, Indiana. You can also help preserve the integrity of their woodlands by helping weed out garlic mustard.

These events are just a small sampling of the Arbor Day events scheduled around the country. Many more listings of celebrations can be found under Events on our Web site (www.abs.org).

We encourage you to observe Arbor Day even if you can't attend a formal celebration. Get together and plant a tree with a youth group, neighbors in your community, or simply your own family.

To find out more about Arbor Day, contact the National Arbor Day Foundation in Nebraska City, Nebraska. Call (402) 474-5655 or visit www.arborday.org.

—Jessie Keith, Editorial Intern



Quercus velutina at Taltree Arboretum and Gardens in Valparaiso, Indiana.

MAR. 25. **An Ecological Vegetable Garden.** The Arboretum at the University of Guelph. Guelph, Ontario. www.uoguelph.ca/arboretum

APR. 16-18. **The Springtime Serenade Garden Show.** The Round Up Centre. Stampede Park. Calgary, Alberta, Canada.

(403) 287-3469. www.calhort.org.

APR. 22-25. **Ontario Garden Show.** Royal Botanic Gardens. Hamilton/Burlington, Ontario, Canada. (905) 527-1158. www.rbg.ca.

GARDEN MARKET

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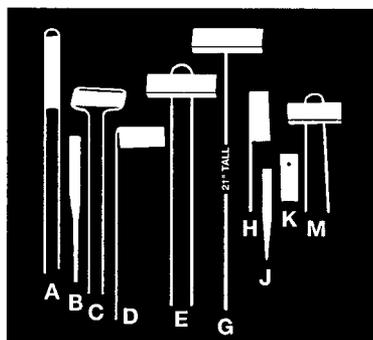
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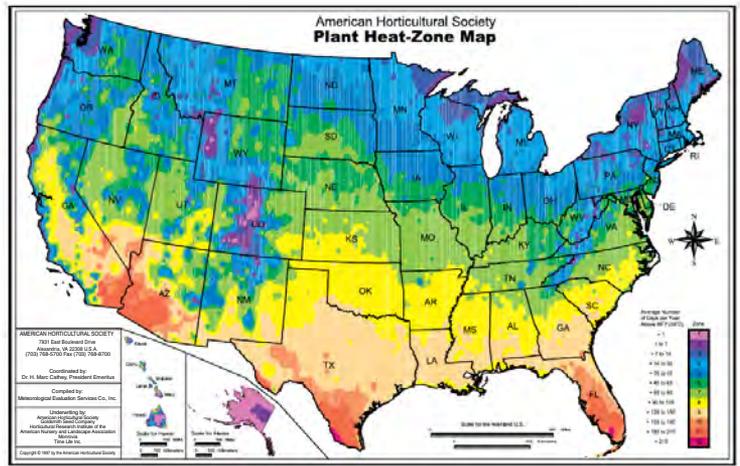


For more information contact Carol Ross (703) 909-3999

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PRONUNCIATIONS AND PLANTING ZONES

Most of the cultivated plants described in this issue are listed here with their pronunciations, USDA Plant Hardiness Zones—based on the 2003 revised hardiness map, which is currently under review by the USDA—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. Hardiness and Heat zone codes are generated by AHS and documented in the Showtime™ database, owned by Arabella Dane.



A–D

Aglaonema 'Silverado' ag-lay-o-NEH-muh (USDA 10–15, AHS 12–9)
Akebia quinata ah-KEE-bee-uh kwIn-AY-tuh (5–9, 9–5)
Aquilegia alpina ah-kwi-LEE-juh al-PY-nuh (4–9, 9–1)
A. atrata A. uh-TRAY-tuh (4–9, 9–1)
A. barnebyi A. bar-NEB-ee-eye (4–9, 9–1)
A. canadensis A. kan-uh-DEN-siss (4–9, 9–1)
A. chaplinei A. chap-LIN-ee-eye (4–9, 9–1)
A. chrysantha A. krih-SAN-thuh (3–8, 8–1)
A. coerulea A. see-ROO-lee-uh (3–8, 8–1)
A. coerulea var. ochroleuca A. see-ROO-lee-uh var. oak-ro-LEW-kuh (3–8, 8–1)
A. elegantula A. el-eh-GANT-yew-luh (4–9, 9–1)
A. eximia A. eks-ZIM-ee-uh (8–10, 10–8)
A. flabellata var. pumila A. flah-beh-LAY-tuh var. PYEW-mih-luh (4–9, 9–1)
A. flavescens A. flay-VESS-enz (4–9, 9–1)
A. formosa A. for-MO-suh (4–9, 9–1)
A. fragrans A. FRAY-granz (5–9, 9–1)
A. glandulosa A. glan-dyew-LO-suh (4–9, 9–1)
A. jonesii A. JONES-ee-eye (4–9, 9–1)
A. laramiensis A. lah-ruh-ME-en-sis (4–9, 9–1)
A. longissima A. lon-JIS-sih-muh (4–9, 9–1)
A. micrantha A. my-KRAN-thuh (4–9, 9–1)
A. pubescens A. pyew-BESS-enz (4–9, 9–1)
A. pyrenaica subsp. discolor A. pih-ruh-NAY-ih-kuh subsp. DIS-kul-ur (4–9, 9–1)
A. saximontana A. saks-ih-mon-TAN-uh (4–9, 9–1)
A. scopulorum A. skop-yew-LOR-um (4–9, 9–1)
A. shockleyi A. SHOCK-lee-eye (4–9, 9–1)
A. siberica A. sy-BEER-ih-kuh (4–9, 9–1)
A. viridiflora A. vir-ih-dih-FLOR-uh (4–9, 9–1)
A. vulgaris A. vul-GAIR-iss (3–9, 9–1)
Artemisia ludoviciana ar-teh-MEEZ-yuh loo-doh-vik-ee-AN-uh (4–9, 9–1)
Aster novae-angliae ASS-tur NO-vee-ANG-lee-ay (4–8, 8–1)
A. novi-belgii A. NO-vih-BEL-jee-eye (4–8, 8–1)

A. tataricus ASS-tur tuh-TAR-rih-kus (3–9, 9–1)
Asteromoea mongolica ass-tuh-ROM-ee-ah mon-GOL-ih-kuh (4–8, 8–1)
Cypripedium kentuckiense sip-rih-PEE-dee-um ken-tuh-kee-EN-see (3–7, 7–1)
Dicentra formosa dy-SEN-truh for-MO-suh (4–8, 10–1)

E–P

Epimedium alpinum ep-ih-ME-dee-um al-PY-num (3–9, 9–1)
E. ×cantabrigiense E. kan-tuh-brij-ee-EN-see (5–8, 8–5)
E. grandiflorum E. gran-dih-FLOR-um (5–8, 8–5)
E. ×perralchicum 'Frohneiten' E. pair-al-CHEE-kum (5–8, 8–5)
E. ×rubrum E. ROO-brum (4–8, 8–1)
E. ×setosum E. seh-TOH-sum (5–9, 9–4)
E. ×warleyense E. wor-lee-EN-see (5–9, 9–5)
E. ×youngianum E. yung-ee-AN-um (5–8, 8–5)
E. ×versicolor 'Neosulphureum' E. vur-SIK-uh-lur (5–8, 8–5)
Eupatorium fistulosum yew-puh-TOR-ee-um fist-yew-LO-sum (4–8, 8–2)
E. maculatum E. mak-yew-LAY-tum (5–11, 9–1)
Euphorbia polychroma yew-FOR-bee-uh pah-lee-KRO-muh (5–9, 9–5)
Geranium macrorrhizum juh-RAY-nee-um mak-ro-RHY-zum (3–8, 8–1)
Leonotis leonurus lee-o-NO-tis lee-o-NUR-us (10–11, 12–7)
Lilium superbum LIL-ee-um soo-PUR-bum (4–8, 8–3)
Origanum vulgare o-RIG-uh-num vul-GAY-ree (4–9, 10–2)
Paeonia rockii (Pink Form) pay-O-nee-uh ROK-ee-eye (3–8, 8–1)
P. suffruticosa pay-O-nee-uh suh-frew-tih-KO-suh (5–8, 8–5)
Phlox maculata FLOKS mak-yew-LAY-tuh (5–8, 8–1)

P. paniculata P. pan-ik-yew-LAY-tuh (5–8, 8–1)

R–Z

Rosa 'Autumn Sunblaze' RO-zuh (4–9, 9–1)
R. 'Bonica' RO-zuh (4–9, 9–1)
R. 'Carefree Beauty' RO-zuh (4–9, 9–1)
R. 'Cécile Brunner' RO-zuh (5–7, 7–1)
R. 'Charles Aznavour' RO-zuh (2–9, 9–1)
R. 'City of York' RO-zuh (5–9, 9–1)
R. 'Constance Spry' RO-zuh (4–9, 9–1)
R. 'Eden Climber' RO-zuh (4–9, 9–1)
R. Flower Carpet series RO-zuh (4–9, 9–1)
R. glauca RO-zuh GLAW-kuh (2–8, 8–1)
R. Knock Out RO-zuh (4–9, 9–1)
R. laevigata RO-zuh lee-vih-GAY-tuh (7–9, 9–1)
R. moyesii RO-zuh MOY-zee-eye (4–9, 9–1)
R. 'New Dawn' RO-zuh (5–9, 9–1)
R. 'Nozomi' RO-zuh (5–9, 9–1)
R. 'Pierre de Ronsard' RO-zuh (4–9, 9–1)
R. 'Red Cascade' RO-zuh (5–9, 9–1)
R. rugosa RO-zuh roo-GO-suh (2–9, 9–1)
R. 'Salmon Sunblaze' RO-zuh (5–9, 9–1)
R. 'Scarlet Meidiland' RO-zuh (4–9, 9–1)
R. 'Souvenir de la Malmaison' RO-zuh (6–9, 9–1)
R. 'William Baffin' RO-zuh (2–9, 9–1)
R. woodsii RO-zuh WOODS-ee-eye (4–9, 9–1)
Rhapidophyllum hystrix rah-pid-o-FIL-um HISS-triks (6–10, 10–5)
Rudbeckia hirta rood-BEK-ee-uh HUR-tuh (3–7, 7–1)
R. nitida rood-BEK-ee-uh NIT-ih-duh (3–7, 7–1)
Russelia sarmentosa ruh-SEEL-ee-uh sar-men-TOH-suh (14–15, 12–10)
Salvia greggii SAL-vee-uh GREG-ee-eye (7–9, 9–7)
S. microphylla SAL-vee-uh my-kro-FIL-luh (9–15, 12–7)
S. ×jamesis SAL-vee-uh JAYM-eh-sis (9–10, 10–1)
Teucrium polium TEW-kree-um POL-ee-um (8–9, 9–8)

Cottage-Garden Combination

by Carole Ottesen

IN A FLOWER BORDER, we strive for the simultaneous blooming of congenial, complimentary plants. By combining subjects with overlapping bloom times and crossing our fingers, the success of even a meticulously planned combination requires serendipity. Beyond our control, sunshine or lack of it, adequate or inadequate rainfall, and many other factors, will affect if and when which plants bloom and for how long.

At first glance, this cheerful cottage-garden combination, photographed in April in an Oregon garden, seems indebted to the garden gods for the gift of overlapping bloom. Upon closer inspection, the gardener's intent and thoughtful blending of sure-fire elements become apparent.

The terra cotta jug functions as all-season sculpture, a fail-safe, permanent fixture in this composition anchored by two durable, dependable perennials. The cushion spurge (*Euphorbia polychroma*), by virtue of bright yellow bracts that surround the small flowers, stays showy for weeks, conveniently overlapping with the flowering of most spring bulbs. The spurge's pale green foliage blends well with plants with gray-green leaves such as western or Pacific bleeding heart (*Dicentra formosa*).

Ultimately larger than cushion spurge, western bleeding heart echoes its companion's gray-green color and rounded habit. But where cushion spurge is solid, the bleeding heart is open and loose. With its pink, heart-shaped flowers held above a clump of lacy foliage, its delicate appearance and lax form provide a graceful contrast to the denseness of the spurge. Western bleeding heart fares well where summers are cool, as in the Pacific Northwest, but may succumb to very hot summers elsewhere.

More fleeting, but equally dependable, bluebells (*Hyacinthoides* spp.) mingle companionably with the cushion spurge. Behind them rise tulips, tall, elegant, and not to be counted on year after year. But it doesn't matter. They are the bonus flowers in an already winning scheme.

Carole Ottesen is associate editor of *The American Gardener*.



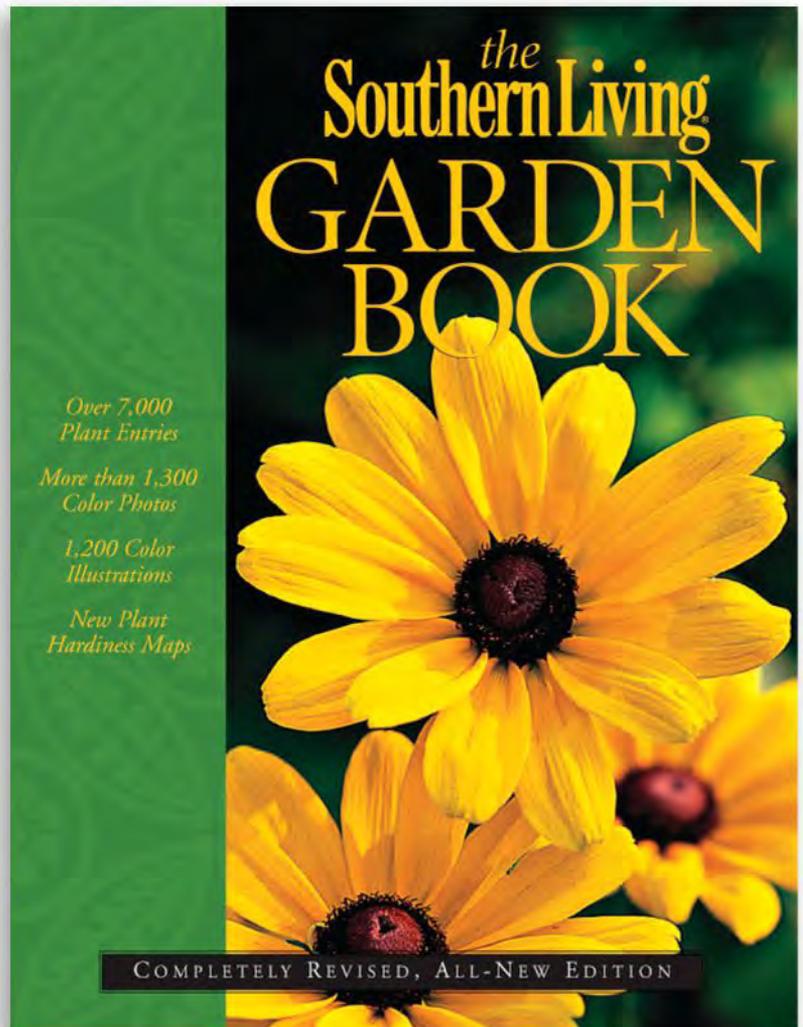
Western or Pacific bleeding heart (*Dicentra formosa*). Grows to two feet tall, tolerates drought but prefers moisture and cool summer climates. Zones 4–8, 10–1.

Cushion spurge (*Euphorbia polychroma*, sometimes listed as *E. epithymoides*). Grows to 15 inches tall. It tolerates drought and grows best in full sun. Zones 5–9, 9–5.

Bluebells (also called wood hyacinths, *Hyacinthoides* spp.). Grow 12 to 16 inches tall and thrive in well-drained soil in sun or shade. Zones 4–8, 9–1.

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