

The American GARDENER

The Magazine of the American Horticultural Society

January/February 2002

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Photograph by Janet Loughrey

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INTERN PROGRAM

To receive an application for the Society's Intern Program, write to Janet Walker, director of horticulture, at the address above or e-mail her at jwalker@ahs.org. Intern application forms can be downloaded from the River Farm area of the Society's Web site at www.ahs.org.

RECIPROCAL ADMISSIONS PROGRAM

The AHS Reciprocal Admissions Program offers members free and discounted admission to flower shows and botanical gardens throughout North America. A list of participating shows and gardens can be found in this year's *AHS Member Guide* and also in the Membership area of our Web site.

TRAVEL STUDY PROGRAM

AHS members and friends can visit spectacular private and public gardens around the world through the Society's exclusive arrangement with the Leonard Haertter Travel Company. For information about upcoming trips, call (800) 777-7931 ext. 121 or visit the Events section of our Web site.

WEB SITE: WWW.AHS.ORG

The AHS Web site is a valuable source of information about the Society's programs and activities. It is also an important resource for getting the answers to gardening questions, finding out about gardening events in your area, and linking to other useful Web sites. AHS members can reach the members-only section of the Web site by typing in this year's password: **perennial**.

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The American GARDENER

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An Inside Look

WEEPING TREES like the one on the cover of this issue were much admired by my Aunt Gussie, who, if she were living today, would be called a gardening "collector." Among her prized plant collections were dozens of weeping willows from which we would harvest branches in early spring. She would remove the brown covers of the pussy willow flowers (catkins) and tint them pink with rouge. She assembled bunches of the most bizarre forms to give as gifts and always encouraged the recipients to keep the branches fresh in an opaque vase so they could later be planted in the garden. Today, some 60 years later, I can still point out willows in Robeson County, North Carolina, grown from her gifts of cuttings.

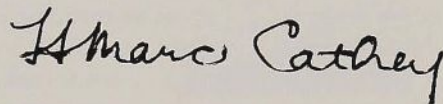
Willows are also particular favorites of my daughter, Marcy, who since childhood has loved to stand in the shelter of weeping willows during gentle rainstorms. She says the random shaking of the supple limbs and the sound of the leaves and branches rubbing together stimulate all her senses and make her feel truly connected to nature. Ultimately, that's what gardening is all about: Establishing a bond with the natural world from which many of us are increasingly isolated.

In addition to the cover article on weeping trees, this issue contains a blend of stories that will both help in planning for spring and provide reasons to get out in the garden now. For inspiration, garden writer and photographer Karen Bussolini discusses how to effectively integrate silver or gray-colored plants into a garden design. And Associate Editor Carole Ottesen profiles some of the most intriguing new plants being introduced this year.

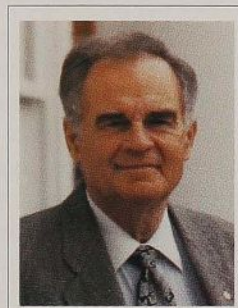
If your shrubs are getting overgrown, you'll appreciate Managing Editor and Designer Mary Yee's primer on rejuvenating mature deciduous shrubs. And if you are tired of the same old evergreen ground covers that everyone uses, consider some of the alternatives suggested by nursery owner David MacKenzie. Fans of garden writer Eric Grisell will enjoy an excerpt from his new book, *Insects and Gardens*, which describes how diversifying our gardens can help them become more self-sustaining.

As you launch into another year of gardening adventures in 2002, remember there are millions of people like Marcy who want to strengthen their connection with the earth through gardening and millions of others who would appreciate a "start" of an interesting plant in their garden—rouge notwithstanding! Help us to extend our reach by sharing the wealth of your gardens and your gardening experience with those around you.

Ever in green,



—H. Marc Cathey, *AHS President Emeritus*



IF YOU RECEIVED THIS MAGAZINE at home as part of your American Horticultural Society membership, note the valuable guide enclosed detailing how you can take advantage of AHS benefits such as free and discounted admissions to garden shows and botanical gardens throughout North America. The guide also includes the list of seeds available through the Society's 2002 Free Seed Exchange, along with an order form that can be used to participate in this popular annual program.



Members' Forum

CONIFER IN QUESTION

I'd like to congratulate you on the "Deciduous Conifers" article in the November/December issue, which included a good selection of noteworthy plants and some excellent photography. I was a little surprised, however, that you included ginkgo among the conifers without some explanation. While it is clearly a gymnosperm ("naked seeds"), it is not a conifer (no cones, just seeds). This seems to be a common misunderstanding, but one that should, I think, be corrected.

Josh Haskell
Painesville, Ohio

In an article on deciduous conifers in the November/December issue, author Carl Hahn refers to *Ginkgo biloba* as a conifer. This is supported, I guess, by references such as *Hortus Third*, which places it as a gymnosperm. But ginkgos don't have nee-

dles, and they produce plumlike drupes rather than cones, so how can they be classified as gymnosperms/conifers? Is it basically in a class by itself and just shoved into the gymnosperm/conifer category for lack of anywhere else to put it?

Hahn also dismisses almost the entire genus *Larix*, stating, "Most are not suitable for widespread landscape and garden uses." At the same time, he writes that the Eastern larch (*Larix laricina*) "is beautiful in the wild...with a pyramidal to open habit and drooping branches. It has pale, bluish green foliage that turns bright yellow in fall." And a photograph of it shows its brilliant red cones.

So what's the matter with it? Having seen them myself in the wild, I agree they are beautiful and have even planted them in the landscape when I lived in Minnesota. Is this just another ex-

ample of our old-fashioned bias against native plants?

Greg Carlson
Middleburg, Virginia

CARL HAHN RESPONDS: *The term "deciduous conifers" is used in both broad and narrow senses. In a narrower botanical definition, conifers can be said to include only those members of the order Coniferae. This would exclude the ginkgo, as correctly noted by Mr. Haskell and Mr. Carlson. However, in common horticultural parlance, the term "deciduous conifers" is usually broadened to include ginkgos. "Deciduous Gymnosperms" would have been a more accurate title, but seemed too pedantic for an article aimed primarily at a gardening audience.*

I think larches, both natives and non-natives, are fine trees to consider in areas where they can be grown successfully. As a group, however, they are pretty much unbending as to their climatic requirements, and in North America they generally are best adapted to the northern tier of states, the Pacific Northwest, and adjoining parts of Canada. I willingly confess to innumerable plant biases, but a bias against native plants as a group is definitely not one of them.

September 11, 2001

Following the tragic events in New York City and at the Pentagon on September 11, 2001, AHS President and CEO Linda Hallman sent personal letters to AHS members living in the vicinity of the affected areas to let them know they were in the thoughts of all AHS staff, and that AHS would be extending their memberships for a year as a small way of helping them through difficult times. Here are some of the responses we received:

☛ Thank you so much for your concern. My wife and I are OK. The dust and debris stopped three blocks south of our building. We had no phone or hot water for two weeks, yet we feel we are among the lucky ones. If only the wind would not ever blow north, or the police lines go away and we don't look south, we could almost imagine things were back to normal.

—Michael Lytle, New York, New York

☛ Thank you for your thoughtful and heartfelt gift. Although the events of September 11 are still rippling through the city, I am glad to know my family and friends are safe.

—Elizabeth Gillespie, New York, New York

☛ Thank you for a truly remarkable gesture. I am safe, though life is unsettled. I accept your gracious offer in hopes that we grow beauty together!

—David A. King, New York, New York

CORRECTION

In an article about the opening of the Oregon Garden in Silverton, Oregon, published on page 59 of the September/October 2001 issue of *The American Gardener*, the amount of wastewater being pumped to the garden's wetlands area was misstated. The wetlands area handles 500,000 to 800,000 gallons of treated wastewater a day.

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.

AHS 80th Anniversary: 1922–2002

From the President

by Linda D. Hallman

THIS YEAR marks the 80th anniversary of the founding of the American Horticultural Society, and we will celebrate this milestone in each issue of *The American Gardener* by taking a look back at the highlights of the first 80 years.



It has been my privilege to serve as President and Chief Executive Officer of the Society for five of those years now, and it is inspiring for me to look back at the Society's achievements and the long list of nationally prominent horticulturists and other scientists who have been associated with AHS.

The Society has experienced many changes over those years, but throughout our history we have served as a catalyst to advance horticultural knowledge with groundbreaking ideas and programs for American gardeners and gardening organizations. By fostering and extolling horticultural excellence, our goal has been to stimulate best practices in gardening.

As we reflect on the Society's history, it's also a good time to assess the challenges and opportunities we face today and in the future. The work of AHS—and the thousands of gardeners we serve—has never been more important. It's horticulture that produces vegetables and fruits to nourish our bodies...and horticulture that offers trees and shrubs to mark our paths and inspire our minds...and horticulture that yields flower upon flower to please eyes and nurture souls. Indeed, it is horticulture that sustains human life in so many fundamental ways. Happy Anniversary AHS!

≈ AHS Retrospective ≈ AHS Retrospective ≈ AHS Retrospective ≈

The Formative Years (1922–1938)

The American Horticultural Society as we know it today is a combination of several horticultural groups that merged over a period of decades to form one organization dedicated to improving horticulture in America both as a science and an art form. The original founding organizations were the American Horticultural Society (AHS) and the National Horticultural Society (NHS).

AHS and NHS were founded concurrently in 1922 in Washington, D.C., and Henning, Minnesota, respectively. AHS was formed by a group of dedicated professional and amateur horticulturists and plant scientists who met monthly to hear a lecture on horticulture.

One of the prime organizers of NHS was Hamilton P. Traub, who conceptualized the idea of a national organization in a series of articles published in the *Flower Grower* magazine. Traub organized meetings among people with similar interests to his own, which led to the establishment of NHS in 1922. Traub became the first editor of *The National Horticultural Magazine*, which has evolved over the years into *The American Gardener*.

The Merger

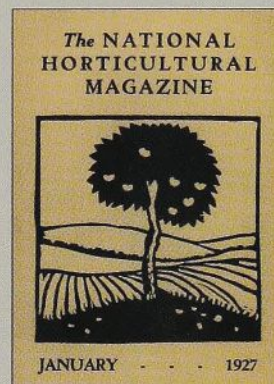
The union of the Minnesota and the Washington, D.C., groups had been planned shortly after each was formed in 1922. Merger committees were formed by both organizations and, after lengthy debate, the organizations formally united on June 15, 1926. The hybrid organization retained the name American Horticultural Society, with headquarters in Washington, D.C. The first president was Furman L. Mumford, who presided over a membership that stood at 500 people.

The Magazine

One of the most important results of the merger was the retention of *The National Horticultural Magazine* in a completely new format, which resumed publication in 1926. Benjamin Y. Morrison, an assistant to David Fairchild at the U.S. Department of Agriculture (USDA) at the time, took over as chairman of the Editorial Committee. A legendary plantsman, Morrison is perhaps best known for developing the Glenn Dale hybrid azalea series.

Almost immediately, the magazine acquired Morrison's unique style and format, which endured with little change for the next 27 years. Morrison excelled as an editor, writer, and a horticultural illustrator. The prints he created for the cover (right), were the magazine's early hallmark.

In 1934, Society headquarters were set up in the Washington Loan and Trust Building, where Morrison carried on his volunteer work as editor in his off hours from his official duties with USDA. Under Morrison, the magazine soon attracted the leading horticultural writers of the country. He maintained exacting standards for the magazine, and it was this perfectionism that set the magazine apart from other American horticultural publications of the time.



The January 1927 issue of the magazine

River Farm's Halls Were Decked

DURING THIS PAST holiday season, visitors to River Farm's main house were treated to a display of fragrant Christmas trees decorated with lovely handcrafted ornaments on loan from the archives of the Smithsonian Institution in Washington, D.C.

"The trees were a feast for eyes and noses," says Janet Walker, AHS director of horticulture. "Knowing that each ornament had been handmade or selected with care for our enjoyment increases our connection to those who celebrated long ago.

We are grateful to the Smithsonian for sharing them with us."

The Christmas tree display at River Farm has become an annual tradition. The themes for the trees this past holiday season were American Colonial Designs, American Victorian, Appalachia, and Contemporary American. These ornaments and hundreds of other themed sets in the Smithsonian's archives were donated by various individuals and organizations.



A collection of American-themed ornaments

The American Colonial Designs tree featured heart- and star-themed ornaments made from materials available in colonial America, such as candlewicks, basket reeds, and sewing scraps. The American Victorian tree included elaborate ornaments that would have been found on the tree of an upper middle-class family of the 1870s. The Appalachian tree featured ornaments made from materials found in the home or landscape. The Contemporary American tree was decorated with glass ornaments, many that had

been in the donor's family for generations.

Volunteers from the Yacht Haven Country Club and Cadet Girl Scout Troop #211, both of Alexandria, Virginia, decorated the five eight- to 10-foot-tall Fraser firs donated by Homestead Gardens in Davidsonville, Maryland. Poinsettias donated by Bell Nursery in Burtonsville, Maryland, complemented the holiday tree displays.

2002 Youth Garden Symposium

Nutrition and environmental education will be the focus topics of this year's AHS National Children and Youth Garden Symposium, which will be held from August 1 to 3 at the Holiday Inn Golden Gateway in San Francisco. California's educational establishments have traditionally produced strong nutrition and environmental education programs.

Co-sponsors for the symposium include a diverse array of educational and environmental organizations that will help foster dynamic and creative discussions and programs. Among the groups that have agreed to participate are:

- ☛ California State Department of Education
- ☛ Food, Land & People
- ☛ International Association of Culinary Professionals
- ☛ Life Lab Science Program



Web Site for Kids

On one of those bitterly cold days when outdoor adventures are curtailed, one way to keep the children in your life entertained—in an educational way—is to lead them on a virtual tour of Michigan State University's 4-H Children's Gardens.

The newly redesigned online kid's tour of the garden is an elegant integration of the real 4-H Children's Gardens and the virtual one. The award-winning Web site is visually rich, filled with interactivity, explorations, stories, garden sign language, and other enjoyable learning experiences.

Kids can dance on the dance chimes, grow their own pizza ingredients, create a special garden name tag, explore questions of the week, discover interesting information about microbes, build their own plant, send garden e-cards, and do lots of other fun and interesting activities. Helpful information for teachers and parents also appears throughout the tour.

Experience the Michigan State University's 4-H Children's Garden at 4hgarden.msu.edu/kidstour/

AHS Award Winners 2002

The following are the winners of this year's AHS Great American Gardeners Awards, which recognizes individuals and organizations who have made significant contributions to various fields in horticulture. Awards will be presented at the Society's Annual Conference in Seattle, June 6 to 8. For more information on the awards, please visit the AHS Web site (www.ahs.org).

George H. Ware

Liberty Hyde Bailey Award
(For horticultural contributions made in at least three of the following fields: teaching, research, writing, plant exploration, art, administration, business, and leadership.) Ware was a professor at Northwestern State University of Louisiana for 20 years before spending 40 years at the Morton Arboretum in Lisle, Illinois, where he coordinated the planning of the new research center and the urban vegetation laboratory. His research has included development of disease-resistant elm cultivars.

Warren H. Gabelman

Luther Burbank Award
(For achievements in plant breeding.) A plant breeder for 40 years, Gabelman developed new onions, carrots, and beets at the University of Wisconsin. The vegetable germplasm he developed is used by commercial vegetable breeders around the world.

August A. DeHertogh

H. Marc Cathey Award
(For achievements in horticultural research.) A professor at North Carolina State University, DeHertogh is being recognized for his outstanding research, particularly in the forcing of ornamental flower bulbs. His research program was established in 1965 with a grant from the Dutch Bulb Exporters Association of Hillegom, the Netherlands.

Rain Bird Corporation

G. B. Gunlogson Award
(For achievements in technology that make gardening more productive and enjoyable.) Rain Bird invented the impact sprinkler in 1933. Today, its sprinklers, valves, and controllers improve water management and conservation for both commercial and private landscaping ventures.

Penelope C. Decker

Frances Jones Poetker Award
(For achievements in floral design.) An award-winning floral designer, Decker is a National Council of State Garden Clubs judge; she also lectures and writes.

Joy Logee Martin

Catherine H. Sweeney Award
(For dedicated efforts in the horticultural field.) For over 20 years, Martin owned and operated Logee's Greenhouses in Danielson, Connecticut. Martin has lectured to horticultural organizations and has been an active member of the Herb Society of America, the American Begonia Society, and The Garden Conservancy.

National Gardening Association

Jane L. Taylor Award
(For contributions to children's gardening.) The National Gardening Association (NGA) has programs to help schools and communities promote children's gardening. More than 25,000 schools use NGA's K-8 plant-based curriculum, GrowLab: Activities for Growing Minds.

Walter's Gardens

Commercial Award—Organization
(For commercial contributions to gardening by a company.) Walter's Gardens, a family-run business in Zeeland, Michigan, opened in 1946 and is now the largest wholesale grower of field-grown perennials in the United States. Nearly 21 million field-grown perennials are cultivated each year on more than 2,000 acres of land.

Tony Avent

Commercial Award—Individual
(For commercial contributions to gardening by an individual.) Avent owns Plant Delights Nursery in Raleigh, North Carolina, a mail-order company specializing in rare and unusual herbaceous perennials,

including hostas and natives. Avent also travels in search of new plants, lectures, and writes.

Richard H. Mattson

Horticultural Therapy Award
(For contributions to the field of horticultural therapy.) Mattson developed the curriculum for and has been the director of the horticultural therapy program at Kansas State University since its inception. His research focuses on the physical, mental, and spiritual benefits of gardening for people of all ages, conditions, and abilities.

Jim Wilson

Communication Award
(For contributions to expanding horticultural awareness through various media.) For 53 years, Wilson has been promoting gardening through writing articles and books, lecturing, and serving 10 years as a host of "The Victory Garden." He is currently national spokesperson for the "Plant a Row for the Hungry" campaign.

Anne Raver

Writing Award
(For excellence in writing.) Since 1991, Raver has written about gardening, nature, landscape design, and environmental issues for *The New York Times*. She is author of *Deep in the Green*, a book of gardening essays. In 1998 she received the Loeb Fellowship at the Harvard Graduate School of Design for environmental journalism.

Mai K. Arbogast

Landscape Design Award
(For contributions to landscape design.) Arbogast has been a landscape architect and horticultural consultant since 1967. Prior to that, she taught landscape architecture at the University of California—Berkeley.

Robert Chittock

Local Horticulture Award
(For contributions to gardening by an individual in the host city of the

AHS annual conference.) A landscape architect, Chittock has designed and installed gardens for large estates and small urban residences in Seattle and surrounding areas of western Washington State.

Julia Rappaport

Meritorious Service Award
(For dedicated service to AHS by a member or friend of AHS.) AHS advisory council member Julia Rappaport is being recognized for her exemplary service in support of the Society's goals, services, and activities. A member of AHS since 1974, she served on the Board of Directors and is a member of the President's Council and Horticultural Heritage giving societies.

Paul W. Meyer

Professional Award
(For contributions to horticulture by a director of an arboretum or botanical garden.) As the F. Otto Haas Director of the Morris Arboretum of the University of Pennsylvania, Meyer has played a vital role in the restoration of the late-Victorian gardens, architecture, and plant collections at the Morris Arboretum.

Leslie H. Fuchigami

Teaching Award
(For contributions to the teaching of horticulture.) A professor of horticulture at Oregon State University in Corvallis, Fuchigami has written more than 150 publications and holds two patents. His research focuses on stress resistance and dormancy development in temperate woody plants.

Center for Urban Horticulture

Urban Beautification Award
(For contributions to urban horticulture by an individual or organization.) The Center for Urban Horticulture provides the Seattle area with information, resources, and leadership for horticultural activities. The center manages several natural areas, including Washington Park Arboretum.



2002 American Horticultural Society TRAVEL STUDY PROGRAM



Join America's most exciting travel team, the American Horticultural Society (AHS) and the Leonard Haertter Travel Company, as we tour the world's most spectacular botanic destinations! For more than 15 years, these tours have taken travelers to the most sought-after private gardens, many of which are never seen by the general public. The AHS Travel Study Program's tradition of excellence in accommodations, horticultural education, and magnificent public and private garden destinations continues with the 2002 schedule.



Highlights for 2002

Gardens of the French and Italian Rivas

Join Dr. H. Marc Cathey, president emeritus of AHS, as he hosts a garden tour of the best of the private and estate gardens that surround Nice and Beaulieu-Sur-Mer on the French Riviera, as well as those around Portofino on the Italian Riviera.

NEW! Gardens of Bohemia and Moravia

Visit the Czech Republic on a new garden adventure and prepare to be surprised by a diverse and sophisticated range of garden styles. Included with this tour is an opportunity to stay in the private estate of Castolovice, residence of Countess Diana Sternberg Phipps.

The Great Gardens of the Cotswolds and the Royal Chelsea Flower Show

Experience a twist on our ever-popular excursion to England for the Royal Chelsea Flower Show. This year, our group will stay at historic Lygon Arms in the village of Broadway in the heart of the Cotswolds.

The Floriade and the Great Gardens of the Netherlands and Belgium

The Floriade—a horticultural extravaganza with exhibitions of garden designs from around the world—occurs only once every decade in the Netherlands. Many of the private garden owners on this tour have extended invitations to our group for lunch or dinner.

The Gardens of the Baltic and Scandinavia, M/V Clipper Adventurer

Capture the excitement on board the M/V Clipper Adventurer, beginning in Amsterdam and concluding in Bergen, Norway. The timing of this program will allow us to be able to visit the Floriade, one of the world's great flower expositions that takes place in the Netherlands.



THIS PAGE ABOVE AND OPPOSITE BOTTOM: COURTESY OF LEONARD HAERTTER. THIS PAGE, CENTER: COURTESY OF THE NETHERLANDS FLOWER AND BULB INFORMATION CENTER. THIS PAGE TOP AND OPPOSITE TOP: COURTESY OF H. MARC CATHEY.

2002 Travel Study Schedule

Gardens of Eden, The Seychelles, M/V Callisto
February 12–24, 2002

Gardens of the French and Italian Rivas
April 22–May 2, 2002

Monuments and Wildflowers of Crete, M/V Callisto
April 28–May 9, 2002

Gardens of Bohemia and Moravia
May 9–20, 2002

**Great Gardens of the Cotswolds
and the Royal Chelsea Flower Show**
May 18–25, 2002

**Floriade 2002 and the Great Gardens of
the Netherlands and Belgium**
May 20–31, 2002

**Gardens of the Baltic and Scandinavia,
M/V Clipper Adventurer**
Amsterdam to Bergen / Floriade 2002
May 27–June 10, 2002

Secret Gardens of Santa Fe and Taos
June 11–16, 2002

**Great Gardens of the Midlands and
the Hampton Court Flower Show**
June 29–July 6, 2002

Gardens of Jackson Hole and the Snake River Valley
July 16–21, 2002

**Gardens and Fall Colors along the Hudson,
M/V Nantucket Clipper**
September 14–21, 2002

Gardens and Hilltowns of Umbria and the Marches
September 17–29, 2002

Gardens of Costa Brava and the Balearic Islands
October 18–28, 2002

Gardens of San Diego and La Jolla
October 29–November 3, 2002

Gardens and Monuments of India
November 6–18, 2002

Spring Gardens of Chile and Argentina
November 2002

For complete details of the exciting 2002 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.



SMARTGARDEN™ —For the Record

Keeping track of gardening successes and failures will pay off in the long run

The more you know about your site, your plants, and potential problems you may encounter, the more success you will experience in the garden. Although numerous resources are available to guide your gardening endeavors, the most important is your own gardening experience. Keeping records is among the most valuable of gardening activities. Both your successes and failures provide lessons that will make you a better gardener.

Interrupting your planting or weeding efforts to jot down notes in a diary might seem like a nuisance at the time, but it will help you make the most of your garden efforts for years to come. Record the names of those plants that have performed famously as well as those you'd rather forget. This way, you avoid repeating a mistake that may result in the loss of an entire growing season.

A GARDEN DIARY

Keeping a gardening diary is a simple way to record events in your garden from year to year. There are garden journals on the market designed for just this purpose.

Some garden diaries allow for multiple years' entries on the same page—one page is allotted to every week of the year, and it is divided to accommodate four or five year's worth of records. This allows you to look back to see what was going on in the garden at the same time in previous seasons.

Less elaborate systems can work just as well. A simple notebook or a calendar with enough room for your entries can accommodate important details. The critical aspect of a garden diary is not what it looks like, but that you write in it. Regularly.

WORTH A THOUSAND WORDS

Some of the most fascinating garden records are photographs. A spectacular garden is all the more dramatic when you can compare the "before" and "after" shots. Growth of trees, combinations of perennials, and successful container plantings can be documented for future reference. And a snapshot can be very helpful to someone trying to diagnose a plant problem.

Diagrams of planting schemes are also helpful. A sketch of your vegetable garden will assist planning future crop rotation schedules. A bed layout will remind you of the location of ephemeral perennials or those that begin growth late in the season. This helps avoiding accidental damage when you are adding to the garden before or after the existing plants are visible above ground.

PLANT PARTICULARS

While garden records needn't be lengthy, a few items

are very important to include. Be sure to record the full name, including its variety, of any plant you acquire. Note the planting date and location in the garden. Then when it's time to replant your strawberries, and you want the same (or a different) variety than you planted half a dozen years ago—was it 'Surecrop' or was it 'Tristar'?—it is just a matter of checking your records. And when you order vegetable and annual flower seeds, you can sit down with your notes, ordering those varieties you considered tops, and avoiding those that were disappointing.

Taking note of where you purchased the plants or seeds you like is often helpful, especially for those hard-to-find varieties.

OTHER ITEMS FOR THE RECORD

Always record modifications you make to your soil. Keep your soil tests from year to year as well as any amendments you incorporate. Records of your soil fertility and pH are most useful when changes can be observed over time. Be sure to identify areas that receive different treatments.

Routine maintenance such as mulching, watering, fertilizing, and pruning should be recorded. Knowing the quantities of mulch and fertilizer you use in a season helps estimate future purchases.

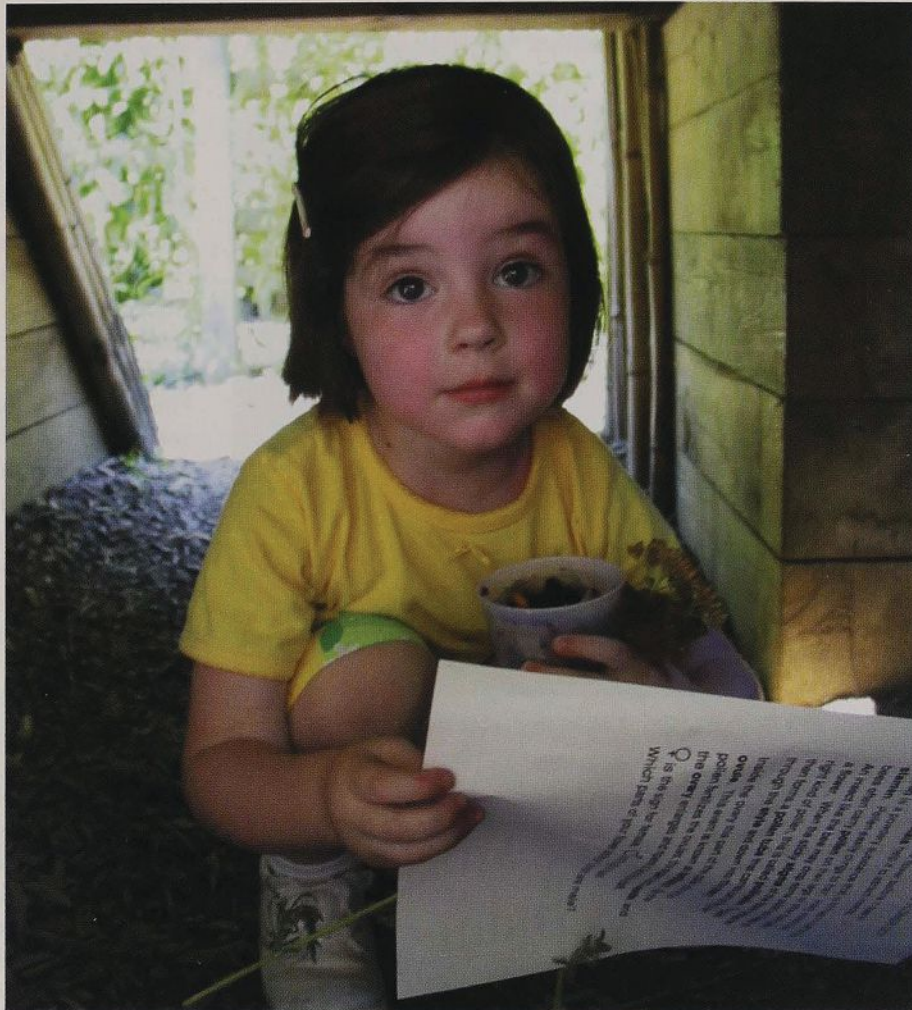
Observations about plant growth, including flower and fruiting dates, are helpful as you plan additions to the garden. Perhaps you want a shrub that blooms at the same time as those in an existing planting, or a raspberry that ripens after your blackberries are finished. Keeping track of planting and harvesting dates in the vegetable garden helps you plan for an extended harvest and an ideal sequence of crops.

Many pests of vegetables can be avoided by planting earlier or later than the pest's annual arrival to the garden. This necessitates, however, your knowing when to expect the unwanted visitor. Because these dates vary even within a region, the best source of this information is your own garden records. The onset of a disease or pest infestation is equally important to note on ornamental plants so you can be prepared to minimize damage.

With the arrival of the new year, it's a great time to resolve to keep records of the successes, failures, additions, changes, and efforts that take place in your garden. Buy a garden journal, or just a simple notebook, and commit yourself to recording those events that will shape your garden. You will profit from a primary source—your own experience.

Rita Pelczar, Contributing Editor

Sarah Doesn't Care that AHS has been Inspiring and Educating Gardeners for 80 Years.



Sarah isn't all that interested in our 80th Anniversary celebration. Who can blame her? She just planted her first seed and found out that it will need water and sunshine to grow. She also learned that worms are very good for the soil—and a lot of fun to play with. **Sarah is one of many children whose introduction to the joys of gardening happened because of the caring people who have supported AHS for the past 80 years.** Living Lab programs at River Farm, like the one Sarah is involved in, are just a part of our larger mission to educate and inspire gardeners of all ages. We think that's pretty special and want to thank you on behalf of Sarah for being a part of that history. Take our word for it: Your support is very important to her.

She'd tell you herself, but she just spotted a butterfly on a nearby black-eyed Susan and is very busy watching it and wondering what it is doing. Thanks to you, she's about to find out.



If you'd like to make a donation to the American Horticultural Society, please contact Ashby Pamplin at (800) 777-7931 ext. 128, or visit our Web site at www.ahs.org.

Gardens of Coastal Maine

article and photographs by Carole Ottesen



MT. DESERT ISLAND, refreshed by breezes from Frenchman's Bay and the Atlantic, was the setting last July for the American Horticultural Society's travel study program to visit some of Maine's finest coastal gardens. Forty-six participants enjoyed water-view accommodations at the historic Bar Harbor Inn. The hotel is a short walk from the attractions of Bar Harbor but quietly apart from the town in its own eight-acre park with a half mile of coastline, adjacent to a delightful path that skirts the shore.

In addition to good company and the culinary delights of Maine, the sojourn on Mt. Desert Island offered tour-goers a unique opportunity to visit spectacular private gardens. Katy Moss Warner, former director of horticulture and environmental initiatives at the Walt Disney World Company in Lake Buena Vista, Florida, led the tour

of 18 private and three public gardens. Several of the gardens are the creations of two of America's pre-eminent garden designers, Beatrix Farrand and Jens Jensen.

A charter member of the American Society of Landscape Architects, Farrand spent summers in Bar Harbor and traces of her influence are still evident in many gardens on the island. An original fence of her design still protects the garden of her former home, Reef Point, located along the shore path.



Top: A harborside garden in summer colors. **Above:** Hillside gardens of the Locust House. **Right:** Pergola at the Farm House garden, designed by Beatrix Farrand in the late 1920s.

One of Bar Harbor's most famous estates, Kenarden, built by John Stewart Kennedy in 1892, retains the Italianate sunken garden Farrand designed.

Farrand also assisted in the design of the Abby Aldrich Rockefeller Garden, which was inspired by a trip philanthropist John D. Rockefeller and his wife Abby took to China in 1921. Renowned for its Chinese wall and gates and its spirit path, this garden demonstrates Farrand's penchant for designing with American native plants.

Perhaps the most intact example of Farrand's work is the garden of the Farm House, which she designed in 1928. There, a brick path leads from the house through an increasingly informal series of garden rooms into wild garden. It begins at the back of the house, bisects perennial borders, and accesses a formal area with a pergola that offers visitors a chance to rest and enjoy the view. Then it continues past an heirloom apple orchard, culminating in a woodland and wildflower meadow.

Best known as one of the originators of "prairie style" landscape design, Jensen—like Farrand—used native plants abundantly. However, Jensen eschewed such conventions as perennial and shrub borders. Instead, he endeavored to re-create nature, incorporating such elements as





Martha Stewart, right, gives AHS travel study visitors a tour of her Skylands gardens.

rocks, mosses, lichens, and ferns. A signature structure in many of Jensen's designs was the council ring—a low stone seat encircling a central fire pit, inspired by Native American storytelling traditions.

In 1925, Jensen was hired by automobile magnate Edsel Ford to redesign Skylands, a 69-acre hilltop property in Seal Harbor. Jensen's design originally included a council ring, but the Fords abandoned this in

favor of a laundry. Skylands is now owned by home-décor magazine publisher and television star Martha Stewart, who has restored Jensen's original design by having a council ring hewn from native rock.

After hearing a brief history of Skylands, the AHS travel study participants were offered refreshments on a stone terrace with an ocean view. Then Stewart led visitors on a tour of her gardens.

This kind of personal touch—meeting the garden owners, hearing them talk about their gardens, and enjoying their hospitality—is what makes AHS travel study programs such as the Coastal Gardens of Maine truly unique and memorable.

Carole Ottesen is associate editor of The American Gardener.

Resources

To learn more about the landscape designs of Beatrix Farrand and Jens Jensen, look for these books:

Beatrix Farrand's American Landscapes by Diana Balmori, Diane Kostial McGuire, and Eleanor M. McPeck. Sagapress, Sagaponack, New York, 1985.

Jens Jensen: Maker of Natural Parks and Gardens by Robert E. Grese. Johns Hopkins University Press, Baltimore, Maryland, 1992.

Pioneers of American Landscape Design edited by Charles A. Birnbaum and Robin Karson. McGraw Hill, New York, 2001.

EDUCATING

the Horticulturists of Tomorrow



Whether students attending college or adults changing careers, generations of horticulturists have benefited from American Horticultural Society internships. At George Washington's River Farm (AHS Headquarters), interns gain experience in:

- **Integrated Pest Management**—by answering questions in our Gardeners Information Service and scouting the grounds.
- **Education**—through leading activities for children in our Living Lab Program and giving tours of our public gardens.
- **Garden Management**—by maintaining our plant collections and working on our grounds.
- **Interpretation**—through developing signs and labels to explain our collections to visitors.
- **Propagation**—by germinating seeds for River Farm gardens and plant sales.

Interns gain knowledge from other horticultural professionals by visiting public gardens such as Longwood Gardens and the U.S. National Arboretum, and by attending conferences such as the Perennial Plant Conference, the Millersville Native Plant Conference, and AABGA regional meeting.

AHS internships are not supported by member dues—they are supported through the generosity of people who believe horticultural education is paramount.

For more information about the AHS internship program or how you can be a supporter, contact Trish Gibson at (800) 777-7931 ext. 136 or via e-mail at tgibson@ahs.org, or visit our Web site at www.ahs.org.

Gardener's Notebook

Horticultural News and Research

MAIL IRRADIATION POSES THREAT TO SEEDS

ANNOUNCED PLANS by the U.S. Postal Service (USPS) to use irradiation technology to decontaminate mail that might be tainted with anthrax spores or other biological agents has caused concern in the seed industry and among gardeners, who fear the irradiation could cause mutations or sterility in seeds sent through the mail.

Speaking before an appropriations subcommittee of the United States Senate on November 8 last year, Postmaster General/CEO John E. Potter asked Congress for at least \$3 billion for the purchase of equipment to sanitize mail. As this issue went to press, irradiation of some mail had already started at post offices in the Washington, D.C., area that service Congress and the U.S. Department of State, and in some other regional post offices.

In the interests of national security, postal officials are advisedly being circumspect about plans for irradiating mail. But Camille Cimino of the Mailorder Gardening Association in Elkridge, Maryland, says there's no reason for gardeners to be concerned about the viability of seeds ordered this winter. "The postal service is working closely with the seed companies," she says. "They have assured us that they are not going to do anything that will adversely affect the mail-order gardening industry."

The use of irradiation technology to kill microorganisms is not new. Irradiation is routinely used to sanitize medical supplies, foods, and other substances. It was also used in Australia to decontaminate anthrax-laden goat hair that had been imported to make carpets.

THE GARDEN CONSERVANCY'S OPEN DAYS

A CARTE BLANCHE to peek behind the garden walls of some of North America's finest gardens, *The Garden Conservancy's Open Days Directory, 2002 Edition* opens the gates to nearly 400 private gar-

dens in 30 states and British Columbia. The directory lists, region by region, gardens that will be open to visitors on designated days and a brief description of each garden, written by its owner. Admission to an individual garden is \$5, with proceeds earmarked for the preservation projects of The Garden Conservancy, the only national not-for-profit organization dedicated to the preservation of gardens.

The 2002 edition costs \$15.95 (\$10.95 for Conservancy members) plus \$4.50 for shipping. Call (888) 842-2442 to order by credit card, or send a check or money order to: The Garden Conservancy, P.O. Box 219, Cold Spring, NY 10516. The directory is also available at book stores.

CONCERN FOR CHOCACHOLICS

NOW THAT WE'VE just found out chocolate is loaded with antioxidant flavonoids and is actually good for us—in moderation—word comes that the world's \$60 billion chocolate industry is threatened by disease.

Cocoa and chocolate are derived from beanlike seeds that form in the pods of cacao trees, which thrive under the rain forest canopy in their native habitats. In cacao plantations, however, disease has become an overriding issue. All over the world, "yields are down, growers can't afford chemicals, farms are abandoned," says Howard-Yana Shapiro, a specialist in agroforestry and agroecology who works for international conglomerate Mars, Inc., and Seeds of Change, an American seed company that specializes in organic seeds.

"Zero shading and chemical spraying are the two main causes for environmental concern in the industry," writes agronomist Dixxon Chok in *Cacao De-*

velopment & Its Environmental Dilemma. "These two practices cause sterility to the ecosystem, removing all factors of threat while killing everything else."

That is what happened in Malaysia, where, in an effort to increase yield, growers switched from the traditional method of cacao culture—where the trees are grown in the shade of other trees—to zero shading, where the trees are grown in an unprotected field situation, accomplished by felling rain forest trees. Where conditions were less than ideal, disaster struck in the form of pests and disease.

Cacao trees are especially prone to fungal diseases. Frosty pod rot has closed down cacao plantations in Ecuador, Colombia, and Costa Rica. Now a dis-



Closeup of cacao beans on a tree

ease called black pod rot threatens cacao trees in West Africa, where plantations produce more than half of the world's cocoa. The cacao tree has also fallen prey to witch's broom, a fungal disease that rots mature pods and inhibits new pod formation. The disease has decimated cacao production in Brazil, once a major exporter.

Mars, a major chocolate supplier, is funding research into developing fungus-resistant cacao trees as quickly as possible.

"The big problem is genetic depression," says Shapiro. "The cacao trees in

all of the world's plantations are descendants of trees grown by the Aztecs and Mayans. Since the 1500s, cacao growing has been a monocrop activity." A small pool of parent genes is probably the most critical issue facing cacao culture.

In addition to seeking individual cacao trees with built-in resistance to disease and closely related species for potential hybridization, Shapiro is "looking for wild progenitors of cacao and wild cacao forests" in Central and South America. "You really can do regenerative agriculture," says Shapiro, who firmly believes in the possibility of sustainable cacao plantations. "To replant and reconstruct a vibrant rain forest...from the ground community to the actual tree," Shapiro says, echoing the sentiments of environmentalist Aldo Leopold, "needs understanding of the ecosystem; you have to have all of the parts."

"Growing the cacao in the ancient way—in a forest—would mean that no rain forests would need to be destroyed," states Nell Newman, founder of Newman's Own Organics. If a fully sustainable way to grow cacao can be developed, everybody wins—the small cacao farmers, the big companies, conservationists, and chocolate lovers everywhere.

GENETICALLY ENGINEERED FOOD

GENETICALLY engineered crops, principally corn and soybeans, are becoming increasingly common components of many food products. The U.S. Food and Drug Administration and other American public health agencies have assured consumers that these products are safe, but some people are still concerned that long-term effects have not been adequately studied.

So far, manufacturers of food products for American markets have not been required to identify genetically engineered products on ingredient labels, so consumers who would prefer not to purchase them have to do their own research.

Consumers wishing to make informed choices about which foods contain genetically engineered products can refer to a Web site maintained by Greenpeace that includes an up-to-date list of foods that do and do not contain these substances: www.truefoodnow.org.

DRAMM Rain Wand

Water your plants like a pro with a quality Colormark Rain Wand™ from Dramm. A heavy-duty brass valve and an original Water Breaker™ nozzle have made the Rain Wand™ the choice of professionals for over 55 years. Available in a rainbow of colors and styles. Ask for Dramm Professional Tools at only the best garden centers and nurseries.



Often imitated, never duplicated... Ask for Dramm Professional Watering Tools by name!

www.RainWand.com

PO Box 1960 • Manitowoc, WI • 54221-1960 USA



View of the Potomac River from River Farm



take the

LONG VIEW

Whether cultivating a sense of wonder in a child, or educating gardeners of all ages to become more environmentally sensitive, AHS and its members are making a difference today. You can ensure we make a difference tomorrow as well.

To become a member of Horticultural Heritage, just notify us that you have named the American Horticultural Society in your will, or otherwise included AHS in your estate plans.

To learn more about how you can support AHS, contact Ashby Pamplin, Director of Development, at 7931 East Boulevard Drive, Alexandria, VA 22308-1300, (703) 768-5700, Ext. 128.

We urge you to consult with your legal and financial advisors to assist you in arranging the best method of contributing. The American Horticultural Society is tax-exempt under Section 501(c)(3) of the Internal Revenue Service Code. Contributions to AHS are tax-deductible to the fullest extent allowed by law. AHS is also a registered charitable organization under Section 57-49 of the Virginia Solicitation of Contributions Law; a financial statement is available upon written request from the State Division of Consumer Affairs.

Offshoots

Worm World

by Jaime Meyer

I GOT WORMS IN THE mail last winter—two pounds of “red wrigglers,” the best compost-making worms in the Western Hemisphere. A lady in Michigan raises them and mails them out overnight express. I put the worms on a bed of shredded newspaper in a wooden box I had built in the basement.

Into the box I poured all my kitchen scraps, my leftovers, my tired foodstuff yearning to be fertilizer. The worms' job was to eat it all, and when it passed through them, what came out the other end is the most nutritious fertilizer known to man—the compost that gardeners call “black gold.” For the worms, the box was the best of all possible worlds—a world that was dark, sloppy, and a little stinky, a world of stability and peace. Plentiful food. Constant temperature. No floods. No drought. No birds. A perfect world to bring children into. And they were fruitful, and they did multiply and fill the box.

They ate everything I put in the box. Egg shells became cups running over with worms. A cantaloupe rind became their hammock. The hull of a watermelon became their canoe, gliding over a sea of delicious rot. They lived in a perfect world with sweet and salty manna raining down.

Did they argue over whether I existed? Did some claim there is no worm-god; rather, the falling food can be explained by the laws of wormo-dynamics? Did some say it is a worm-eat-worm world, and to concern wormself with myths was a waste of time? Did others raise songs of praise to the mysterious unseen hand? Did believing in me bring meaning to their earthy lives?

I preferred they believed in me, but I couldn't tell which were believers and which were not. When I fed them, I fed both faithful and faithless. I was their god, who brought them out of Michigan and placed them in their promised box.

Then the centipedes came.

Of all the microbes and creatures in the worm box, the centipedes were the only worm-ivores. These hundred-



limbed killers hunted and devoured worms. At first there was only one or two of the leggy monsters. Soon the worm box was the best of all possible worlds for centipedes, too.

Dozens of fat centipedes roamed smugly through the former worm-Eden, while clumps of forlorn worm refugees huddled under grapefruit rinds. Some desperate individuals escaped by squiggling up through the lid, only to fall off the edge of the world and dry up on the basement concrete. What were their last thoughts—as they exited their small world, expanding their consciousness but dying for their noble effort?

Did a melon rind faction blame the situation on the corrupting lifestyle of the spinach eaters?

More disturbing yet: Did centipede priests sing praises to me for bringing them at last to a land flowing with worms and honey? Was I the god of both centipede and worm?

But I had yet another problem: Fruit flies. Swirling clouds of them drifted up whenever I lifted the lid to drop manna into worm world. No one can truly hate creatures as ineffectual as fruit flies. But

even a god does not brook fruit flies up his nose. So I placed glasses of beer in worm world. Intoxicated by the fumes, the fruit flies plunged by the hundreds into that hoppy lake of woe. Every morning I came with a utility vacuum, and the great whirlwind did wreak desolation on the fruit fly civilization. What kind of stories were the fruit flies telling about this god of wrath and deceit?

I had to admit it: Worm world was out of my control. Certainly a worm Nietzsche was proclaiming that I was dead. My fantasy of being a god was going to the worms. I did the only thing I could do: I packed my bags, and I went on vacation.

When I returned, an unnatural silence hovered over worm world. I lifted the lid with dread and gazed into the box. Not a single movement. Not a single sound. Worm world was dead.

But not just dead. Empty. Every living thing had vacated worm world. What happened? Where did they all go? Maybe the centipedes had eaten the entire known world and had moved on to other conquests. Or one of the worm prophets who had gone through the lid came back to lead the worms away to another promised land. The mystery endures to this day.

As for me, I no longer want to be god. I just want to take care of my little garden here on earth. Now, sometimes, late at night, I wonder if I, too, live in a mail-order universe. Maybe I'm also from Michigan. It's impossible for one small wriggling creature to know such things.

When my time comes and I go to the worms, I pray that my black gold gets spread on the morning glories.

Jaime Meyer is a free-lance writer living in Minneapolis, Minnesota.

Gardeners Information Service

COLD CONDITIONING

Some of the seeds that I received from the AHS Seed Exchange last year called for "cold conditioning." What does this mean and for how long should it be done?

—L.S., GREEN BAY, WISCONSIN

Some seeds need to be exposed to a period of cold temperatures—anywhere from two weeks to three months, depending on the plant—in order to overcome seed dormancy or to speed up germination. Cold conditioning, sometimes referred to as stratification, refers to controlled moist chilling achieved through refrigeration or planting seeds outdoors. The term stratification is derived from the traditional method of preparing seeds by storing them in strata—layers—of sand in the garden.

One easy method of cold conditioning is to place the seeds in moistened peat pellets or in zipper-seal plastic bags filled with moistened soil mix and store them in a refrigerator or unheated garage where temperatures will

WE'RE READY TO HELP: For answers to your gardening questions, call Gardeners Information Service at (800) 777-7931, extension 131, between 10 a.m. and 4 p.m. Eastern time, or e-mail us anytime at gis@ahs.org.

remain between 33 to 45 degrees Fahrenheit. After the requisite cold period, the peat pellets or containers should be moved to a warm, sunny window or a sheltered place outdoors so the seeds can complete germination.

CUBAN OREGANO

A friend gave me a cutting of a plant he calls Cuban oregano. The downy, succulent, and aromatic leaves are green with a cream edge. Can you tell me more about the plant?

—E.S., LAFAYETTE, LOUISIANA

Cuban oregano (*Plectranthus amboinicus* var. *variegata*, formerly listed as *Coleus amboinicus*),

is also known as Indian borage and Spanish thyme. The plant is widely used in Cuban, Mexican, and West Indian cuisine, but it is native to tropical and southern Africa. The strongly aromatic leaves—mingling the scents of thyme, oregano, and savory—can be infused in tea, eaten in salads, and added to flavor beans, meat, and fish.

An evergreen tender perennial (USDA Zones 10–11, AHS Zones 12–1), Cuban oregano makes an attractive indoor plant and can be grown outdoors as an annual where it is not hardy. Plants can reach three feet tall. Small white or lilac-colored flowers bloom on spikes in summer when grown outdoors or sporadically year round indoors. Cuban oregano grows best in full sun in a sandy, well-drained soil and is easy to propagate from stem cuttings rooted in water or soil.

William May, Gardeners Information Service, and Marianne Polito, Gardeners Information Service Manager.

AHS Gardening Community Listserv

AHS's Gardening Community Listserv is the place to connect with all of those like-minded souls out in cyberspace who love their gardens as much as you love yours. Join the community and discuss gardening to your heart's content. Share your experience and find out innovative solutions for garden problems from real-dirt gardeners who have been there.



It's easy to join. Go to the AHS Web site (www.ahs.org), click on the "Community" subhead on the left, then click on "Listserv" once you get to the Community page. Scroll about two-thirds of the way down that page to find a link to send an e-mail to the listserv address (AHG_GARDENING-SUBSCRIBE-REQUEST@home.ease.lyft.com) and follow the directions in the return e-mail. The ongoing discussions will come to you as e-mail. You can participate a lot or a little, or simply observe. Here's a snippet from a recent exchange:

Aside from mulching the devil out of the area, does anyone have any suggestions for what to plant at the base of bird feeders to keep all those weeds from sprouting up?

—D.L., MOUNT SAVAGE, MARYLAND

I plant 'Star of Yalta' morning glories—which look lovely encircling the base and climbing up the pole—together with lemon balm, which spreads, smells fantastic, and makes great tea! Four-o' clocks are good there too.

—P.E., KEMP, TEXAS

Our feeders are in a grassy area, so we just mow around them. I wouldn't plant edibles in the immediate vicinity of a feeder, however. There are diseases that can be contracted through bird droppings. How far out from the feeder do you start the lemon balm?

—L. T., EASTON, MARYLAND

I start the lemon balm about a foot and a half out from the pole. And the closest ones in DON'T get harvested for tea!

—P.E., KEMP, TEXAS

Here are some tips to prevent sunflowers from sprouting under a bird feeder: You can bake your seeds; they won't germinate after baking at a low temperature for an hour or so. You could also cut a circle of carpet and place it under the feeder to prevent seeds from setting roots. Or use those tree surrounds made from recycled rubber tires that make it easy to mow around trees. The bird seed will have a hard time rooting with the surrounds in place. Enjoy your birds and forget the weeds!

—B.L., TOLEDO, OHIO

Habitat Gardening

Embracing Nature on Florida's Gulf Coast

article and photographs by Christie Craig

A SOFT OCEAN BREEZE, scented with wild rosemary, sends a row of sea oats dancing in the wind. A Choctawhatchee beach mouse scurries beneath a Florida Gulf Coast lupine, rustling its silver leaves and bluish purple flowers. The sound reaches a gopher tortoise as he burrows deeper beneath the canopy of scrub. Above, a flock of brown pelicans move to the ocean, where a green sea turtle awaits

darkness before pulling herself up to the beach to bury her eggs along the stretch of pristine coast known as Rosemary Beach.

For millions of years, the wind and waves have deposited sand along the Gulf Coast, creating a dynamic system of give and take between the land, the sea, and the animals that live here. Unfortunately, this delicate cycle of life is fading. Some conservationists estimate the beach scrub plant community of Florida is being destroyed at a rate faster than the more publicized rain forests of the world.

The culprit is often poor land development decisions. But thanks to a new way of thinking, a new way of designing and building communities, and people who care enough about our environment to rethink gardening, parts of Florida's coastal plain is being protected.

COMMUNITIES WITH A CONSCIENCE

The trend toward neotraditional or "new urbanist" communities—distinguished by compact, pedestrian-friendly neighborhoods designed and built to sustain the natural environment—is now national in scope, but most observers trace its origins to a Florida Gulf Coast community called Seaside. Revolutionary when it was developed in the early 1980s, Seaside became legendary for banning sod lawns and mandating that only indigenous species be planted in private gardens.

Rosemary Beach is one of a new breed of Gulf Coast communities that have embraced the concept of preserving the frag-



The pristine, natural beauty of Rosemary Beach, above, includes a variety of native seaside vegetation, such as dune sunflowers (*Helianthus debilis*), right.



ile beach scrub ecosystem. "The Rosemary Beach Land Company had a vision inspired by other beach towns," says landscape architect Stephen Poulakos, coordinator of town development, "but ours was to be even more dedicated to the preservation of the native landscape."

Realizing this vision takes long-term commitment. Before construction began, the developers of Rosemary Beach drew up

elaborate guidelines for the placement, design, and construction of the buildings and hardscape. Pervious or permeable concrete was used for pavement, so that water could filter through to the underlying sand rather than running off into storm water management systems. Builders were also required to adhere to state Department of Natural Resources suggested guidelines for how far to build above the water line. High priority was given to incorporating "green spaces" and parks. In addition, the developers implemented specific regulations to protect the endangered sea turtles.

"The goal was to gently set the Rosemary Beach community into the landscape, without robbing nature," says Poulakos. "Even the design of the homes, reflective of the classic Pan-Caribbean architecture, was developed to blend with the natural environment." Contractors working in the community must submit a

\$2,000 construction deposit guaranteeing the preservation of the surrounding landscape. If indigenous plants are destroyed during construction, says Poulakos, the deposit money is used to replace them.

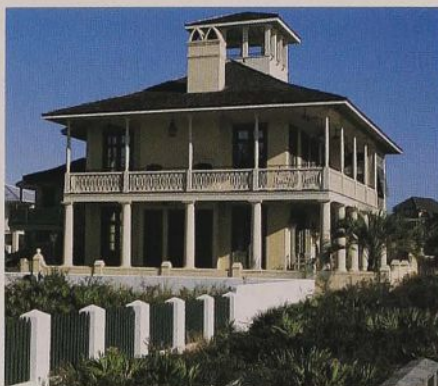
GARDENING ON THE WILD SIDE

Convincing contractors and land developers that naturalistic landscaping is worthwhile is one thing, but what about

home buyers? Poulakos notes that although many prospective residents of Rosemary Beach are used to conventional suburban landscapes, "Our encouragement of low-maintenance, native-based landscaping has mostly been embraced."

Gail Pittenger, a part-time Rosemary Beach resident, says, "As a gardener, I know that an ideal garden is a harmonious blending of plants providing different textures, colors, shapes, sizes, and scents. At Rosemary Beach, I'm amazed at how nature alone has designed such a perfect landscape."

Among the native plants Pittenger grows in her garden are trees such as the sand pine (*Pinus clausa*), with its bright green, crinkly needles and sculptural trunk, and sand live oaks (*Quercus geminata*), with attractive silvery bark. Shrubs include groundsel trees (*Baccharis halimifolia*), evergreen shrubs that bear white blooms in fall; yaupon hollies (*Ilex vomitoria*), which have striking red berries; and saw palmettos (*Serenoa repens*), shrubby palms with typical spiky leaves. Small trees serve as trellises to show off the yellow blooms of Car-



The yards in Rosemary Beach are covered with native plants rather than lawngrass.

olina jasmine (*Gelsemium sempervirens*).

Gardeners used to formal landscapes may at first see Pittenger's yard as overgrown and wild, but to her that's part of the attraction. "A walk in my yard is like a nature walk," says Pittenger. "Every time I come, I can't wait to get on my garden gloves and see what nature has given me."

Rule Brand, a full-time Rosemary Beach resident, admits that initially she knew little about gardening and even less about native plants. But after hiring Randy

Harelson, owner of a native plant nursery called the Gourd Garden, to help landscape her yard, Rule became eager to learn more about the region's natural habitat.

"This is beautiful," she says, motioning to her yard as a monarch butterfly flutters past and a mockingbird's tune rings in the salty breeze. "This is what nature intended to be here. It's the easiest to grow, the easiest to care for."

Harelson, an independent consultant for Rosemary Beach, can often be found giving homeowners a tour of their own yards. "Sometimes, by simply giving a plant a name or letting the homeowners know of its endangered status, they begin to recognize the beauty and value of what they have," says Harelson.

Convincing people that they can play an important role in protecting the plant life and fragile ecosystem of Florida's coast is a goal Rosemary Beach and other far-sighted communities are achieving—one homeowner at a time.

A free-lance photographer and writer, Christie Craig lives in Spring, Texas.



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The holidays are over and, for many gardeners, that means spring is just around the corner. Here are some new plants and some proven favorites to consider as you plan your garden for 2002.

BY CAROLE OTTESEN

New and Award-Winning Plants for 2002

A LONG WITH a keen appreciation for the scent of thawing earth and gratitude for a good, soaking summer rain, gardeners are hard-wired with an intractable urge to acquire more plants. And each year, as the days begin to lengthen, the garden industry caters to this obsession. It offers, on the one hand, a panoply of tempting new introductions labeled with adjectives so beloved of American marketers: improved, bigger, more compact, better, disease resistant, variegat-

ed, bicolored, double flowered. On the other, through a number of regional and national award programs, it calls attention to outstanding plants already in the trade.

Here's a sampling of intriguing new plants along with time-tested plants receiving accolades.

ANNUALS

THE FIRST round of temptations comes in darkest winter with the arrival of the

seed catalogs. For winter-bound gardeners stricken with plant lust, catalogs make compelling bedtime reading.

New this year is a creamy white California poppy (*Eschscholzia californica* 'Milkmaid') from Mr. Fothergill's Seeds Ltd. that is just under 10 inches tall, with ferny blue-green foliage. Much taller—up to four feet, with four-inch, mop-headed flowers that resemble full-blown peonies—Poppy 'Peony Mix' is an assortment of annual poppies in shades of white splashed pale salmon, pink, salmon, white and black, offered by the Park Seed Company.

Once the weather warms up, the garden centers begin stocking flowering annuals. Some of these will be unusual species or new takes on old favorites such as those offered by Proven Winners, a wholesale cooperative with members around the country and in Canada, Australia, and Europe. Among Proven Winners' 25 debutantes are a pure white hybrid *Bacopa* 'Cabana', an eight-inch-tall, ground-covering annual for part shade; a new million bells (*Calibrachoa* 'Apricot') that features oodles of tiny, pale salmon petunialike flowers on trailing stems; and

Top: *Bacopa* 'Cabana' from Proven Winners.
Left: *Eschscholzia californica* 'Milkmaid' from Mr. Fothergill's Seeds Ltd.

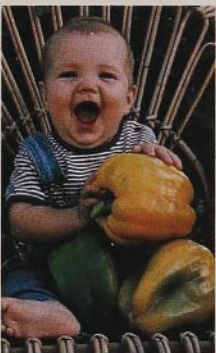


four more "Supertunias," the company's name for its line of vigorous, trailing petunias. This year's offerings feature double flowers in shades of pink and lavender.

VEGETABLES

THE PHOTOS OF juicy, red tomatoes in catalogs awaken the longing for the real thing. 'Health Kick', an F1 hybrid from Seminis seed company, is not only tasty, it delivers 50 percent more lycopene, an antioxidant reputed to have cancer-fighting properties, while it produces abundant plum-shaped fruits on wilt-resistant vines in 72 days.

Faster to come by are the lettuces. Mesclun 'Italian Misticanza', from Renee's



'Super Heavyweight' bell pepper

Garden, is a mixture of chicories, endives, and leaf lettuces that can be harvested in six weeks. Loose leaf lettuce 'Hyper Red Rumble' from the Territorial Seed Company produces its deeply crinkled, plum-colored leaves in just 45 to 55 days.

Worth waiting for is 'Super Heavyweight', the biggest bell pepper you've ever seen. A new product from Seminis, it's the kind of pepper that might take a blue ribbon at the county fair.

HERBACEOUS PERENNIALS

AMONG THE NEWEST herbaceous perennials this year is *Echinacea* 'Kim's Mophead' (Zones 3–9, 12–1), a compact white coneflower that grows to between 18 and 24 inches tall, with tousled double petals. Discovered and introduced by Pierre Bennerup of Sunny Border Nurseries, Inc., in Kensington, Connecticut, it is a sport of the already diminutive 'Kim's Knee High'.

A new Lenten rose (*Helleborus* × *hybridus* 'Mrs. Betty Ranicar') bears gorgeous, double, pure white flowers. Named for the Tasmanian plantswoman who developed it, 'Mrs. Betty Ranicar' grows 18

inches tall, blooms in early spring, and is expected to be suited to Zones 4–9, 9–1. Available this year from Thompson & Morgan seed company, it is said to come true from seed 85 percent of the time.

"Rare" and "unusual" apply to most of the offerings at Heronswood Nursery in Kingston, Washington, co-founded by Dan Hinkley. Among Heronswood's 2002 introductions is what Hinkley describes as "an herbaceous hydrangea," *Deinanthef bifida* 'Pink Kii' (Zones 5–9, 9–5), a form of a species collected by Hinkley in Japan. It produces hydrangealike heads of nodding white flowers with pink sepals on two-foot stems of glossy foliage. 'Pink Kii' grows best in a shady spot with cool, moist soil.

A new introduction from Terra Nova in Tigard, Oregon, *Heuchera* 'Amber Wave' (Zones 4–8, 8–1), sports ruffled, amber-colored foliage that earned it a best new plant award at one of England's largest nursery trade show. It grows about a foot tall and bears pale rose flowers.

BULBS

THIS SPRING, the U.S. National Arboretum is releasing the Chesapeake series of hybrid ornithogalums. According to Robert Griesbach, a research scientist and plant breeder with the USDA's Agricultural Research Service, the Chesapeake *Ornithogalum* hybrids are winter-flowering plants created by controlled crosses between several species of



Helleborus × *hybridus* 'Mrs. Betty Ranicar'

this genus of bulbous plants, which is primarily native to South Africa. Debuting this spring will be 'Chesapeake Blaze'—which produces large, brilliant orange flowers on 20-inch stems—and 'Chesapeake Starburst', which has similarly colored blossoms on six-inch stems. Gardeners in Zones 8 to 11, 12 to 7 can enjoy these summer-dormant plants in the ground year round, but they are suited to container culture anywhere.

REGIONAL INTRODUCTIONS

PLANTS THAT perform equally well in all areas of the country are rare, so some growers are selecting and introducing plants best suited to regional conditions.

"Over the years I had become very frustrated by the unsuitability of so many com-



Deinanthef bifida 'Pink Kii' from Heronswood

monly available perennial plants to our challenging western gardening conditions,” says David Salman, owner of High Country Gardens in Santa Fe, New Mexico, an area where three different ecosystems meet: the southern end of the Rocky Mountains, the western edge of the short grass prairies of the central United States, and near the northernmost edge of the Chihuahuan Desert.

This year, Salman is introducing a new buckwheat (*Eriogonum* ‘Shasta Sulfur’, Zones 5–8, 8–5), originally selected by Bart O’Brien, curator of plants at the Rancho Santa Ana Botanic Gardens in Claremont, California. An evergreen perennial that grows to a shrubby two feet tall and as wide, ‘Shasta Sulfur’ is larger and more robust than is typical for this widespread western native.

High Country Gardens is also introducing a hardy twinspur (*Diascia integririma* ‘Pink Adobe’, Zones 5–9, 9–5) from South Africa. ‘Pink Adobe’ blooms in pale salmon in late spring and continues throughout the summer on a mound of narrow, bright green leaves.

Neil Diboll, owner of Prairie Nursery in Westfield, Wisconsin, is introducing *Heliopsis helianthoides* ‘Prairie Sunset’ (Zones 3–9, 9–1), one of several cultivars of North American natives featured at the New Plant Forum held at last year’s Perennial Plant Association (PPA) meeting. ‘Prairie Sunset’ bears a long succession of yellow ray flowers with a red “eye” on five-foot purple stems, resists disease and wind, and tolerates a range of soils.

From the Great Plants program sponsored by the Nebraska Statewide Arboretum in Lincoln come two releases. *Oenothera macrocarpa* ‘Comanche Campfire’ (Zones 4–8, 8–3), a cultivar of a drought-tolerant native evening primrose, was found on an oil well site in western Oklahoma that was once Comanche territory. A striking combination of lemon yellow flowers, silver foliage, and red stems makes this broader-than-tall—15 inches tall by 24 inches wide—perennial well suited to xeriscape or rock gardens.

Aster fendleri ‘My Antonia’ (Zones 4–8, 7–5), is a pearl white selection of the normally lavender species. Bob Henrickson, assistant director of horticulture programs at the Nebraska Statewide Arboretum, says the Great Plants program “is designed to



Eriogonum ‘Shasta Sulfur’, a new buckwheat from High Country Gardens.

bring superior ornamental plants into production that are suitable for the Great Plains states.”

SHRUBS

AN ADDITION to Heronswood Nursery’s extensive collection of hydrangeas, *Hydrangea macrophylla* var. *serrata* ‘Beni’ is remarkable for its cherry-red flowers that open from ruby-hued buds. ‘Beni’ grows four feet by four feet in light shade and humus-rich soil. Acid soil enhances the red flower color (Zones 6–9, 9–3).

The ‘El Dorado’ California lilac (*Ceanothus thrysiflorus* ‘El Dorado’), among

Monrovia’s new shrub introductions, sports glossy, variegated, lime-yellow foliage in high contrast to blue flowers. Drought and heat tolerant and suitable for containers, ‘El Dorado’ grows to 10 feet tall and wide (Zones 7–11, 12–1).

Though new in the United States, the charms of *Sambucus* ‘Black Beauty’ have already made it a hit in Europe. The dark “black” foliage doesn’t fade to green in summer, but actually deepens and contrasts with rich pink, lemon-scented flowers. ‘Black Beauty’ grows eight to 12 feet in full sun to part shade, but may be cut back—coppiced—every year to function as a bushy perennial (Zones 4–9, 9–1).



Rosa ‘Starry Night’ is an All-America Rose Selections winner from Edmunds’ Roses.

Sources for New 2002 Plants and Seeds

■ Wholesale Growers

(Contact the companies below or check their Web sites for a list of retail sources.)

Bluebird Nursery Inc., Clarkson, NE. (800) 356-9164.
www.bluebirdnursery.com.
Aster 'My Antonia'; *Oenothera* 'Comanche Campfire'.

Monrovia, Azusa, CA. (800) 999-9321.
www.monrovia.com.
Ceanothus thrysiflorus 'El Dorado'; Flower Carpet™
 Coral Groundcover Rose.

Proven Winners. www.provenwinners.com.
Bacopa 'Cabana'; *Calibrachoa* 'Apricot';
 "Supertunias" petunias.

Seminis, Oxnard, CA. www.seminis.com.
 Tomato 'Health Kick'.

Spring Meadow Nursery, Inc., Grand Haven, MI.
 (616) 846-4729. www.springmeadownursery.com.
Sambucus 'Black Beauty'.

Sunny Border, Kensington, CT. (860) 828-0321.
www.sunnyborder.com. *Echinacea* 'Kim's Mophead'.

Terra Nova Nurseries, Inc., Tigard, OR. (800) 215-9450.
www.terranovanurseries.com. *Heuchera* 'Amber Wave'.

Tree Introductions, Inc., Athens, GA. (706) 769-1202.
www.treeintroductions.com. *Magnolia grandiflora* Alta™.

Turkey Creek Farms, Inc., Humble, TX. (281) 446-1237.
Cercis chinensis 'Don Egolf'.

■ Retail Mail-Order Nurseries and Seed Companies

Edmunds' Roses, Wilsonville, OR. (888) 481-7673.
www.edmundsroses.com. Catalog free. *Rosa* 'Starry Night'.

Heronswood Nursery Ltd., Kingston, WA. (360) 297-4172.
www.heronswood.com. Catalog \$5.
Deinanthef bifida 'Pink Kii'; *Hydrangea macrophylla*
 var. *serrata* 'Beni'.

High Country Gardens, Santa Fe, NM. (505) 438-3031.
www.highcountrygardens.com. Catalog free.
Diascia integerrima 'Pink Adobe'; *Eriogonum* 'Shasta Sulfur'.

Niche Gardens, Chapel Hill, NC. (919) 967-0078.
www.nichegardens.com. Catalog \$3.
Echinacea 'Kim's Mophead'.

Park Seed, Greenwood, SC. (864) 223-7333.
www.parkseed.com. Catalog free. Poppy 'Peony Mix'.

Prairie Nursery, Westfield, WI. (608) 296-3679.
www.prairienursery.com. Catalog \$3.
Heliopsis helianthoides 'Prairie Sunset'.

Renee's Gardens, Felton, CA. (888) 880-7228.
www.reneesgarden.com. Catalog online.
 Mesclun 'Italian Misticanza'.

Territorial Seed Company, Cottage Grove, OR.
 (541) 942-9547. www.territorial-seed.com. Catalog free.
 Lettuce 'Hyper Red Rumble'.

Thompson & Morgan, Jackson, NJ. (800) 274-7333.
www.thompson-morgan.com.
 Catalog \$2.25; free with seed order.
Helleborus xhybridus 'Mrs. Betty Ranicar'.

ROSES

A RECENT IMMIGRANT to the United States is 'Anne Boleyn', another of David Austin's English roses, new hybrids that display the fragrance, appearance, and charm of old roses. Lightly fragrant, soft pink, fully double flowers are produced in sprays on rather small three-foot-by-three-foot shrubs. The foliage is a soft green (Zones 4–11, 12–1).

Organic gardeners will find the new landscape roses being introduced this year not only disease resistant, but easy

to maintain. Monrovia's new Flower Carpet™ Coral Groundcover Rose (Zones 5–11, 12–1) requires no dead-heading of the approximately 2,000 two-inch coral blooms an established plant can deliver. Clean, glossy foliage is something it shares with *Rosa* 'Starry Night', an All-America Rose Selections award winner for 2002, available from Edmunds' Roses. Pure white dogwood-like flowers on a medium sized, everblooming shrub, and freedom from a spraying regimen make 'Starry Night' an easy and beautiful way to stay chemical free (Zones 4–8, 12–1).

TREES

A NEW CULTIVAR of the stately native southern magnolia (*Magnolia grandiflora*), Alta™ magnolia is being introduced by Tree Introductions, Inc., of Athens, Georgia. It is much narrower than the species and would serve well as a tall hedge planting. Alta's leaves are lustrous dark green with contrasting brown below, and its fibrous root system makes for easier transplanting and establishment.

A recent release from the U.S. National Arboretum in Washington, D.C., the Chinese redbud (*Cercis chinensis*

Proven Performers

New introductions are exciting, but there's no guarantee they will stand the test of time. Gardeners looking for reliable plants suited to different parts of the country should consider plants awarded for outstanding garden performance by national and regional plant organizations.

The Pennsylvania Horticultural Society was among the first to establish a regional plant award program, awarding its first Gold Medals to exceptional woody plants in 1978. This year's winners—as described in detail in “Gardener’s Notebook” the November/December 2001 issue of *The American Gardener*—are boxwood (*Buxus sempervirens* ‘Vardar Valley’), Chinese trumpet vine (*Campsis grandiflora* ‘Morning Calm’), crabapple (*Malus* ‘Adirondack’), and ninebark (*Physocarpus opulifolius* ‘Diablo’). Increasingly, other nurserymen’s associations and arboreta around the country are celebrating plants—usually those that have been around long enough to be evaluated—that perform well in their areas.

FLORIDA

Florida Plant of the Year is a program launched by the Florida Nurserymen & Growers Association to promote underused but proven Florida plants. This year, its choices include the heat-loving and cold-shy giant plume ginger (*Curcuma elata*, Zones 9–11, 12–1), an imposing eight-foot, clumping perennial that bears large pink flowers that are good for cutting; Simpson’s stopper (*Myrcianthes fragrans* ‘Compacta’, Zones 8–11, 12–9), an evergreen shrub with fragrant white flowers followed by reddish orange berries that reaches about 10 feet; and the elegant, silver Bismarck palm (*Bismarckia nobilis*, Zones 9–11, 12–10) that can reach 50 feet tall. Another choice—surprising in that it is equally prized in colder climates—is the native oakleaf hydrangea (*Hydrangea quercifolia*, Zones 5–8, 9–1). This shade-tolerant shrub reaches around 10 feet tall and wide with large, creamy white summer flowers, mahogany red fall foliage, and exfoliating bark.

WISCONSIN

The Wisconsin Nursery Association Inc. promotes worthy plants that are underutilized in Wisconsin. Criteria for selection are pest and disease resistance, hardiness in Zone 4, multi-season attraction, and ease of propagation and cultivation. Among its choices are *Hydrangea paniculata* ‘Unique’ (Zones 4–8, 8–1), a shrub for part shade to full sun that reaches 10 feet tall and bears enormous conical heads of sterile florets, and *Solidago rugosa* ‘Fireworks’ (Zones 4–9, 9–1), an unusually symmetrical, native perennial goldenrod with shrub-like presence that grows four feet tall and blooms in early fall.

KENTUCKY AND OHIO

Initiated in 1995, the Theodore Klein Award Program—a joint effort of the University of Kentucky Nursery/Landscape Program, Bernheim Arboretum and Research Forest, and the Kentucky Nursery and Landscape Association—recognizes pest-resistant plants that are efficiently propagated, produced, and established in Kentucky. The 2002 plants include witch hazel (*Hamamelis* \times *intermedia*) selections, generally small, 20-foot trees with fragrant late-winter flowers. Recommended cultivars include ‘Diane’ or ‘Carmine Red’, with red-orange flowers; ‘Jelena’, with large, copper flowers; and the very fragrant, floriferous primrose-yellow ‘Primavera’.

Both the Theodore Klein Plant Award and the Ohio Nursery and Landscape Association Plant Selection Committee recognized *Ilex verticillata* ‘Red Sprite’ as outstanding. Best suited to a moist, well-drained location, this deciduous holly grows only to five feet tall. To produce the half-inch red fruits on the female plants, a male pollinator such as ‘Raritan Chief’, ‘Jim Dandy’, or ‘Apollo’ is needed. —C.O.



Magnolia grandiflora Alta™ is a new cultivar from Tree Introductions, Inc. Unlike the species, this magnolia has a columnar habit.

‘Don Egolf’, Zones 6–9, 9–3), straddles the line between a small tree and a tall shrub. Multi-stemmed, it grows 10 feet tall, bears no fruit, and has dark green leaves that turn yellow in autumn. Named for a late plant breeder at the arboretum, ‘Don Egolf’ also has high tolerance for canker, a fungal disease that plagues other redbuds. Cooperating nurseries in the eastern, southern, and midwestern United States have been evaluating the plant since 1994.

Breeders will continue to work toward achieving plants that are more beautiful, more fragrant, more floriferous, more disease resistant, and more productive. Plant explorers will persevere in scouring the planet in search of plants, unknown and little grown. The nursery industry will proceed to introduce new offerings and award outstanding performers. And gardeners, scheming and dreaming of the Garden Future, will never stop searching for the perfect plant.

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

Why Gardens Need Diversity

BY ERIC GRISSELL

PHOTOGRAPHS BY CARLL GOODPASTURE

This adult flower fly is searching goldenrod flowers for nectar. If the plant stems were covered with aphids, the fly would also lay eggs and its larvae would feed on the aphids. Thus, some plants serve multiple purposes for different life stages of the same insect. Sometimes a single plant can attract a diversity of insects. Unjustly maligned by some, goldenrod is a fine late summer and fall plant for attracting insects.



THE BIOLOGICAL world is an ever-changing universe that poses endless challenges to the gardener. A windstorm may topple a tree and change a shady garden to a sunny one. A disease might take out a favorite dogwood. But these are only the big things—the ones that the gardener sees. There are a billion little interactions going on in the garden all the time, and nary a single one is noticed. Bacteria and fungi work in the soil, plants and insects compete between and among each other, nutrients and trace elements are leached out of the soil and reenter it. Even with years of experience, you cannot possibly get all this natural

stuff right the first, second, or even hundredth time. So why bother?

We usually bother so much that we end up creating the opposite effect of what we are striving to achieve. That is, by attempting to be in command of everything at all times—from soil fertility to insect and weed reduction—we tamper with forces over which we have little control. We gardeners often feel as if we should be doing something, and then feel better simply because we did it. Often we don't even know if the results were positive.

So if you really want to do something that matters in your garden, might I suggest something that matters in the long

*In this excerpt from his new book *Insects and Gardens*, entomologist Eric Grissell discusses what is meant by diversity as it relates to both the plants and the physical structure of the habitat we call our garden. Making our gardens more diverse will help increase the number of insect species found in our gardens. And, as Grissell maintains, if we take care of the insects, the rest of the garden—with its potential weeds and pathogens—will largely take care of itself.*

From *Insects and Gardens* by Eric Grissell, with photographs by Carll Goodpasture, Timber Press, Portland, Oregon, 2001. Reprinted with permission of the publisher.

haul, that makes gardening easier and more enjoyable, and leaves the land and its resident plants and animals better off—something that will leave yourself, your children, and your grandchildren frolicking in the bargain? What I offer here is the basis for a sane attempt at gardening based on the principles of diversity. We shall put those principles into practice in two, essentially intertwined ways, namely increasing a garden's plant structure and its physical—or habitat—structure.

PLANT STRUCTURE

PLANTS HAVE physical structure (roots, bulbs, leaves, stems, flowers, for example), architectural structure (upright, weeping, trailing), and temporal structure (daily and seasonal expressions of both physical and architectural components). Each plant will have aspects of all these elements and will have a role to play at some time or some place in the garden. In the plant world, the crocus might be considered just right for a single, short, awakening pulse in the spring—a first call to the bees—whereas an ancient oak provides insects shelter and food for centuries. Both plants perform quite different functions in the ecosystem and the garden.

The ideal method of increasing overall plant structure is to weave the physical, architectural, and temporal elements into an orchestral pattern that will fill up a garden's time and space for whatever seasonality it might have. Not all gardens are created equal, remember, so we must allow that Californian and Alaskan gardens have different plant structures.

The simplest, most obvious way to accomplish this weaving is to grow plants that differ and to grow lots of them. Unfortunately, this simplistic approach to a complicated biological and ecological phenomenon is likely to be foreign to some gardeners. A lawn and a rose bed might simply be enough to take care of, you might think, or a lawn and a vegetable patch. But by underpinning the rose garden with a few low-growing plants, a gar-

A long-horned beetle feeds on meadowsweet. This beetle may also be affecting pollination in an undirected, or accidental, way. Insects often pollinate flowers while they feed on nectar and pollen.

Tiny bees pollinate tiny flowers. This small carpenter bee, a solitary sort, nests in dead plant stems. Leaving some debris in the garden encourages many such solitary pollinators and predatory wasps to stay and work for free.

dener could add a minimal layer of diversity to the garden, thus improving the degree of complexity.

This basic sort of plant combining (companion planting, or interplanting) has been suggested for years and is simply a concerted attempt to get plants to grow together for the betterment of each other and of the local environment. Marigolds planted around roses, for example, are often touted as repellents for nematodes. There is every reason to believe that companion planting really works, but scarcely any chance at all that it works for the reasons imparted to its putatively repellent nature. If anything, it is the attractive nature of companion plants that saves



the day, and the reason for this is increased biological diversity.

Companion plants offer two basic levels of protection to the garden. Perhaps the least obvious benefit is the confusion they provide to herbivores. When many different plants are mixed together, a degree of confusion, or dilution, is created so that an herbivore cannot readily locate its host plant.

The second and more obvious benefit of companion plants is that they offer predatory and parasitic insects with areas to shelter, feed, and mate. Because companion plants provide an area of protection conducive to survival, they provide a reservoir in which insect interactions can routinely take place and from which predators and parasites emerge to feast on the insects we object to.

In truth, all plants are companion plants. There is no easier method to increase structure in a garden than adding plants, so let's look at the sorts of structure we should be introducing.

PHYSICAL AND ARCHITECTURAL STRUCTURE

A SINGLE PLANT has physical elements such as leaves, roots, or stems. It also has an architectural



structure that relates to size, shape, density, the number of different plant feeders it can support, and ultimately its effect in the garden. A single plant, however, does not a garden make. Even a planting of 500 different kinds of daylilies or of 700 different cultivars of bearded irises is not a garden: It is the environmental equivalent of a cornfield. When we plant a half dozen irises and a similar number of daylilies together in our front garden we begin, ever so slightly, to increase its physical structure.

If we continue adding the standard perennial assortment of plants to the mix—some taller or shorter, some fatter or thinner, some with bigger or smaller flowers—we eventually end up with an herbaceous border, which really just amounts to a cluster of companion plants. The multiple combinations and interactions of all these plants together offer more protection for insects than any single plant or multiples of the same plant could. But still we can do more.

Any border might range from ground covers at six inches in height to colossal daisies six and a half feet in height. To this could be added an evergreen or two that would give shelter to birds. A deciduous shrub could be planted along a fence or even in the middle of a bed. This would attract passing butterflies. In this manner, we build an artificial community of diverse plants that provide different options for life at varying times of the year. In effect, we attempt to create a garden plant community that mimics a natural plant community.

If this idea sounds rather simple, or much like a traditional garden, then take a look at most suburban plots of land and tell me what you see: lawns and foundation plantings, lawns and azaleas, lawns and yews, lawns and annual beds, lawns and roses. Bland. Dull. Boring. Many of these so-called gardens could use some re-invention, even if only to make the lives of passersby a little more enjoyable. Never mind the bugs.

We gardeners have at our disposal many plants that provide both architectural interest and physical shelter for a variety of organisms. They produce different-sized flowers, many of which appeal to special kinds of insects, but all of

which, taken together, appeal to a variety of insects. If we add temporal elements to the physical, we increase the diversity of a garden's structure exponentially.

TEMPORAL STRUCTURE

IT IS TEMPTING to look upon the garden as a one-season wonder, and generally, if there is any single season that people are garden oriented, it is the spring. In some areas, especially low-lying deserts, spring is both a glorious



Having sandy areas in a garden invites some pollinating bees and predatory wasps to nest and become full-time residents. Different insects prefer various kinds and depths of soils in which to nest. Here a bumble bee, laden with pollen, makes a beeline for her nest in a sandy bed. Her nest is 1.8 meters (6 feet) underground, occupying an abandoned, leaf-lined rodent nest.

time and a buggy time. That is because insects must compress their sexually active lives into a few short weeks to produce another generation. Insects adjust their lives to produce offspring at the optimum times of the year, but they are present in some form—egg, larva, pupa, or adult—at all times of the year. The point is that most insects survive through all manner of natural conditions in the areas they are adapted to live in, and they take advantage of good times to reproduce themselves.

One thing that gardeners can do, then, is to make certain that when the good times roll for insects, there is something in the garden for insects to

roll into. The more actively the garden is growing at any given point in time, the better the chance that a diversity of insects will stay around, reproduce, and be available to interact with each other in a balanced way. This is especially true of predators and parasitoids, because if they do not find prey or hosts, they will leave an area in search of better hunting.

The temporal planning for a garden is basically not as difficult as you might imagine. Try perusing a good garden center once a week during an entire growing

cycle. Walk slowly up and down the rows of plants and look at what is blooming, but more importantly, look at—and buy—what is attracting insects. Be observant wherever and whenever the opportunity arises. When walking your dog in the park, for example, or hiking along a favorite trail, notice what insects are visiting what flowers. Eventually, you can

seek out these plants from local nurseries or mail-order firms. With a little thought, these known attractant plants can be worked into any garden design.

Attracting insects is what flowers do best—it is the job they evolved to do over millions of years. We gardeners should emulate flowers to lure insects into visiting our gardens, first to find sustenance, then to find enough shelter to be induced to stay for a while. We will be encouraging a permanent, low-level diversity that builds upon itself until the insect-plant and insect-insect interactions become so complex that they take care of themselves.

The one great thorn in this approach to gardening is that these flowering plants may have great attractant powers for insects, which is good in general, but they may not be the best plants for keeping resident populations of insects in the garden on a prolonged or permanent basis. For this to happen, a garden must have plants that are attractive at flowering time and offer components for other parts of an insect's life cycle. Usually this

Vanishing Pollinators Exhibit

Working with the Smithsonian Institution and the National Zoological Park, photographer and entomologist Carll Goodpasture has put together a traveling exhibit designed to draw attention to the global decline in diversity of insects that pollinate plants. More information about the traveling exhibit and a schedule of places to see it can be found on the Smithsonian Web site www.si.edu/sites/exhibit/pollinators.htm.

is a larval food item such as the leaves, stems, or roots of specific plants.

GARDEN (HABITAT) STRUCTURE

AS WE HAVE seen, there are many ways to increase plant structure, and thus insect diversity, by using a variety of plants over time. Imagine what can be done if we also alter the physical structure of our gardens to accommodate even more kinds of plants and insects. The end products might begin to resemble species-rich, environmentally diverse habitats.

Water. The fastest, easiest way to introduce an entirely new world of plant diversity into a garden is to add water, even if it's as simple as a cache pot with a single water-loving plant in it. Onto my balcony every summer I haul out five or six different-sized pots of dwarf cattails, Japanese iris, variegated sweet flag, sedges, and chameleon plant. A birdbath surrounded by these plants acts like a neighborhood avian swimming hole.

I built my first pond using a rubber liner. Within the summer I had damselflies and dragonflies landing on potted cattails emerging from the pond's depths. Within a year the water had a resident population of breeding dragonflies, water striders, and toads. Soon came the frogs, green herons, and many other birds who stopped by simply to take a bath.

Although a big pond will support more different life-forms than a half-barrel, almost any amount of water is welcome in the garden. No pond is needed to grow

cardinal flowers, for example, just a moist place with filtered sun. Do not fear moisture in the garden; relish it.

Soil. Soil type is also an important element in garden diversity, whether it is sand, gravel, acidic soil, alkaline soil, rocky soil, or clay soil. A garden containing pockets of differing soils produces a diversity of plants best adapted to those soils.

Typically, the gardener's reaction to a clay soil, for example, is to want to lighten it with humus or sand or gypsum. If we have a sandy soil, then we add humus or peat. Often we attempt to standardize or work our soils so that the entire garden area is uniform in structure (tilth) and appearance. Rather than homogenize the garden to our wishes, we should use the plants that best fit the needs of the soil. This automatically increases plant diversity because different plants do better in different soil types.

Whether we have gardens of many soil types or but a single type, we gardeners

can find ways to adapt the soil for the purposes of increasing plant diversity.

Exposure. Another element in increasing plant diversity is exposure, that is, how much sun or shade a plant receives. Because there are so many different plants with so many different requirements for exposure, it should be deduced by astute gardeners that the greater the variety of exposure, the more different types of plants their gardens will grow.

This varies in part by geographic region, of course, so that primroses planted in the sun in Portland, Oregon, will grow just fine, but grown in Phoenix, Arizona, they would be fried in 20 seconds flat. Exposure must be interpreted as it relates to one's area of residence.

But because exposure is constantly changing from sunup to sundown, from day to day and from month to month, it is not entirely simple for the gardener to manipulate this factor in any reliable way. The most fortunate gardener, in my opinion, is

the one who starts with full sun and can plan out where the shade might best be placed by careful use of shrubs and trees.

Relief. Relief in the garden is not an opportunity to sit down and rest a spell. Relief refers to the topography (or three-dimensionality) of a garden, and it may range in nature from flat (a meadow) to vertical (a cliff). Most gardens, even if level as a billiard table, can achieve some change in topography with a little effort. And any alteration in ground level will increase the diversity of plants that can be grown.

The easiest such change to imagine is a simple mound. Soil mounding (and sculpting or contouring) offers a basic opportunity to add different soil types (if desired), orient plants to different exposures, and create islands of diversity in what otherwise might



Few people go out of their way to invite such beautiful creatures as this dragonfly into their gardens. All a gardener needs to do is add water, and the dragonflies will come.

be a sea of uniformity. Mounding also offers the opportunity to use plants that require good drainage provided by the elevated soil. The creative possibilities of mounding and contouring are endless, and the resulting changes in soil, plant position, and exposure create an opportunity for vast amounts of plant diversity and, thus, insect diversity.

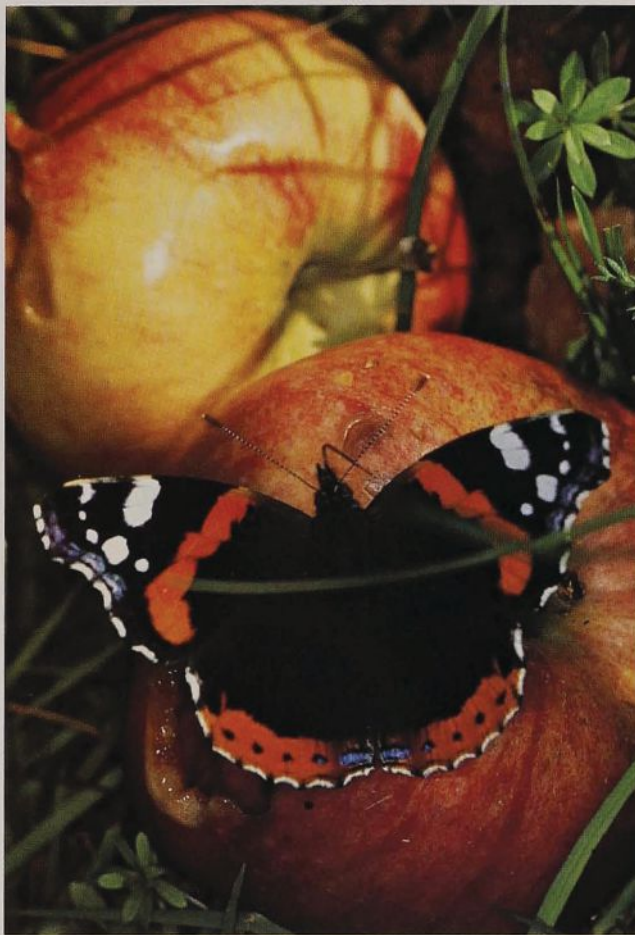
Mulch and Organic Debris.

A lot of emphasis is placed on mulching, especially as a form of moisture retention in warm, dry times and winter protection in cold times. Little is said about the positive role that mulches, organic debris, and thatch play in providing a home for insects. Instead, we are ordered to rake up and destroy all unsightly materials such as dead and fallen stems and leaves, spent flowers, and grass clippings. All the garden books tell us to do this so that “bad things” won’t have a place to hide or to overwinter and re-infest your garden in the spring. Yet, current studies show that many predatory insects make their homes in this sort of twiggy, thatchy, mulchy environment. Well, as I have explained, if bad things don’t have a place to hide, neither do good things because they are often hiding inside the bad things. These areas act as refuges for prey and predator alike. You cannot have it both ways.

I am going to say something that will make all the messy gardeners just as happy as pigs in a mud puddle: *Don’t be so tidy.* It is not necessary to cut down and cart away all the so-called yard debris that litters our landscape. If you must cut stuff down, rough chop it and tuck it at the bases of plants.

BUILDING A GARDEN OF DIVERSITY

IT IS IMPORTANT to try to view the garden as a living structure that exists within the natural world, not apart from it. The dilemma that becomes immediately evident is that the natural world is not all that apparent anymore—just ask



It would behoove gardeners to be less tidy. Fallen fruits, berries, vegetables, sticks, leaves, tree trunks, and dead plants all become food for passing insects, bacteria, and fungi, which conspire to break down the organic matter to its principal elements. Here a red admiral butterfly feeds on a rotting apple.

anyone living in the middle of a city or even a suburb, for that matter. If we gardeners are to have diversity in the garden, it must come from somewhere.

One way of achieving this is to build an artificial community of plants that might mimic a natural plant community. Such a community—let’s call it a garden—might mimic a natural community, at least in part, by having an ecological complexity and thus an inherent balance. You’ll note that I did not say we can build a “natural community of plants,” because I do not believe that gardeners can do this. The reason for this is that gardening, by its very nature, is the antithesis of being natural: Gardening is managed care, whereas natural is not only benign neglect, but downright lack of interference.

If gardeners are serious and interested in returning to some sort of earthly paradise, we can attempt to create an ecological homologue—a reasonable copy of our immediate natural surroundings. This would be composed of plants that look like those in the surrounding plant community, but may have come from anywhere in the world. A good example of this is what might be found in a Mediterranean-style garden—one with hot, dry summers and moderately cool, wet winters.

The basic problem with this sort of homologous garden is that, although it might attract many insects due to the similar bloom times, floral structures, and so on, it likely will not induce insects to stay because they will not eat plants that are totally foreign to them. This is often because unacceptable chemical compounds are found in these plants. The most reasonable approach that gardeners can take is

to integrate some native plants into our garden schemes so that when insects are drawn into the garden from local, relatively natural areas, some of them, at least, will find a preferred food and will be induced to stay.

The decision on how and why each of us gardens is a matter of personal taste, philosophy, emotion, artistic disposition, natural stewardship, maternal instinct, and environmental concern. We gardeners are the people who most desire to bring plants into our lives, but by so doing we alter the very balance that existed for eons in the physical spaces our gardens now occupy. Is it not reasonable that we attempt to embrace all life-forms in our gardens in an effort to restore the balance that the garden, itself, has displaced?

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A Study in Silver

Plants with silver and gray foliage bring an artful look to the garden if effectively integrated with compatible colors.

ARTICLE AND PHOTOGRAPHS BY KAREN BUSSOLINI

IN THE plant kingdom, the color silver is a shimmering chameleon. Garish or subtle, soothing or invigorating, silver is all about nuances. Special characteristics of the leaves of silvery plants—water-conserving hairs, scales, powder, or waxy coatings—provide a range of shades from almost white to pewter or aluminum colored, bright sterling silver, gray, gray-green, glaucous, and even blue.

I have spent the past two summers looking for artfully used silvers. In doing

so, I learned that you don't need to have an all-silver garden to use the color effectively. Silver plants have a unique ability to intensify other colors or to knit them together. Silvers find their strength in relationships—in blending or contrasting with other plants.

BLENDING

SOME SILVER PLANTS seem to look good with everything. I have seen Russ-

ian sage (*Perovskia atriplicifolia*), the large-leafed lamb's-ears (*Stachys byzantina* 'Big Ears', sometimes listed as 'Helene von Stein'), blue oat grass (*Helictotrichon sempervirens*), and the catmint *Nepeta* 'Six Hills Giant', for instance, in gardens all over the United

Top: The frosted leaves of *Senecio viravira* resemble snowflakes. **Opposite:** Catmint creates an illuminating allée in the garden at Brush Hill in Connecticut.

States and have yet to see a clunker of a combination.

At Brush Hill, a private garden in Washington, Connecticut, the catmint edging an allée knits together all the hues and tangle of a rose garden. Cool lavender-blue flowers glow gently against every color, and its greenish gray foliage blends and harmonizes with its own flowers and those around it.

Similarly, at Noerenberg Gardens, a public garden in Minnetonka, Minnesota, tones of silver and blue sparkle. The backbone of the bed is a ribbon of spiky blue oat grass. A mass of Russian sage with bright silver stems and cool lavender-blue flowers “speaks” to the cool tones in the blue oat grass and to those of a switch grass (*Panicum virgatum* ‘Heavy Metal’) nearby.

The large-leaved lamb’s-ear is less silvery but more refined than the common lamb’s-ear (*S. byzantina*). It has sparse silver hairs on a gray-green leaf, which—depending on the light—make it appear silver, gray, or gray-green. In my garden, its slightly cool tone blends well with intensely blue flowers of *Veronica* ‘Crater Lake Blue’ and a white-flowered dwarf Siberian iris. Yet its underlying green har-

monizes with the yellow-green flowers of hairy lady’s mantle (*Alchemilla glaucescens*) and brings out the varied tones in surrounding greens. This combination is satisfying even after the blooms have faded.

Elsewhere in the garden, ‘Big Ears’ is a fine bridge between plants that tend toward greenish hues and those that are bright silver. It tones down the brilliant silver *Helichrysum thianschanicum* ‘Silver Spike’, which otherwise might stick out like a sore thumb among the many pure greens in my informal country garden.

I suspect that, whatever riot of color a garden might possess, a good dose of any one of these four plants would help establish harmony. And many other plants that have similar grayish/greenish/bluish silvers fulfill the same kind of peacekeeping mission in the garden.

SILVERY HERBS

EMPLOYING THE modulation from bright silver to gray to blue creates a tranquil mood in the garden. Many wonderful silver plants are classified as herbs, so herb gardens are a good place to test out color combinations in a small setting.

One of my favorites is that of Joanna Reed, a longtime member of the Pennsylvania Horticultural Society who lives near Philadelphia. From late September until spring, the flowers are gone, yet the garden retains its interest and feeling of sanctuary thanks to silver plants and similarly toned bluestone walks, which define the structure of the garden.

Green plants and flowers are merely accents in this garden, where loose patches of lamb’s-ears line corners, repeat along paths, and underplant a verdigris urn. Beds are filled with a collection of various lavenders, along with catmints, yarrows (*Achillea* spp.), santolinas, Russian sage, myrtle spurge (*Euphorbia myrsinites*), and a feathery blue sedum of unknown ancestry. These related colors create a calm mood that carries through the whole year, but is never monotonous.

CONTRAST

PEACE IN THE garden is fine up to a point. But a garden based only around plants with similar coloring can get dull. Mutable silver not only blends, it contrasts dramatically. Bright silvers can be paired





Above: The stone wall in the herb garden at Wave Hill in New York is softened by assorted gray-leaved plants, including lavender and rosemary. Right: At the New York Botanical Garden, visitors enter a garden “room” through an entranceway flanked by a pair of silvery Arizona cypress trees.

with dark-colored plants. If it is a “no color,” pair it with assertive colors. If it is cool silver, turn up the heat by combining it with warm colors. And many silvery plants have small round leaves and softly mounded forms that can be effective foils for plants that have big bold leaves or spiky habits.

Wave Hill, a public garden in Bronx, New York, renowned for its horticultural adventurousness, is a great place to see silvers used well. In one corner of the Herb Garden, various silver and gray-leaved lavenders, salvias, rosemaries, and the bluish *Euphorbia characias* ‘Portuguese Velvet’ are planted at the foot of a gray stone retaining wall and in the bed above. The blending of these similar tones has a subtle charm on its own, but the composition is catalyzed by the addition of pots of vibrant magenta-colored verbena and coral drops (*Bessera*



elegans)—a tender lily family member native to Mexico—poking up through sprawling lavender.

I saw another good example of how to juxtapose silvers with contrastingly colored plants at the Norfolk Botanical Garden in Virginia. In one planting there, dark leaf spikes of New Zealand flax (*Phormium tenax* ‘Atropurpureum’) emerge from a silvery cloud of the shrub

Caryopteris × *clandonensis* ‘Longwood Blue’ and *Artemisia* ‘Powis Castle’, creating a moment of sheer drama.

Bill Harris, who gardens in Spencerville, Maryland, uses whole beds rather than just small combinations. A big change in mood occurs when you walk from a cool silvery blue bed full of blue oat grass (*Helictotrichon sempervirens*), *Eucalyptus gunnii*, blue fescue (*Festuca*

glauca) cultivars, *Santolina chamaecyparissus*, *Juniperus squamata* 'Blue Star', artemesias 'Silvermound' and 'Powis Castle', and a silver-edged yucca tucked into a shady area, to an adjacent full-sun bed packed with the vibrant, multicolored hues of tropical plants.

In a formal garden designed around parterres or dark green clipped hedges, silver plants are often used as filler to provide striking contrast. One of the glories of Central Park's Conservatory Garden in Manhattan is a swirling design of clipped silvery-colored lavender cotton (*Santolina chamaecyparissus*) that in spring is filled in with deep blue-flowered grape hyacinths (*Muscari* spp.).

At the Clark Foundation in Cooperstown, New York, precisely clipped topiaries of myrtle (*Myrtus communis*) were set off by mounds of silver *Artemisia* 'Powis Castle', *Helichrysum italicum* 'Nana', *H. petiolare*, and *Kalanchoe pumila*. This composition works exceptionally well because these plants contrast in several ways. The topiaries are dark against the lighter hues of the silvers; densely textured where the silver plants are lacy; geometric in form where the silvers are loosely defined; and solid where the silvers are airy and light.

BLENDING AND CONTRASTING

IF COLORS THAT blend are harmonious and contrasting colors create excitement, plant combinations that achieve both make a garden sing. By adding contrasting and similar foliage textures, leaf shapes, and plant habits to the mix, it's possible to get the design working on multiple levels. At the Jane Watson Irwin Perennial Garden at the New York Botanical Garden, designer Lynden Miller has achieved just such a symphony. Each plant adds its own particular voice to create a harmonious whole.

Flanking a passage between two garden rooms, Miller has placed a pair of icy silver-blue Arizona cypress trees (*Cupressus arizonica* 'Blue Ice'). These cypresses—which seemed in perfect context standing tall against blue mountains in the dry Idaho panhandle—might have looked out of place in verdant New York but for their companions. Miller has set the cypresses off against a background of somber green

pinus (*Pinus strobus*), but softens the contrast by adding the statuesque silver plumes of ravenna grass (*Saccharum ravennae*). Although the grass and the cypresses share overtones of silver, the grass's soft, constantly shifting outline and the flowing motion of its linear leaves offer a stark contrast to the prickly, upright cypresses.

Repeating plant combinations is one way to give a sense of continuity to a design, and Miller mirrors these dynamic relationships throughout the garden room. She also achieves continuity by repeating single elements such as colors, forms, tex-

tures, and leaf shapes. For instance, a greenish silver autumn olive tree (*Elaeagnus umbellata*) nearby harmonizes with the blue cypresses. Russian sage between these trees and mounds of artemesias and tender silver plectranthus (*Plectranthus argentatus*) across the way chime in, creating a distinct lightness and feeling of sanctuary. These echoing shades of silver contrast with vibrant reds, pinks, and purples from a wide array of plants, including asters, knotweed (*Persicaria amplexicaulis* 'Atrosanguineum'), and *Sedum* 'Autumn Joy' ('Herbstfreude'). Toned

Ideal Spots for a Touch of Silver

Silver plants can also be used effectively in the following landscape situations:

■ **Edging.** A rigid hedge of brilliant silver might be a bit heavy-handed in most perennial gardens. But a toned-down silver, such as lavender (*Lavandula* spp.) blends in well with other garden plants. Lamb's-ears (*Stachys byzantina*), low-growing *Cerastium tomentosum*, and the tender *Helichrysum petiolare*, are good "weavers" that make for a soft transition in flower borders.

■ **Ground covers.** Sunny areas can be filled with low junipers (*Juniperus squamata* 'Blue Star' is a good bet for humid climates), lamb's-ears, and *Veronica incana*. Bugleweed (*Ajuga reptans* 'Silver Beauty') needs consistent moisture and can take a bit of shade.

■ **Containers.** What better place for drought-tolerant plants? Virtually any silver is a good candidate for container gardening. Some specialized alpines, which demand perfect drainage and are too small to survive in the perennial garden, thrive in

hypertufa pots. Many new tender perennials coming on to the market—such as *Plectranthus argentatus* or *Helichrysum petiolare*—are superb as single specimens or as counterpoints to more gaudy annuals. Cold-climate gardeners can grow non-hardy lavenders and other herbs such as oreganos and salvias in pots that are moved to a sunny windowsill or greenhouse in winter, or take cuttings to winter over.

■ **Accents or focal points.** The gigantic Scottish thistle (*Onopordum acanthium*) and artichoke (*Cynara cardunculus*) or cardoon (*Cynara scolymus*) are architectural knockouts in the garden. Illuminated by its silvery flower bracts, a clump of thistle-like sea holly (*Eryngium giganteum*, particularly the cultivar 'Miss Wilmot's Ghost') can be a beacon to follow down a garden path. In a larger garden, try a silver pear tree (*Pyrus salicifolia*).

■ **Softening stone walls or patios.** Drought-tolerant silver plants, particularly Mediterranean herbs such as lavenders, santolinas, and woolly thyme (*Thymus pseudolanuginosus*) are perfect for filling in cracks in stone walls or flagstone patios. —K.B.



Clumps of succulent *Kalanchoe pumila* drape over the top of a stone wall, contrasting beautifully with a container-grown specimen of boxwood.

Sources for Silver Plants

Digging Dog Nursery, Albion, CA (707) 937-1130.
www.diggingdog.com. Catalog online.
Cynara cardunculus; *Onopordum acanthium*; *Perovskia atriplicifolia*.

Fieldstone Gardens, Inc., Vassalboro, ME. (207) 923-3836.
www.fieldstonegardens.com. Catalog \$2.
Ajuga reptans 'Silver Beauty'; *Perovskia atriplicifolia*; *Stachys* 'Helene von Stein'; *Veronica incana*.

Forestfarm, Williams, OR. (541) 846-7269.
www.forestfarm.com. Catalog \$5. Free if ordered online.
Artemisia 'Powis Castle', 'Silvermound'; *Caryopteris* *x* *clandonensis* 'Longwood Blue'; *Eryngium giganteum* 'Miss Wilmot's Ghost'; *Eucalyptus gunnii*; *Helictotrichon sempervirens*; *Juniperus squamata* 'Blue Star'; *Lavandula angustifolia* 'Munstead', 'Hidcote'; *L. x intermedia* 'Provence'; *Nepeta* 'Six Hills Giant'; *Panicum virgatum* 'Heavy Metal'; *Perovskia atriplicifolia*; *Saccharum ravennae*; *Stachys byzantina*.

Logee's Greenhouses, Danielson, CT. (860) 774-8038.
www.logees.com. Catalog \$4.95.
Helichrysum petiolare; *Kalanchoe pumila*; *Lavandula xintermedia* 'Provence'; *Plectranthus argentatus*; *Santolina chamaecyparissus*.

Mellinger's, Inc., North Lima, OH. (330) 549-9861.
www.mellingers.com. Catalog free.
Cerastium tomentosum; *Cupressus arizonica* 'Blue Ice'; *Elaeagnus umbellata*; *Helictotrichon sempervirens*; *Lavandula angustifolia* 'Hidcote'; *Perovskia atriplicifolia*.

Shady Acres Herb Farm, Chaska, MN. (612) 466-3391.
www.shadyacres.com. Catalog \$3.
Helichrysum italicum 'Nana'; *H. petiolare*.

Yucca Do Nursery, Inc., Hempstead, TX. (979) 826-4580.
www.yuccado.com. Catalog \$3.
Agave spp.; *Dasyllirion wheeleri*; *Nolina nelsonii*; *Yucca rostrata*.

down colors and softened shapes are repeated in the airy white flowers of boltonia (*Boltonia asteroides*), the buff-colored inflorescences of fountain grass (*Pennisetum alopecuroides* 'Hameln'). Chartreuse leaves of the ornamental sweet potato (*Ipomoea batatas* 'Margurita') add zing. As a final contrast, tender *Hibiscus acetosella* 'Red Shield'—eight feet tall with deep red maple-shaped leaves—emerges dramatically from these soft and finely textured mounds.

SILVER AS THE DOMINANT THEME

THE DRY WEST and Southwest provide hospitable growing conditions for a large range of silvery plants, both native and introduced. Where the natural landscape is richly cloaked in silver plants, using silvers—particularly natives—in the garden conveys a

sense of place, and cuts down on watering.

Garden designer Nancy Webber designed the front yard of her Austin home to tie in with the Texas countryside that the city displaced long ago. Webber spends a lot of time observing the land, its light, plant communities, and sparseness. She is also a fervent plant collector who is constantly testing plants for suitability in central Texas.

Webber has filled her front yard with local stone and a planted a colorful community of interesting plants that provide a regional feel. Among these are many silver plants with contrasting textures and forms. In Texas, as in other warm dry climates, contrasts are not timid. Large sculptural agaves, blue sotol (*Dasyllirion wheeleri*), *Nolina nelsonii*, blue yucca (*Yucca rostrata*), and blue fan palms (*Brahea armata*)

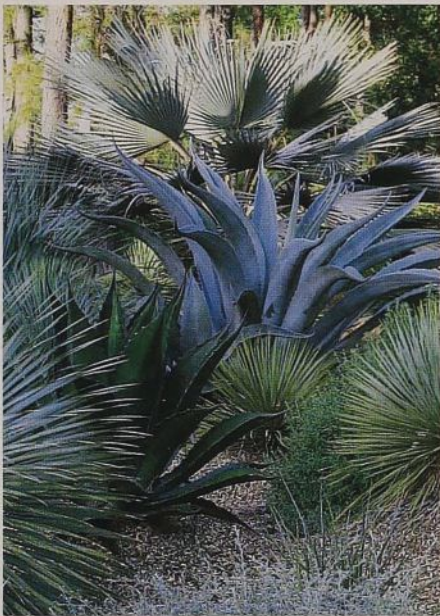
In this bed in the New York Botanical Garden, a dynamic interplay of colors is achieved by grouping vibrant-colored flowers with mounds of silvery artemisia, top left, and *Plectranthus argentatus*, bottom.



are scattered throughout Webber's garden, much as they would be in nature.

These strongly distinctive forms are softened by silver cultivars of Texas sage (*Leucophyllum frutescens* 'Silverado' and 'Convent'), *Teucrium cossonii*, and *Plectranthus argentatus*. Mounds of soft lacy *Artemisia* 'Powis Castle' are nestled against broad fleshy swords of a large blue agave.

Further south, in Hempstead, Texas, silver plants play an integral role in a spectacular collection of dryland palms, agaves, yuccas, and related plants at Peckerwood Garden, a nonprofit foundation affiliated with The Garden Conservancy. John Fairey, Peckerwood's creator, has designed a garden of astonishingly bold forms that, in combining blue and gray plants, winds up looking cool in the heat of the Texas summer.



Agaves and other succulents provide a cool blue-gray palette for the garden at Peckerwood in Hempstead, Texas.

SUCCESS WITH SILVERS

SILVERY FOLIAGE or flowers are a protective adaptation to survive fierce sun, wind, or salt spray in the harsh climates of deserts, seashores, and mountaintops around the world. For the same reason, many have diminutive leaves, leathery leaf surfaces, or succulent leaves that help reduce moisture loss through evaporation.

Having evolved to retain moisture, they tend to drown or rot in wet or humid environments. They grow best in sites that

The softly hairy, grayish leaves of *Stachys* 'Big Ears' are a good foil for *Salvia* 'Lady in Red'.

are in full sun, have well-drained soil, and good air circulation. Although the greatest variety of silver-foliaged plants thrive in areas of North America with relatively dry climates, those of us who live in the South, East, and eastern Plains don't have to feel left out in the rain. Some silver plants are more adaptable than others. And gardeners have figured out how to maximize their chances.

Madalene Hill, former president of The Herb Society of America and co-author with Gwen Barclay and Jean Hardy of *Southern Herb Growing*, gardens in Round Top, Texas, outside humid Houston. There, winter temperatures can fluctuate 60 degrees within a day and summer temperatures are often above 100. Plants are always, literally, either freezing or steaming. She built a sloped raised bed, filling it with sandy loam amended with peat and compost to provide excellent drainage. "People think they can't grow lavenders in the South, yet yearn for them," she says. "You have to replicate their native conditions. And you can't put out seedlings, you have to use two-year-old plants. The books usually say don't water, but you have to pay attention to the plants. I paid attention and they told me they needed more water." Hill waters at the base of each plant to keep water off the foliage.

She has tested 75 varieties of lavenders and has had great success with cultivars of *Lavandula angustifolia*. Her advice for success is "mulch, mulch, mulch." She mulches these Mediterranean herbs with gravel.

In Chaska, Minnesota, Theresa Mieseler, owner of Shady Acres Herb Farm, gardens in what she calls "heavy Carver County clay." In spring, she prunes everything herbaceous to the ground. Woody lavenders and sages she cuts back by one-half or two-thirds for bushy growth.

On the northern Plains, the long days in July are full of sunshine and a breeze is usually blowing. Even so, Mieseler says she

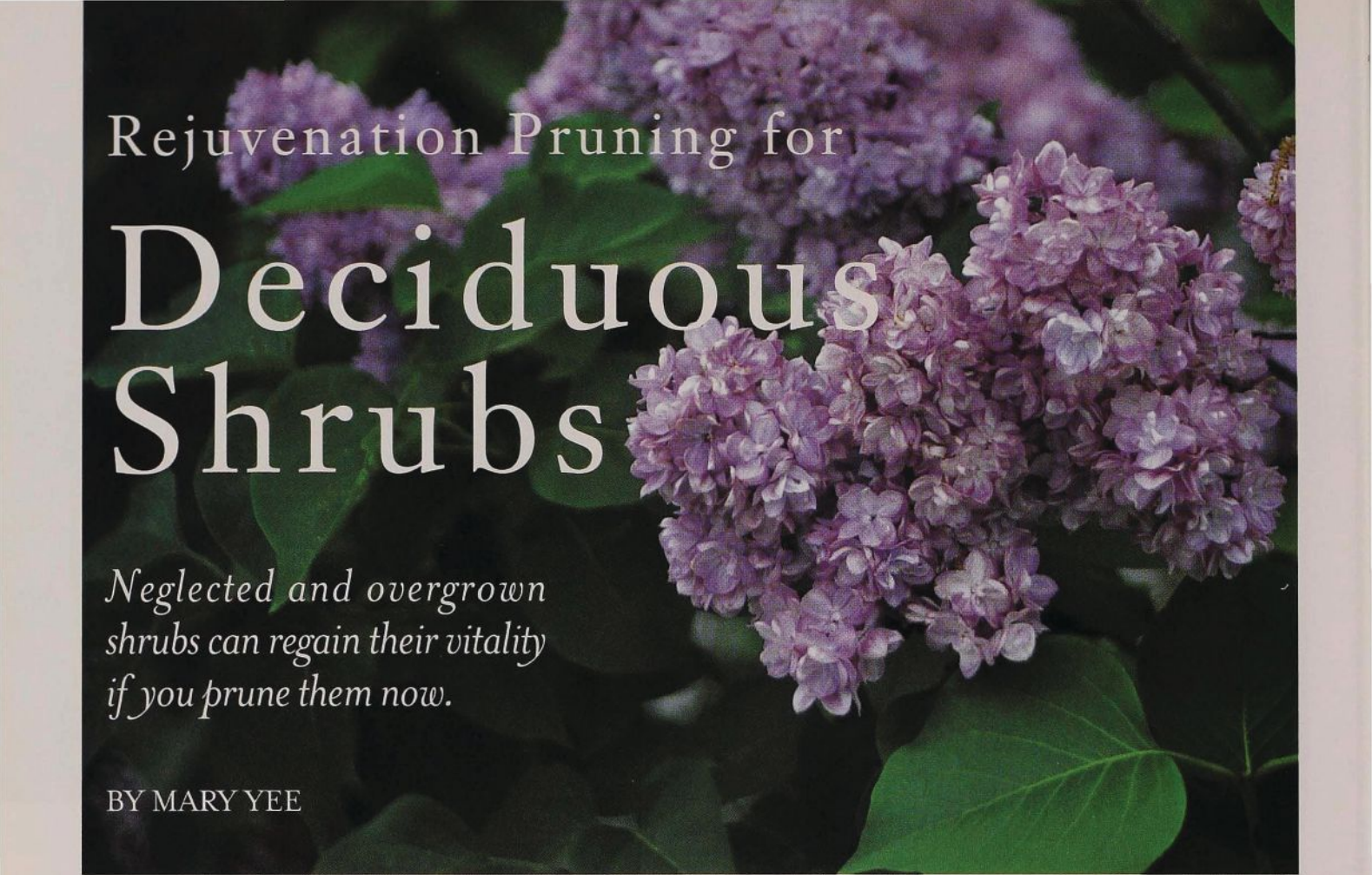


can't do any mulching, "because it would hold in too much moisture and molds and fungi would get going." Her best success has come with *Lavandula angustifolia* 'Munstead' and 'Hidcote' and *L. xintermedia* 'Provence', which she says make it through about 70 percent of Minnesota winters. "Air circulation and full sun are important, and a slope really helps," says Mieseler. "Gray and silver plants just don't like moisture on their leaves."

Because gardeners in North America's different regions contend with vastly different growing conditions, general advice on growing silvery plants should be tempered with observation of local practices.

In *Southern Herb Growing*, Hill advises gardeners to be cautious about "following information about growing silver plants found in herb books and periodicals written by and for Californians or New Englanders." For good local information, ask for advice at gardens or nurseries in your own area.

Karen Bussolini is a garden photographer and writer who lives in South Kent, Connecticut. She is working on a book about silver plants with writer Jo Ann Gardner and would appreciate hearing about good silver gardens from around the country at kbphoto@javanet.com.



Rejuvenation Pruning for Deciduous Shrubs

Neglected and overgrown shrubs can regain their vitality if you prune them now.

BY MARY YEE

A FORSYTHIA'S TANGLE of yellow blossoms in early spring is hard not to notice, and a lilac in flower can stir the poetic soul in all of us, but the rest of the year we tend to ignore many shrubs in our preoccupation with the other parts of our gardens. Compared to annuals, herbaceous perennials, and lawngrass, shrubs certainly require much less care once they are established, but as they grow and age, they, too, need regular maintenance to look good and remain healthy.

Neglected shrubs often develop congested, weak growth and begin to flower poorly. Unrestrained growth can also cause plants to become shapeless and ungainly. Fortunately, restoring such a shrub is often as easy as getting out your pruners and removing a portion of its tired growth—usually about a third. Arborists describe this type of project as “rejuvenation pruning” because it not only reduces the size of a plant, it also jump-starts the plant to produce fresh, new growth and improve flowering.

“Pruning a shrub to let its natural form and beauty emerge is very rewarding,” says

Janet Walker, director of horticulture at River Farm, AHS headquarters. “It’s like uncluttering a room.” One example is an old lilac at River Farm that was given a severe pruning two winters ago (see opposite page). “It completely recovered in the first season,” says Walker, “producing vigorous growth and many flowers last spring.”

Late winter is a good time to perform rejuvenation pruning on deciduous shrubs. There’s little to do in the rest of the garden, and with the shrub’s branches bare, you can really see the plant’s structure. Also, pruning at this time allows the shrub an entire season to recover from surgery.

THE AIM OF PRUNING

IN ADDITION to the aesthetic benefits it can provide, rejuvenation pruning improves plant health. By thinning dense growth that restricts air circulation, risks of fungal diseases are reduced. Thinning also allows sunlight to penetrate to interior foliage, enhancing the plant’s ability to manufacture food through photosynthesis. By removing older and extraneous growth, you take care of both problems at once.

On the aesthetic side, older canes are just plain less vigorous, so they do not flower as well. And on shrubs grown for their bark, such as red osier dogwood (*Cornus sericea*) and ghost bramble (*Rubus cockburnianus*), old canes tend to be less colorful, so they should be removed each year, leaving new canes to carry on the show.

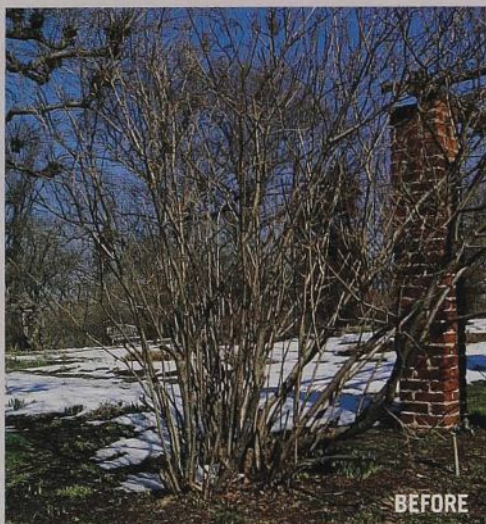
OLD WOOD AND NEW WOOD

OF COURSE, the greatest appeal of many deciduous shrubs lies in their flowers. Before you prune, it’s important to keep in mind that flowering shrubs generally fall into two categories: those that produce flower buds on growth from the previous summer and those that produce buds on new stems in the spring.

Many common spring-flowering deciduous shrubs produce buds for the next season on summer wood, including *Forsythia* spp., *Hydrangea macrophylla*, *H. quercifolia*, winter jasmine (*Jasminum nudiflorum*), beauty bush (*Kolkwitzia amabilis*), mock orange (*Philadelphus coronarius*), snowberry (*Symphoricarpos albus*), lilac (*Syringa* spp.), *Viburnum* spp.,

REJUVENATING AN OVERGROWN DECIDUOUS SHRUB

An old lilac at River Farm, shown below, had become cluttered and flowered poorly. Arborists with The Care of Trees, which helps maintain River Farm's trees and shrubs, gave the shrub a much-needed pruning by removing about one-third of its growth (see below, right). This pruning technique can be used on other deciduous shrubs to improve their shape and restore their vigor.



1. With a pruning saw, open up the shrub by removing one-third of the shrub's canes to the ground. Include canes that are very old, too long, poorly aligned, or thin and weak.



2. Use pruning shears to cut off smaller branches that cross or rub against other branches or otherwise detract from the shrub's appearance. Make the cuts close to the main branch to avoid leaving stubs.



3. Remove all diseased and damaged branches to the point they meet healthy wood. Diseased and damaged growth should be removed when noticed, no matter what time of year.

and *Weigela florida*. Pruning these shrubs at this time will unavoidably remove some flower buds but will not harm the plant. "If you don't want to sacrifice any flowers," says Walker, "wait until just after the spring flowering to prune."

Summer-flowering shrubs that bloom on new growth include *Hydrangea paniculata*, beautyberry (*Callicarpa japonica*) and *Spiraea japonica* 'Bumalda'. Many shrubs that flower on new growth can be cut back severely in late winter and will bloom abundantly in the growing season.

A rejuvenated shrub will just need a light pruning every year thereafter to remove old, diseased, or damaged canes. Some shrubs may only need maintenance pruning every few years.

If the neglected shrub is very old and requires extensive pruning, you're better off pruning modestly over several seasons. This approach requires more patience but is less stressful for the plant.

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

Resources

American Horticultural Society Pruning & Training by Christopher Brickell and David Joyce. DK Publishing, New York, 1996.

The Pruning Book by Lee Reich. Taunton Press, Newtown, Connecticut, 1997.



Evergreen Ground Covers

Diversify your ground-level plantings by trying these useful and attractive alternatives to standards such as English ivy and Japanese spurge.

BY DAVID S. MACKENZIE

This spring scene, captured in Longwood Garden's Peirce Woods, illustrates just how well foamflower (*Tiarella cordifolia*) will spread in a woodland garden. In April to May, the foamy white flowers bloom on short spikes above the heart-shaped foliage.

GARDENERS ARE always looking for ground covers that provide year-round color, help smother weeds, and prevent soil erosion. Go to most nurseries with this request and you'll probably be steered toward one of the "big five" evergreen ground covers: periwinkle (*Vinca minor*), Japanese spurge (*Pachysandra terminalis*), English ivy (*Hedera helix*), purple wintercreeper (*Euonymus atropurpureus*), and lilyturf (*Liriope muscari*). These standards are popular for good reason—they are tough, versatile, quick-spreading, and relatively inexpensive to produce and purchase.

But variety, after all, is the spice of life, and happily for the adventuresome gardener, there are many other excellent evergreen ground covers that can be used as alternatives or supplements to the usual candidates. Like the standard ground covers, these are plants that when properly sited will reduce maintenance, require little water, complement vertically oriented features of the landscape, and control erosion by breaking the impact of rain and knitting the soil together with their extensive root systems. They will also add diverse colors, textures, habits, and flowers and fruit to the landscape.

Although many gardeners tend to think of ground covers as low-growing, fast-spreading, tightly clumping vines or herbaceous perennials, the term can be used for almost any plant that cloaks bare ground in a reasonably consistent manner. Among the many possibilities are ferns, grasses, herbs, succulents, prostrate conifers, and low-growing shrubs.

WOODY AND SEMI-WOODY PLANTS

BEARBERRY (*Arctostaphylos uva-ursi*, USDA Zones 2–6, AHS Zones 6–1) goes by a dozen other common names, including kinnikinnick and bear's grape. Native to northern North America, Europe, and Asia, bearberry is clothed in dark green, leathery, one-inch-long, teardrop-shaped leaves that turn bronzy in fall. Its white to pinkish spring flowers are about a quarter-inch long and resemble miniature Chinese lanterns. These are followed by small berrylike fruits that start out green before turning bright red in autumn.

Bearberry is an excellent full-sun to light-shade ground cover for moderate to large-scale use and is particularly effective in informal and native-plant landscapes. Woody, one to four inches tall, and creeping in habit, it thrives in rugged conditions such as sand or gravel, is drought tolerant, does well in wind-blasted locations, and tolerates considerable salt. It is excellent for planting on steep sunny hillsides, sand dunes, and around parking lots and driveways. The cultivar 'Massachusetts' has a shorter, more compact habit than the species and flowers and fruits more prolifically.

Acid-loving wintergreen (*Gaultheria procumbens*, Zones 3–8, 8–1) is a low-growing sub-shrub native to the eastern temperate

zone of North America. Typically ranging from two to four inches tall, it spreads slowly but indefinitely by rhizomes to eventually form a dense carpet of glossy deep green leaves. In spring, it bears nodding, urnlike, pinkish white flowers. Later, the edible, round, scarlet berries add to the display.

Lately, there has been a resurgence of interest in our own native pachysandra (*P. procumbens*, Zones 5–9, 8–3), sometimes called Allegheny spurge. Found in the wild from eastern Kentucky to Florida and Louisiana, it is only semi-evergreen in the northern part of its range. Instead of spreading continuously by rhizomes like its Japanese cousin (*P. terminalis*), it spreads slowly outward from a central crown. For this reason it is a less overwhelming companion for wild-flowers, ferns, smaller hostas, astilbe, and other shade-loving perennials. What's more, its roughened leaves are quite variable in shape and color. When its apple-green new leaves emerge, they are oriented upright. As they unfold, they flatten out, then mature to a rich bronzy green. During fall, they darken to deep purplish green, with silver mottling. The very



Wintergreen (*Gaultheria procumbens*) demands cool, moist, acid soil with perfect drainage and just the right amount of shade. Where these conditions are met, this charming plant excels as a ground cover for small spaces.

early spring flowers, which rise above the previous year's foliage, are fragrant and sometimes lead to reddish purple fruits.

Persian or fragrant ivy (*Hedera colchica*, Zones 5–10, 10–7), a lesser-known relative of English ivy, has leaves and stems that smell like celery when crushed. Persian ivy—which hails from a region south of the Caucasus Mountains on the Black Sea—grows well in sun or shade. Its large, coarse-textured leaves reach a full six inches long and four inches wide. The deep green foliage is leathery to the touch and holds up well to wind and drought. Persian ivy trails along the ground in the same manner



Barren strawberry (*Waldsteinia ternata*) resembles strawberry and spreads by stolons like strawberry, but—unlike strawberry—is generally overlooked by deer and is not susceptible to leafspot. Its cheerful yellow flowers bloom in spring, but fruits rarely follow.

as English ivy but establishes much more rapidly. And, like English ivy, it will climb if given the chance, so keep it trimmed away from the base of trees if climbing is not desired.

Impressive selections include ‘Sulphur Heart’, which has jade-green leaves decorated with irregular bright yellow splotches, and ‘Variegata’, which has leaves of green and rich creamy white. A variety, *H. colchica* var. *dentata* (sometimes listed as cultivar ‘Dentata’), has even larger leaves—up to 10 inches long and five inches wide—but is in other respects similar to the species.

Another wonderful semi-woody ground cover is dwarf Himalayan sweet box (*Sarcococca hookeriana* var. *humilis*, Zones 6–9, 9–3). It can be difficult to find and is slow growing in the landscape, but persistence in acquiring it and patience in nurturing it will pay huge dividends in the long run.

As its name indicates, dwarf Himalayan sweet box is native to the mountains of western China. It grows one to two feet tall and spreads by rhizomes to form a clump up to six feet in diameter over time. It grows best in acidic soil in light to moderate shade and bears one- to three-inch-long leaves that are so deep green and glossy they resemble patent leather. During spring, look for the understated, ivory-white, pleasantly fragrant flowers; in some cases, a nice crop of small black berries succeeds these.

HERBACEOUS GROUND COVERS

SOMEWHERE BETWEEN herbaceous and semi-woody is twinberry or partridge berry (*Mitchella repens*, Zones 4–9, 9–1) another dwarf trailing ground cover. Almost vinelike in habit,

partridge berry slowly creeps along the ground setting down roots from its wirelike stems. Given time and the right conditions, it makes an attractive mat of foliage.

Partridge berry is native to the woodlands of eastern North America, where it coexists comfortably with such woodland treasures as bunchberry (*Cornus canadensis*), trailing arbutus (*Epi-gaea repens*), and goldenthrum (*Coptis groenlandica*). Small, pinkish, funnel-shaped flowers marked with white veins bloom in early summer. These are borne in pairs, connected at their bases. Scarlet, double-lobed fruits—which gave rise to the common name twinberry—develop in late summer and fall.

Foamflowers (*Tiarella* spp.) come in both running (*T. cordifolia*) and stay-put types (*T. cordifolia* var. *collina*), both of which thrive in Zones 3 to 8, 8 to 4. And, thanks to enthusiastic breeders, there are many cultivars from which to choose. The names say it all: ‘Skeleton Key’ has foliage that is deeply cut; ‘Ink Blot’ sports central veining that appears stained by ink; ‘Dark Star’ is a star-shaped leaf with star-shaped markings. Foamflowers grow and bloom best in humus-rich, moist, but well-drained soil in part shade.

Native to the Himalayas, creeping mazus (*Mazus reptans*, Zones 4–9, 9–1) is a spreader that knits the ground together. Best suited to well-drained but consistently moist soil in full sun to moderate shade, creeping mazus is valuable for its attractive spring flowers and semi-evergreen, somewhat fleshy leaves. Its violet-blue flowers are purple spotted, with white and yellow lips. It tolerates foot traffic, so it is useful for filling in between stepping stones. The related Japanese mazus (*M. japonicus* ‘Albiflorus’, 7–9, 9–4) grows slightly taller and has white flowers.

MORE ALTERNATIVE GROUND COVERS

BOTANICAL/COMMON NAME	HEIGHT/ SPREAD	FOLIAGE/FLOWERS	CULTURE	ORIGIN	USDA AND AHS ZONES
<i>Baccharis pilularis</i> Coyote bush	12–24 inches/ 96–120 inches	dark green, serrated leaves	full sun, dry, well-drained soil	California and Oregon	7–10, 10–7
<i>Delosperma nubigena</i> Cloud loving ice plant	1–3 inches/ 24–36 inches	thick, fleshy, bright green leaves	well-drained soil, tolerates drought	South Africa	6–9, 9–6
<i>Dryopteris erythrosora</i> Autumn fern	12–15 inches/ 12–24 inches	lustrous green; coppery new fronds	part to full shade, moist soil	east Asia	5–9, 9–3
<i>Epimedium</i> spp. Barrenwort	8–12 inches/ 12–18 inches	pale green; copper after frost	sun to shade, tolerates drought	Asia and Europe	5–8, 8–5
<i>Helleborus foetidus</i> Bearsfoot hellebore	18–24 inches/ 18–30 inches	narrow, glossy green leaves; pale green winter flowers	part to full shade	Europe	5–8, 8–4
<i>Heuchera</i> spp. Alumroot	6–8 inches/ 12–15 inches	rosettes in combinations of silver, green, maroon	sun to shade	North America	4–8, 8–1
<i>Ophiopogon japonicus</i> 'Nana', <i>O. japonicus</i> 'Kyoto'	3–5 inches/ 8–12 inches	deep green, grasslike leaves	part to full shade	east Asia	6–11, 12–1
Dwarf mondo grasses					
<i>Phlox subulata</i> Moss phlox	2–4 inches/ 24–60 inches	green to gray green, bright flowers in spring	full sun	eastern United States	3–9, 9–4
<i>Polystichum acrostichoides</i> Christmas fern	15 inches/ 12–24 inches	matte green fronds	part to full shade	eastern North America	3–8, 8–1
<i>Sedum ternatum</i> Wild stonecrop	2 inches/ 6–15 inches	pale green foliage; white spring flowers	part to full shade	eastern and central United States	4–9, 9–4

Barren strawberry (*Waldsteinia ternata*, Zone 3–8, 8–1) has compound leaves that are three-parted. It is a marvelous one-to three-inch-tall strawberrylike ground cover. Like strawberry, it spreads by stolons, but they are very short, which makes this plant noninvasive and gives it an extremely dense habit. Unlike strawberries, however, its shiny, deep green foliage is not affected by the common fungal disease, leafspot. It blooms during late spring with bright clear yellow flowers, and its green fruit seldom forms.

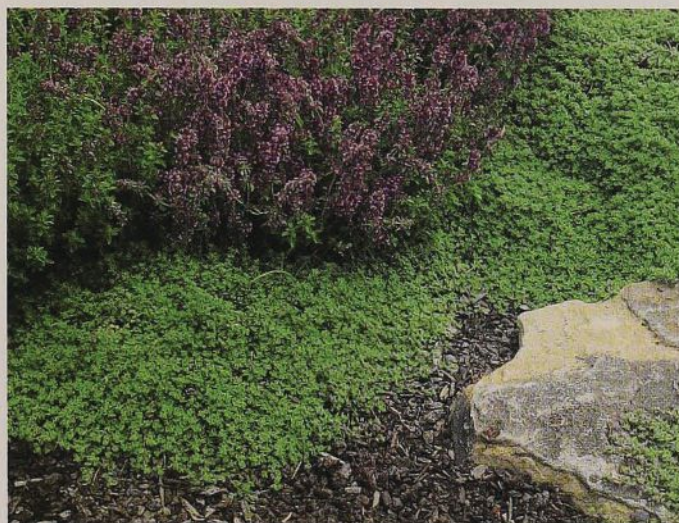
Many gardeners prefer barren strawberry to traditional ground covers because it is reputed to be less favored by deer. Other reasons to use it are that it tolerates considerable foot traffic, is long lived, and grows in sun or shade.

HERBS

SOME PLANTS with aromatic, culinary, or medicinal attributes make good ground covers, especially in areas where plants tolerant of poor soils or dry conditions are needed. For instance, creeping thyme, (*Thymus serpyllum*, Zones 4–9, 9–1) is one of the best low-creeping covers for filling in the gaps between stepping and patio stones. It is hardy, moderately vigorous, only about an inch tall, and clothed in tiny elliptic quarter-inch-long, dark green, semi-fragrant foliage.

Because creeping thyme withstands foot traffic, some creative gardeners employ it as a lawn substitute. It blooms during late spring and early summer with lilac to purple flowers and produces a few sporadic flowers thereafter until fall. Among its cultivars are 'Argenteus', with leaves variegated silvery white; 'Aureus', golden yellow leaved; 'Elfin', flat growing, a quarter-inch tall, with pink flowers; 'Minus', less than a half-inch tall with gray-green leaves and white flowers; and 'Roseus', with pink flowers. A variety—*T. serpyllum* var. *coccineus*—has scarlet flowers.

Other herbs worth considering for ground covers are winter savory (*Satureja hortensis*), chamomile (*Chamaemelum nobile*), creeping rosemary (*Rosmarinus officinalis* 'Prostrata'), and santolina (*Santolina* spp.).



Creeping thyme's tiny, aromatic leaves and low, spreading habit provide fine texture in a sunny garden site with well-drained soil.

Sources

Andre Viette Farm and Nursery, Fishersville, VA. (800) 575-5538. www.viette.com. Catalog \$5.

Ajuga reptans 'Burgundy Glow'; *Carex oshimensis* 'Evergold'; *Gaultheria procumbens*; *Liriope muscari* 'Christmas Tree', 'Monroe's White'; *Mazus reptans*; *Mitchella repens*; *Ophiopogon japonicus* 'Nana'; *Thymus serpyllum*, *T. serpyllum* var. *coccineus*, 'Minus', 'Rosea'; *Waldsteinia ternata*.

Bluestone Perennials, Madison, OH. (800) 527-2930. Catalog free.

Ajuga 'Chocolate Chip'; *Ajuga reptans* 'Bronze Beauty', 'Burgundy Glow'; *Euonymus fortunei* 'Kewensis'; *Liriope muscari* 'Big Blue'; *Mazus reptans*.

Fieldstone Gardens, Inc., Vassalboro, ME. (207) 923-3836. www.fieldstonegardens.com. Catalog \$2.

Arctostaphylos uva-ursi and cultivar 'Massachusetts'; *Gaultheria procumbens*; *Mazus reptans*; *Mitchella repens*; *Pachysandra procumbens*; *P. terminalis* 'Green Sheen', 'Variegata'; *Vinca minor* 'Atropurpurea', 'Blue and Gold', 'Bowles Variety', 'Emily Joy', and 'Ralph Shugert'.

Greer Gardens, Eugene, OR. (541) 686-8266. www.greergardens.com. Catalog \$3.

Ajuga reptans 'Catlin's Giant', 'Chocolate Chip'; *Arctostaphylos uva-ursi* 'Massachusetts'; *Gaultheria procumbens*; *Liriope muscari* 'Silver Dragon'; *Mazus reptans*; *Ophiopogon planiscapus* 'Nigrescens'; *Vinca minor* 'Ralph Shugert'.

Niche Gardens, Chapel Hill, NC. (919) 967-0078. www.nichegardens.com. Catalog \$3.

Ajuga reptans 'Catlin's Giant'; *Carex morrowii* 'Ice Dance'; *Mazus japonicus* 'Albiflorus'; *Pachysandra procumbens*.

Roslyn Nursery, Dix Hills, NY. (516) 643-9347. www.roslynnursery.com. Catalog \$3.

Ajuga reptans; *Carex morrowii* 'Ice Dance'; *C. plantaginea*; *Euonymus fortunei* 'Longwood', 'Harlequin'; *Gaultheria procumbens*; *Hedera colchica* 'Sulphur Heart'; *Liriope muscari* 'Big Blue', 'Silvery Sunproof', 'Monroe's White'; *L. spicata* 'Silver Dragon'; *Mitchella repens*; *Ophiopogon japonicus* 'Kyoto'; *Sarcococca hookeriana* var. *humilis*; *Waldsteinia ternata*.

Squaw Mountain Gardens, Estacada, OR. (503) 630-5458. squawmountaingardens.com. Catalog \$2.

Hedera colchica 'Dentata'; *Sedum middendorffianum* var. *diffusum*.

Resources

Perennial Ground Covers by David S. MacKenzie, Timber Press, Portland, Oregon. 1997.

GRASSLIKE PLANTS

MANY GRASSLIKE plants with clumping habits make wonderful ground covers. Among the best possibilities for year-round effect are mondo grasses (*Ophiopogon* spp.) and sedges (*Carex* spp.).

Black mondo grass (*Ophiopogon planiscapus* 'Nigrescens', Zones 6–11, 12–6)—sometimes referred to as dwarf black lilyturf or black monkey grass—is unique for its exceptional, jet-black foliage. It grows well in sun or shade, spreads very slowly, reaches eight to 12 inches tall, and during summer bears tiny, bell-shaped, pink-and-white-streaked flowers. Shiny black fruits develop later. Dwarf mondo grass selections such as 'Nana' and 'Kyoto' (see chart, page 43) are not as hardy as 'Nigrescens', but are lower growing and spread more quickly.



Black mondo grass (*Ophiopogon planiscapus* 'Nigrescens') softens the landscape with its dark, wavy grasslike foliage.

Sedges are generally low-growing, clumping plants valued for their attractive, grasslike foliage, which comes in a variety of hues from copper to blue, green, gold, and variegated combinations thereof. Many retain their foliage color year round and sport subtle but intriguing inflorescences in spring and summer. In part sun, try Japanese sedge (*Carex morrowii*, Zones 5–9, 12–1), which has produced several attractive variegated selections, including 'Ice Dance'. Another good choice is *C. oshimensis* 'Evergold' (Zones 6–9, 9–6), which has dark green blades with a broad central stripe that turns from creamy white to gold as the leaves mature. For the woodland garden, try plaintain-leaved sedge (*C. plantaginea*, Zones 5–8, 8–4), a native of eastern North America that grows six to 12 inches tall, with broad, shiny green leaves.

SUCCULENTS

IN DRY REGIONS, native or adapted exotic succulents are often good choices for ground covers. Several stonecrops fit this category, including diffuse Middendorff's sedum (*Sedum middendorffianum*).

Opposite: The starlike yellow flowers of Middendorff's sedum are followed in late summer by attractive, russet-orange seed heads.

New Varieties of Old Standards

If you want the reliability of a conventional evergreen ground cover but would like something that looks different from what everyone else is growing, try these selections.

A classic for shady to partly sunny locations, periwinkle (*Vinca minor*, Zones 4–8, 9–3) covers quickly, is long lived, and has shiny evergreen leaves and cheerful bluish flowers that bloom most prolifically in spring. Outstanding cultivars include 'At-



Vinca 'Blue and Gold'

ropurpurea' (sometimes listed as 'Wine'), which grows low, with rich green foliage and velvety deep wine-purple flowers; 'Blue and Gold' has deep green foliage edged golden yellow and big, bright blue flowers; 'Bowles' (sometimes sold as

'Bowlesii' or 'La Grave'), is slower spreading than the species, with shiny, deep green leaves and bluish flowers; 'Illumination' dazzles with bright, sunny yellow leaves edged dark green, pinkish red stems, and pale lavender flowers; 'Ralph Shugert' has variegated green leaves neatly trimmed in white and showy, intense blue flowers that appear primarily in spring and fall.

Better in shade than sun, densely spreading Japanese spurge or pachysandra (*Pachysandra terminalis*, Zones 4–8, 8–1), crowds out weeds and is probably, after English ivy, the second most popular ground cover in the United States. In-

teresting cultivars include 'Green Carpet', which has dark shiny green leaves that grow uniform and low; 'Green Sheen', said to be more heat tolerant, has small, dark, shiny leaves; 'Kingwood', which has leaves with serrated edges that give it a lacy appearance; and 'Variegata', which has leaves irregularly decorated green and creamy white.

Selections of purple wintercreeper (*Euonymus fortunei* 'Col-oratus') reflect varying leaf size and variegation. 'Kewensis', 'Longwood', and 'Minimus' are miniatures with green leaves. The leaves of 'Harlequin' are mottled green and white.

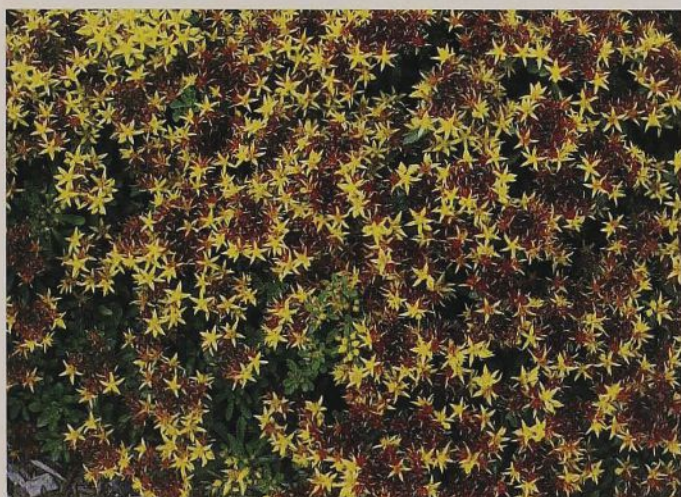
Widely planted in the mid-southern states, lilyturf, or liri-ope, includes two popular landscape species: Blue lilyturf (*Liri-ope muscari*, Zones 5–11, 8–3), which is a clump-forming evergreen, and creeping lilyturf (*L. spicata*, Zones 5–9, 10–4), which spreads by rhizomes, is mostly evergreen, and has leaves that are narrower than blue lilyturf.

Worthy cultivars of *L. muscari* include 'Big Blue', 'Christmas Tree', 'Silvery Sunproof', and 'Monroe's White', all of which grow to about 20 inches tall. Two creeping lilyturf cultivars worth mentioning are 'Silver Dragon' and 'Dwarf Silver Dragon'. The former is attractively striped green and white, spreads slowly in sun or shade, is drought tolerant, long lived, and disease resistant. But for its six- to eight-inch height, it would serve as a great lawn substitute. 'Dwarf Silver Dragon' has similar attributes, but reaches only a few inches tall and is quite reminiscent of lawn grass. This cultivar could be used in place of conventional turf, removing the need for weekly mowing.

If you crave English ivy, there are numerous cultivars that vary in color, leaf size, and leaf shape. Breeders are working on developing selections that spread less aggressively.

—D.S.M.

fianum var. *diffusum*, Zones 6–9, 9–6), which my friend Leo Blanchette gave me about 10 years ago. What makes this sedum unique is that its shiny evergreen foliage has good purplish fall color. It covers quickly but stays in bounds, and produces masses of yellow star-shaped flowers during late spring and early



summer. Russet-orange seed capsules follow. And, despite all the flowers, I have not witnessed a single self-sown seedling in all the time I have been growing it.

A ground cover for full sun, Middendorf's sedum is drought tolerant, not preferred by deer, and ideal for planting in sandy and gravelly soils. Other good sedums include *S. ternatum* (see chart, page 43), *S. acre*, and *S. kamtschaticum*.

GO FORTH AND DIVERSIFY

SO YOU SEE, as reliable and economical as the standard ground covers are, there are many other evergreen ground-covering plants worth considering. It may take some trial and error to discover which ones are best suited for your garden, but once you've found them, your garden will be enhanced by more color, texture, and variety—not to mention lower maintenance.

The owner of Hortech, a wholesale nursery in Spring Lake, Michigan, David S. MacKenzie is also a garden writer and photographer. His most recent book is Perennial Ground Covers, published in 1997 by Timber Press.

If drama or elegance is needed in the landscape, few plants can match weeping trees.

BY CAROLE OTTESEN

Weeping Trees

WITH VERY FEW exceptions, trees are programmed to soar upward towards the sky. Whether vase-shaped, conical, or colony-forming, whether pointed crowns punctuate space or branches arch into green cathedrals, the general direction of growth is up. Weeping trees are an exception to this rule.

As weeping trees grow up and away from earth, their branches reach back, as if longing to return. In some—maples and birches, for instance—this is an eloquent gesture. In others—such as spruces and cherries—it is more like an embrace, as the tips of their branches, like fingers, stroke the ground.

The effect of pendant, weeping branches is at once eccentric, bittersweet, and wonderfully graceful, endowing these trees with strong presence. They draw the eye and hold it with personalities so vivid and commanding that there is rarely enough room in the average garden for more than one of their kind.

It follows that they excel as focal points. It is not only their habits that set them apart. Like bonsai, most weeping trees are crafted by hand from stock that has been selected for its ornamental qualities. (See “Why Do Trees Weep?” page 49.) This makes them doubly attractive. The weeping forms that turn up in nurseries have been fashioned from showy materials—flowering cherries, small-needled evergreens, and



ALAN AND LINDA DETRICK

species with neat leaves, contorted stems, or persistent berries. By virtue of the weeping habit, these special characteristics usually display themselves at eye level, enhancing their ornamental effect.

It helps, too, that the trees are generally small. While a few—the weeping European beech (*Fagus sylvatica* 'Pendula'), for instance—grow into large trees of 50 to 60 feet, the majority do not. Habit, vigor, and the breeder's intent keep most weeping trees below 30 feet and many under 15 feet tall, so they are well suited to be focal points in smaller, urban and suburban lots.

After the archetypal weeping willow (*Salix babylonica*), the most popular and easiest-to-find weeping tree is the cherry. Several selections of weeping cherry have been introduced, but Higan cherry (*Prunus subhirtella*) and its cultivars are among the best loved. Many cherry tree cultivars, both upright and weeping, originated in Japan, where *ohanami* (flower viewing) is a tradition and cherry trees have been bred for centuries. A gift of several thousand flowering cherries from the city of Tokyo to the city of Washington, D.C., in 1912 popularized these lovely spring-blooming ornamentals in the United States.

Like cherries, weeping crabapples (*Malus* spp.) bloom in spring as a fountain of flower-clad branches that spill to the ground. Some weeping crabapples, such as 'Red Jade', have persistent fruits that hang on the tree after the leaves fall, extending the season of show.

Even without fruits or evergreen foliage, weeping trees provide winter interest. While weeping evergreens are a constant garden feature, deciduous trees provide winter drama. The branches of weeping willow hang like a beaded curtain that seems to part, when the wind blows, by an invisible hand. And the dwarf weeping Japanese maple (*Acer palmatum* var. *dissectum*), a mound of cascading leafy layers during the growing season, reveals a living sculpture of craggy trunk and contorted limbs after the leaves fall.

Weeping trees make up for their small size with big personality and, often, multi-season interest. They are exceptions in the tree world and exceptional ornamentals in the garden.

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



Opposite: This dwarf Japanese maple cultivar (*Acer palmatum* var. *dissectum* 'Watnong', Zones 5–8, 8–2), is clothed in finely-cut leaves that form dense layers to hide its branching structure. Only after the leaves fall is an intricate framework of limbs revealed that becomes eye-catching winter sculpture. Above: The contorted limbs and cascading branches of this weeping blue Atlas cedar (*Cedrus atlantica* 'Glauca Pendula', Zones 6–9, 9–6) recall a waterfall thundering over boulders. The suggestion of water is supported by the striking silver blue of the short, densely-placed needles. Although this tree may be trained to any shape, its habit and color demand careful placement in the garden. Note how the designer has set off the drooping cedar against the fountainlike sedge (*Carex* "Bowles Golden") below it.



Cherries such as this Higan cherry (*Prunus subhirtella* 'Pendula', Zones 6–8, 8–6) are among the most popular of weeping trees—and with good reason. Like willows, weeping cherries are most dramatic in spring, when a flower shower of fragile and infinitely graceful blossoms on long, slender branches flows easily and evenly from a central trunk. The tips of the branches skirt the ground, making the flowers accessible and immediate. The tree's long history as an ornamental in Japan has led to many excellent cultivars. This fact, its symmetrical habit, and its diminutive frame render the weeping cherry a peerless specimen for the residential landscape. It is also a useful subject for espalier.



Native to Asia, the Japanese snowbell (*Styrax japonicus*) is an infrequently encountered but lovely ornamental tree that thrives in full to part sun and acid soil. The common name “snowbell” refers to the pendulous, lightly-fragrant white flowers. A number of excellent cultivars have been selected for characteristics such as white, pink, and rose flower color, handsome foliage, and a weeping form. The weeping habit of *S. japonicus* 'Carillon' (Zones 6–8, 8–6), the tree shown here, puts an already outstandingly showy tree over the top. In the straight species, the branches of this rather dainty tree spread broadly before drooping at the tips. In the weeping form, they spread out before arching into a ball that eventually attains a diameter of 10 to 12 feet. In winter, the smooth gray bark is visible behind a delicate framework of finely-divided branches.

Why Do Trees Weep?

"There are as many reasons for trees to weep," says arborist Guy Sternberg, author of *Landscaping with Native Trees*, "as there are Inuit words for snow."

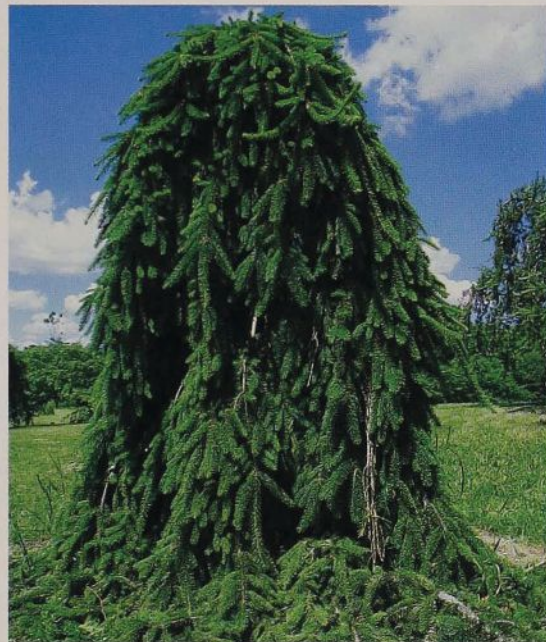
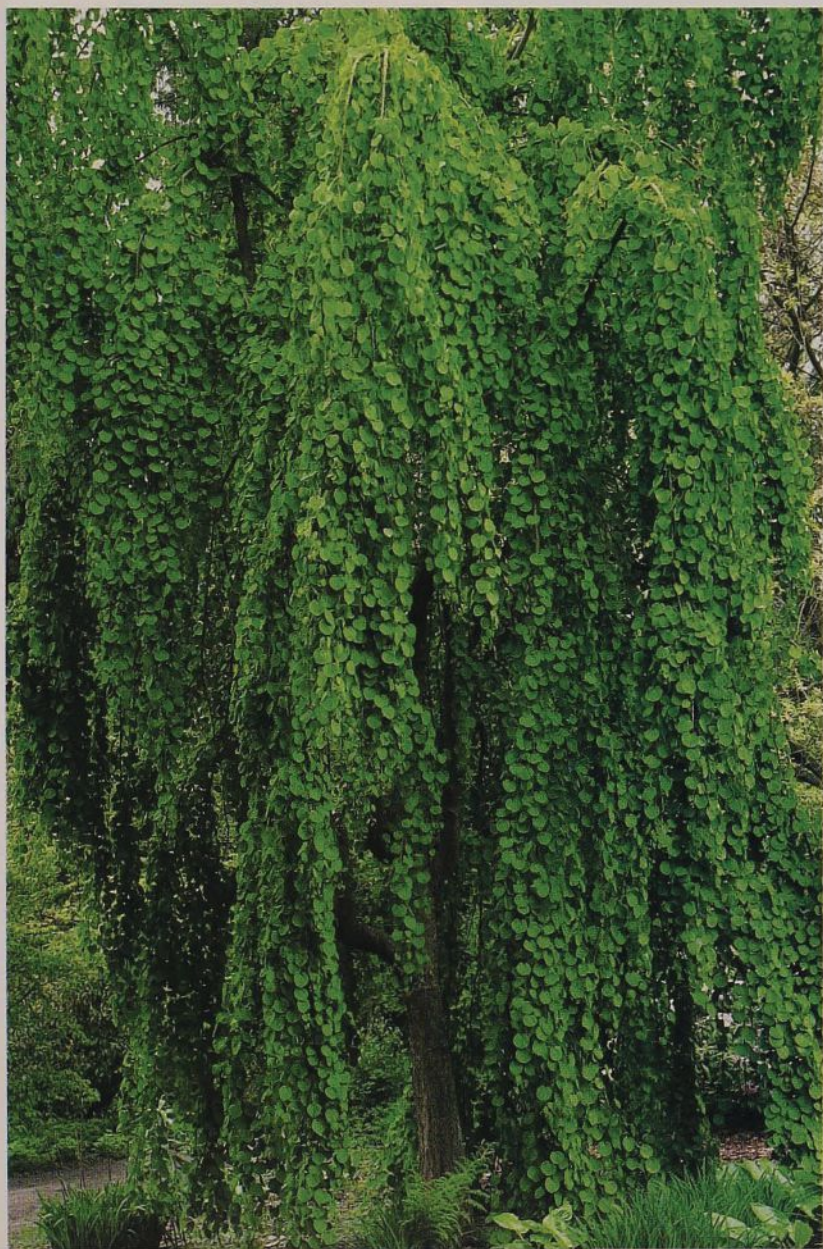
"Weeping is genetic and varies with the species," says Sternberg. "It is linked to the tree's response to gravity (gravitropism) and light (phototropism)." If the response is strong, the tree grows starkly upright; if weak, it weeps. Robert Griesbach, a plant breeder with the USDA's Floral and Nursery Plant Research Program in Beltsville, Maryland, says hormone imbalances in certain trees may also play a role. "A particular hormone concentration can affect a plant so that it does not recognize gravity or has a negative response to light," notes Griesbach.

Sternberg suggests weeping habits could also provide ecological advantages. "If a tree doesn't invest energy becoming stiff, it can grow faster," he says, or its pendant, pliable limbs may be less likely to break under the weight of snow or ice.

Trees such as weeping willows (*Salix babylonica* and *S. alba*) and European beech (*Fagus sylvatica*) weep naturally, even when grown from seed. Superior forms of these plants are often vegetatively propagated to retain special traits. This is true of the beech cultivar *Fagus sylvatica* 'Pendula', which was selected for its pronounced weeping habit.

Trees such as the Camperdown elm (*Ulmus glabra* 'Camperdownii') and the weeping flowering dogwood (*Cornus florida* 'Pendula') are created by grafting. A twig, or scion, of weeping wood is implanted onto rootstock of a closely-related species. Crucial to success in grafting is joining the cambium—a thin layer of cells inside plant stems and roots—of both scion and rootstock. To prevent grafted trees from reverting to the non-weeping habit of the rootstock, all new growth beneath the graft union must be pruned off promptly.

—C.O.



Above: The densely-needled branches of this weeping spruce (*Picea abies* 'Pendula', Zones 2–8, 8–1) sweep from the rounded crown like a heavy cloak that tumbles to the ground and spreads out as ground cover. The thickly clustered needles provide rich color and texture on branches that can grow in all directions. The tree reaches about 10 to 12 feet high and may grow wider than tall.

Left: The rounded leaves of the weeping Katsura (*Cercidiphyllum japonicum* var. *magnificum* 'Pendulum' (Zones 4–8, 8–1) are held at eye level in vertical sheets, allowing for up-close admiration. In spring, the leaves unfold in shades of purple. In summer, they darken to a blue-green before finally glowing apricot in fall.



Betula pendula 'Youngii' (Zones 3–7, 7–1) is a cultivar of the popular white-limbed European white birch that has an even stronger tendency to weep than the species. Its striking, white, exfoliating bark, crisp, dark green leaves, and smaller size (to 20 feet) make it a good choice for a small garden in a region that has a cool climate. Handsome throughout the year, the tree is resplendent in autumn when the leaves turn bright yellow. As the leaves fall, the dazzling white framework of sinuous trunk and branches is gradually revealed. In winter, these expressive limbs suggest great age while lax, pendant branches sway in the wind like the wild tresses of a crone. Because the European white birch and its cultivars are susceptible to the bronze birch borer, it is crucial to keep these trees healthy and unstressed.

More Worthy Weeping Trees

BOTANICAL NAME/COMMON NAME	HABIT	HEIGHT	USDA/AHS ZONES
<i>Carpinus betulus</i> 'Pendula' (European hornbeam)	Erratic branching, broad, ground covering	30–40 feet	Zones 4–8, 8–1
<i>Chamaecyparis nootkatensis</i> 'Pendula' (Nootka false cypress)	Evergreen; upright with drooping branches, needles	20 feet	Zones 4–7, 7–1
<i>Cornus florida</i> 'Pendula' (Dogwood)	Stiffly pendulous branches	12 feet	Zones 5–8, 8–3
<i>Fagus sylvatica</i> 'Purpurea Pendula' (European beech)	Slow growing, dome shaped; purple leaves	8 feet	Zones 5–7, 7–5
<i>Juniperus scopulorum</i> 'Tolleson's Blue Weeping' (Rocky Mountain juniper)	Silver-blue, evergreen, hanging needles	20 feet	Zones 3–7, 7–1
<i>Malus</i> 'Red Jade' (Crabapple)	Graceful; pink flowers followed by persistent red fruits	10 feet	Zones 3–9, 9–1
<i>Pinus densiflora</i> 'Pendula' (Japanese red pine)	Evergreen; usually sprawls as ground cover, but may be trained as a tree	to 6 feet	Zones 4–7, 7–1
<i>Salix alba</i> 'Tristis' (Golden weeping willow)	Green leaves turn gold in fall; long graceful branches	50–70 feet	Zones 4–9, 9–3
<i>Ulmus glabra</i> 'Camperdownii' (Camperdown elm)	Twisted, pendulous branches; large leaves	25 feet	Zones 4–8, 7–3

Fragrant Tuberose

by Rand B. Lee

COTTAGE GARDENERS have long cherished the tuberose (*Polianthes tuberosa*) for its racemes of waxy, funnel-shaped, pure white blooms and for its sweet fragrance—although some find it cloying—which combines the sultriness of jasmine, the worldliness of gardenia, and a dash of nutmeg. Their genus name means “white or shining flower,” in reference to the curious luminosity of the petals.

First cultivated in pre-Colombian Mexico, tuberose had appeared in European horticulture by at least 1629. The Victorians were especially enamored of these heavily perfumed, incandescent flowers. “Tuberose may be had in flower throughout the greater part of the year by potting successional batches of bulbs,” wrote George Nicholson in his *Illustrated Dictionary of Gardening* (1887). Mindful of the tuberose’s lanky two- to four-foot stems, Nicholson advised that the plants be exposed to plenty of light to induce them to stay “as dwarf as possible.”

Tuberose are tender perennials that grow from tuberous roots and are closely related to agaves and yuccas, being members of the agave family (Agavaceae). The tuberose sold today are cultivated versions of the original wild species, which is believed to be extinct. Readily available cultivars include ‘Single Mexican’ (sometimes listed as ‘Mexican Single’), and a double-flowered, shorter selection called ‘The Pearl’, which was introduced in the 1870s.

Thanks to the work of Texas-based plant explorers such as John Fairry of Peckerwood Gardens and Carl Schoenfeld of Yucca Do Nursery, new *Polianthes* species and hybrids from Mexico are coming into cultivation. Among these are drought-tolerant *P. gemnifera* with pendant, coral-orange flowers; elegantly



Polianthes tuberosa ‘The Pearl’

Sources

Brent and Becky’s Bulbs, Gloucester, VA. (877) 661-2852.
www.brentandbeckysbulbs.com.
 Catalog free. *P. tuberosa* ‘The Pearl’, ‘Single Mexican’.

Yucca Do Nursery, Hempstead, TX. (979) 826-4580. www.yuccado.com.
 Catalog \$3. *P. ×brundrantii*, *P. gemnifera*, *P. howardii*.

subdued *P. howardii*, with red, black, and green flowers; and heat-loving *P. ×brundrantii* ‘Mexican Firecracker’, a flaming red.

Tuberose are hardy only to USDA Zone 8 (with protection), but are easy to

grow anywhere if started early indoors in containers.

I order tuberose in the fall and keep the tubers in their ventilated nursery bags in my cool, dry shed until February. At that time I plant one tuber to a gallon nursery pot filled with slightly moistened commercial potting soil enriched with compost and granular 5-10-5 fertilizer. Because it is so dry here in New Mexico, I enclose the pots in transparent plastic bags and place them over heating cables at 60 to 65 degrees Fahrenheit until the tubers begin to sprout. After removing the plastic bags, I move the pots to the sunniest part of the porch, and water them moderately, allowing the soil to surface-dry between waterings. Within a few weeks, tufts of straplike green leaves emerge.

In May, the pots go outdoors, coming back inside if a late frost threatens. By July, stout flower stalks form and the terminal flower clusters blossom into glistening white scepters, each lasting a good week at peak bloom.

Tuberose also make lovely cut flowers. Victoria Kasperski, author of *How to Make Cut Flowers Last*, advises cutting spikes on a slant in late afternoon when half to three-quarters of the blossoms are open. Immediately put the cut stems into a bucket of water. Slice the stems several inches up from the bottom, and leave them overnight in water that comes up to just below the lowest flowers. Add three heaping teaspoons of sugar to a quart of water to inhibit deterioration of the flowers. If you re-cut the end of the stems and change the water daily, cut tuberose should last up to 12 days.

A resident of Santa Fe, New Mexico, Rand B. Lee is president of the North American Cottage Gardening Society.

Gardening Online

Discussion Groups and E-Mail Lists

by Marge Talt

GARDENING IS often a solitary pursuit. For those of us whose nearest and dearest's eyes glaze over when we wax poetic about our passion, gardening mailing lists are the best invention since sliced bread. E-mail lists allow us to interact with others from around the world who are just as obsessed with plants as we are.

Gardening is about asking questions and learning. While a good library of reference books is essential, when you post a question to an e-mail list, the response you receive will be based on the first-hand experience of another gardener who has been there, grows that plant, or knows where to find it. Thanks to the Internet and gardening mailing lists, we can each tap into a vast, living knowledge base at any time of the day or night, 365 days a year.

Of the thousands of e-mail lists on the Internet, hundreds are devoted to topics relating to plants and gardening. From general lists, like Gardens-L to highly specific topics like Carnivorous Plants, there is a list for your particular horticultural passion. In the unlikely event that there isn't one, it's now very easy to start one of your own using one of the many free services available on the Web.

E-MAIL LIST, MAILING LIST, LIST

What exactly is a "list?" Mailing lists are a form of e-mail that allow a subscriber to communicate with all the other subscribers at once. The messages you send to a list arrive in each subscriber's inbox almost simultaneously.

Lists are maintained on a server (computer) somewhere in the world that runs software specifically designed to facilitate distribution of messages to a database of subscribers. All messages sent by subscribers arrive at the host server and are

then automatically re-sent out to all the individual subscriber e-mail addresses. There are many software programs that do this. The ones that I am most familiar with are Listserv and Majordomo.

While the general procedures for signing up, receiving messages, and posting messages are similar for all lists, the various software programs each have their own quirks, making a universal instruction for signing up impossible. For all, however, you must send a message to the list server—not the subscribers—with the appropriate command, usually "subscribe [list name] [your name]".

LISTOWNER

All lists are "owned" by someone—an individual, group, or organization. The listowner is usually—but not always—the person who started the list. It is always the person (or persons) who maintains the list,

which entails daily weeding out of defunct e-mail addresses, helping those who are having difficulty subscribing or un-subscribing, and many other "housekeeping" tasks. Some listowners are invisible; others micromanage their lists; and some simply participate like the other subscribers.

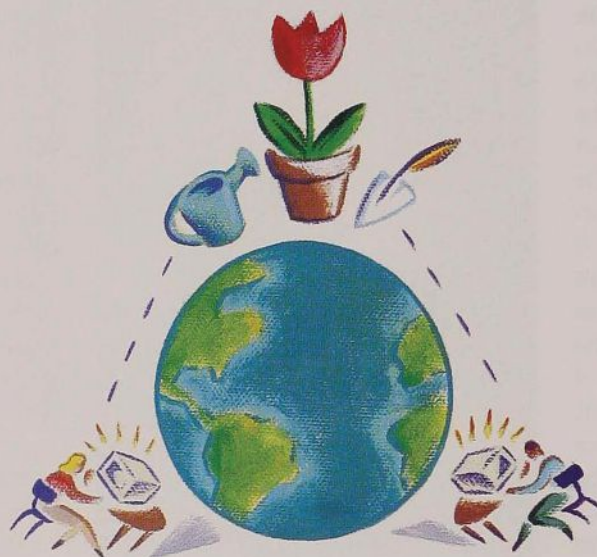
That said, Barbara Martin, co-owner of Gardens-L observes that "a list is a self-selected community running 24/7 so there is no way to 'own' it! Running a list is like body surfing—sometimes everything is swell, and other times you get a little gritty." Chris Lindsey, who

hosts Perennials, Propagation, and Woody Plants lists, compares running a list to taking care of plants. "Some lists are very professional and manage themselves—you just plunk them in the ground and watch them grow," he says. "Other lists need to be watched and nurtured."

OPEN, CLOSED, AND MODERATED

Open lists are exactly that. Anybody who wants to subscribe may do so. Subscribers can post messages about anything on their minds; list members, however, will tend to object if the topic strays too far afield.

Closed lists are generally those hosted by a group or association to which you must belong before you can participate in the list. **Arisaema-L** is an example. To participate, you must join the AEG (Arisaema Enthusiasts Group), which automatically subscribes you to the list. The benefits outweigh the dues in that you not only receive



the wisdom of the list members, but you also receive seeds each year in the exchange.

Moderated lists are those in which each message is first read by the listowner or moderator, who determines whether it is appropriate for posting to the list. This can cause a delay in your message reaching the list, depending on the level of moderation imposed. Some moderators simply check to make sure you aren't sending junk e-mail, while micromanagers sometimes refuse to post messages they deem outside the guidelines of the list.

SELECTED LISTS

I subscribe to way too many lists, but like chocolate, they become addictive. They range from the general to the specific.

The American Horticultural Society (AHS) Gardening Community Listserv, and Gardens-L are general lists that have developed a real feeling of community. They are places to share your triumphs and disasters as well as knowledge.

AHS Gardening Community Listserv is a young but active list, with subscribers from all regions of North America and beyond sharing their experiences with a vast range of plants and gardening conditions. AHS also hosts an e-mail list for Master Gardeners; both lists can be accessed from the AHS Web site (www.ahs.org).

Gardens-L is probably the oldest gardening list on the Internet. The proper name for the list is "Gardens and Gardening," but it's always called Gardens-L. According to Barb Dorsett, current co-listowner with Barbara Martin, Gardens-L was started in 1991 by Marguerite Floyd, who was frustrated at not being able to find information about growing gardenias in Kentucky. When I first subscribed around 1995, there were some

ADDITIONAL INFORMATION about subscribing to online gardening lists and discussion groups as well as a more comprehensive list of available online gardening forums can be found through a link on the contents page of the January/February 2002 issue of *The American Gardener* on the AHS Web site (www.ahs.org).

Online Gardening Forums

American Horticultural Society Gardening Community Listserv.

Subscription form can be found at www.ahs.org

Alpine-L (The Electronic Rock Garden Society). Archives and subscription form:

listserv.surfnet.nl/archives/alpine-l.html

Arisaema-L. Membership in AEG required to activate list subscription.

Archives and subscription form: listserv.surfnet.nl/scripts/wa.exe?SUBED1=arisaema-l&A=1

Azaleas list. Moderated; to subscribe, send a blank e-mail to:

azaleas-subscribe@azaleas.org

cacti_etc. (Cacti and other succulents)

hardycacti_etc

XEchinopsis

These three lists can all be subscribed to via Web form at: www.cactus-mall.com/apps/c_etc.mv

Carnivorous Plant Mailing Lists

Subscription instructions:

www2.labs.agilent.com/botany/cp/html/cp_lstsv.htm

Fernet. A mail-list group that discusses topics relating to ferns. Send e-mail to: macjordomo@koning.ecsu.ctstateu.edu with message: subscribe fernet

Gardens-L (Gardens and Gardening).

Archives and subscription form: lsv.uky.edu/archives/gardens.html

The Orchid Guide Digest.

Description and subscription link: www.orchidguide.com/ogd/digest.htm

www.hort.net/lists/

For archives and subscription instructions for dozens of specialty gardening lists—including Chris Lindsey's Perennials, Propagation, and Woody Plants.

800 members generating nearly 200 messages a day. Today, with the huge number of lists available, there are fewer members and a more manageable number of daily messages.


"Compared to some of the more tightly focused lists," says Martin, "Gardens-L is primarily a lot of shared information spiked with good spirited fun between gardeners. List members range from neophyte 'yardeners' to industry professionals to dedicated and talented amateurs."

According to Martin, typical questions to the list range from "The frost hit my brugs, what should I do?" to "I've just discovered unplanted tulips from last fall, what should I do?" Whatever the question, Martin adds, "24/7, somebody somewhere will answer back soon!"

But although gardening is the common denominator among list members, Martin notes, "the list is renowned, beloved, and occasionally scorned, for its over-the-back-fence chatter. There's only so much you can say about carrots and butterfly bushes, and after a while it is the off-topic stuff that becomes the soul of a long-time list."

Perennials list, with some 400 members, is a more specific list, devoted to the discussion of perennial plants. Frequent digressions into their woody companions are the gentle frustration of listowner Chris Lindsey, who tries to keep things on track.

Alpine-L is another "old" list in Internet time. Started by Harry Dewey as a rock garden journal in 1995, it has developed into an international list of over 1,000 subscribers. It is a highly moderated list that focuses on alpine and rock garden plants, but discussions encompass just about any plant that can be grown. The membership includes recognized authorities in many genera, taxonomists, and botanists. The archives contain seed germination information for virtually every genus and many species of plants.

Each gardening list has its own personality and style. By joining a few, you will soon discover which ones suit your own personality and gardening interests. 

A resident of suburban Maryland, Marge Talt is editor of the Gardening in the Shade section of Suite101.com.

Book Reviews

Bulbs of North America.

Jane McGary, editor. The North American Rock Garden Society and Timber Press, Portland, Oregon, 2001. 308 pages. Publisher's price, hardcover: \$34.95.

THE NORTH AMERICAN Rock Garden Society is to be congratulated on supporting the publication of this long-overdue first book devoted entirely to bulbous plants of this continent. These lovely and diverse plants have been overshadowed for too long by the more common tulips, crocuses, and hyacinths. This book is bound to inspire gardeners to consider bulbous natives, and will—hopefully—provide the impetus commercial nurseries need to start propagating and offering them.

The book's chapters are devoted to one or more major bulb genera, each written by prominent experts. Minor bulb genera are discussed in regional chapters addressing the Northwest, Southwest, and East.

Each chapter includes overviews of each genus, followed by descriptions of individual species and listings of the habitats in which they are found. In addition, the writers provide sound advice on how to cultivate the various genera.

Parker Sanderson and Jane McGary help gardeners understand the differences between an alliance of attractive but little-known North American bulb genera—*Bloomeria*, *Brodiaea*, *Dichelostemma*, and *Tritelia*—that were once only the province of botanists. The outstanding drawings by Linda Vorobik of representative species in this chapter are an aid to understanding these taxonomically complex plants.

The chapter on *Fritillaria* by David King is clearly written, with readable,

easy-to-understand descriptions of the species. With the aid of Vorobik's superb illustrations, Frank Callahan's chapter on *Calochortus* does justice to those complex and lovely western bulbs. And Molly Grothaus's affection for *Erythronium* shines through in her writing.

Writing on the genus *Allium*, Mark McDonough piques the reader's interest by musing on why many southwestern Amer-

ican species of *Allium* might have evolved a spicy, fragrant scent, "flying in the face of the common notion that alliums are stinky."

More than 100 color photographs, most taken by the authors, testify to the beauty and diversity of American native bulbs and will help in field identification of the plants described in the book.

Two prominent genera of bulbous plants widely represented in North America—*Iris* and *Trillium*—are not included in the book. In explaining this omission, McGary notes that those genera are the subjects of fairly recent monographs: Brian Mathew's *The Iris* (1990) and Fred and Roberta Case's *Trilliums* (1997). Yet the genus *Lilium* is covered in a chapter by Edward Austin McRae despite the fact McRae's book, *Lilies*, was published in 1998.

Other, more minor, complaints I had include a reference in the introduction to the USDA's map of 10 plant hardiness zones—there are 11 zones in the updated version of the map issued in 1990—and an explanation of hardiness that I found difficult to comprehend. The book uses the metric system, so American readers more familiar with imperial units will have to rely on a conversion chart.

These reservations aside, this is a book that will fill a large gap on the American

gardener's reference shelf. It is time more patriotic bulbs are grown.

—John E. Bryan

A garden writer and consultant, John E. Bryan lives in San Francisco. A revised edition of his book Bulbs will be published this spring by Timber Press.

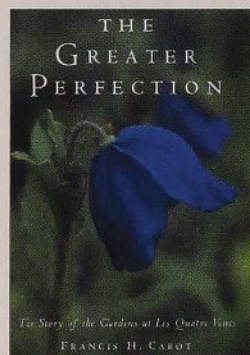
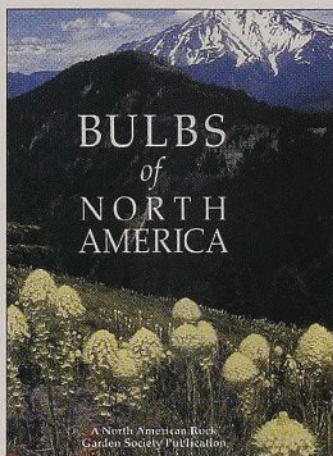
The Greater Perfection: The Story of the Gardens at Les Quatre Vents.

Francis H. Cabot. Hortus Press, New York, 2001. 327 pages. Publisher's price, hardcover: \$75.

WITH WIT AND INTELLIGENCE, Francis H. Cabot tells the story of the 75-year creation of his garden at Les Quatre Vents, a grand estate located about 80 miles down river from Quebec City. In the process of reading the book, billed as an "autobiography of a garden," we learn a lot about the man behind the garden as well.

Cabot is the founder and chairman of The Garden Conservancy, a non-profit organization dedicated to preserving exceptional private American gardens. Personal stories lace the text, adding intimacy, humor, and whimsy. For example, Cabot writes that at the tender age of 12 he was so overcome by the charms of one of his mother's friends, he proposed marriage to her, despite their more than 60 years age difference: "She let me down easily and we remained the best of friends."

Cabot's overarching design goal for Les Quatre Vents—French for "the four winds"—is to link the house and immediate grounds to its surroundings, making the entire creation at one with "the



genius of the place." As Cabot puts it, "the garden is merely an antechamber to the wider landscape." Nevertheless, this "antechamber"—actually a series of garden rooms, connecting allées, an open meadow, and a wooded ravine—provides visitors with a marvelous sequence of garden experiences, each of which stands on its own as well as being linked to the rest of the garden and the greater landscape. Readers are treated to details about these many rooms and spaces, which include a white garden, rose garden, shade borders, potager, perennial allée, meadow garden, and the Tapis Vert, an enclosed strip of green lawn.

"Emotions and sensuality are what a garden is all about," writes Cabot. But he also has an intellectual bent. He revels in designs that contain multiple levels of appeal and meaning. For example, the focal point of the bread and knot garden, known as the Jardin de la Boulangère, is a *four à pain*, an outdoor bread oven made from local clay, timber, and brick. A pair of little-leaf lindens (*Tilia cordata*) flanking the oven is pruned to echo its steep



roof while shorter arborvitae in front are shaped like loaves of local bread. Here is botany, punning humor, culinary history, and garden design all wrapped into a wonderful whole.

The Pigeonnier and reflecting pool at Les Quatres Vent. In medieval France, pigeoniers were built by feudal lords to house pigeons, which provided food and fertilizer for the manor. "At Quatre Vents," writes Cabot, "the Pigeonnier was destined to be in the garden rather than the barnyard and to serve other functions than the gathering of organic matter." Photograph by Jerry Harpur from *The Greater Perfection*.

The book's \$75 price tag is hefty, but the lavish photographs, entertaining anecdotes, and helpful insights into principles of garden design and plant use make this personal guided tour of a world-class garden worth the admission price. And the book's net proceeds will support the Garden Conservancy and Heritage Charlevoix, Inc., a charitable institution working to preserve the heritage and landscape of Charlevoix County, Quebec.

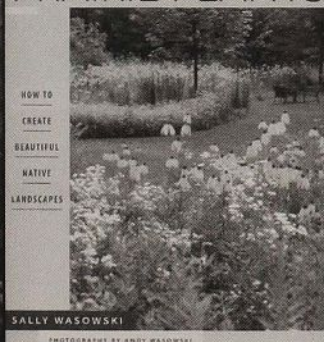
A writer who gardens in Northern Virginia, Catriona Tudor Erler's most recent book is Complete Home Landscaping, published in 2000 by Creative Homeowner Press.

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Photography by Andy Wasowski

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MINNESOTA

Regional Gardening Books

Each year, dozens of regional gardening books come across our desks. Here are brief descriptions of some of the most interesting we have seen in the last year, along with a list of others that you may have missed. You can order most of these books by logging onto the AHS Web site (www.ahs.org) and linking to amazon.com. For books not available through amazon.com, contact the individual publishers or a local bookstore.

Coastal Plants from Cape Cod to Cape Canaveral.

Irene H. Stuckey and Lisa Lofland Gould. University of North Carolina Press, Chapel Hill, 2001. 305 pages. Publisher's price, hardcover: \$29.95.

OFTEN OMITTED from generalized field guides, these 125 selected coastal specimens are given thorough descriptions, including range and habitat, plus interesting historic and anecdotal tidbits. Clear color photos assist identification, and there is also comprehensive information about the diversity of ecosystems along the Atlantic seashore. A good companion book to wildflower field guides.

—Diane Lewis, coordinator of adult education, Brookside Gardens, Wheaton, Maryland

Trees, Shrubs, and Roses for Midwest Gardens.

Ezra Haggard. Indiana University Press, Bloomington, 2001. 240 pages. Publisher's price, hardcover: \$49.95; softcover: \$29.95.

LANDSCAPE DESIGNER Ezra Haggard has created a distinct reference guide for Midwestern gardeners. His enthusiasm for each of the 100-plus plants highlighted makes you want one of everything.

In order to maintain scale for most home and garden spaces, the author has expertly selected the majority of trees at 35 feet and under. The shrubs and roses are all of manageable size.

Some of the plants will be hard to find but well worth the effort. Fortunately, the book includes a resource list of nurseries to help you find them.

Each entry is accompanied by a color

photograph of the plant shown in full glory of a particular season, together with suggested companion plantings.

I wish I had the garden space for each and every one!

—Alana Mezo, senior horticulturist, Chicago Botanic Garden

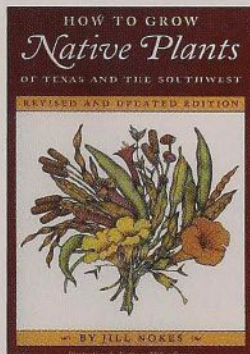
How to Grow Native Plants of Texas and the Southwest. Revised and updated edition.

Jill Nokes. University of Texas Press, Austin, 2001. 566 pages. Publisher's price, softcover: \$29.95.

THE GROWING need for tough landscape plants that will thrive with reduced watering and maintenance has heightened interest in well-adapted native species that are little known in the nursery trade. The question, "How to grow many natives?" has been difficult to answer. For us in the Southwest, Jill Nokes's revised

and updated book contains hard-to-find information on how to propagate and grow these "new" plants and includes species descriptions, range habitat, and preferred site. This book is a valuable resource for both commercial plant producers and novice gardeners.

—Peter M. Loos, horticulturist and owner/operator of Ecovirons, Conroe, Texas, and past president of the Native Plant Society of Texas



Other Recently Published Regional Gardening Books

NORTHWEST

Idaho Mountain Wildflowers. A. Scott Earle. Larkspur Books, Sun Valley, Idaho, 2001.

The Northwest Herb Lover's Handbook. Mary Preus. Sasquatch Books, Seattle, Washington, 2000.

SOUTHWEST/DESERT

Gardening in the Desert: A Guide to Plant Selection and Care. Mary F. Irish. University of Arizona Press, Tucson, 2000.

Plants for Dry Climates: How to Select, Grow, and Enjoy. Mary Rose Duffield and Warren D. Jones. Perseus Publishing, Cambridge, Massachusetts, 2001.

MIDWEST

Field Guide to Indiana Wildflowers. Kay Yatskievych. Indiana University Press, Bloomington, 2000.

Growing Great Vegetables in the Heartland. Andrea Ray Chandler. Taylor Trade Publishing, Dallas, Texas, 2001.

Northland Wildflowers. John B. Moyle and Evelyn W. Moyle. University of Minnesota Press, Minneapolis, 2001.

SOUTH/SOUTHEAST

Bulbs for Warm Climates. Thad M. Howard. University of Texas Press, Austin, 2001.

Gardening in the Humid South. Edmund N. O'Rourke Jr. and Leon C. Standifer. Louisiana State University Press, Baton Rouge, 2002.

Wildflowers of Georgia. Hugh Nourse and Carol Nourse. University of Georgia Press, Athens, 2000.

NORTHEAST/MID-ATLANTIC

Gardens Maine Style. Rebecca Sawyer-Fay. Down East Books, Camden, Maine, 2001.

The New York/Mid-Atlantic Gardener's Book of Lists. Bonnie Lee Appleton and Lois Trigg Chaplin. Taylor Trade Publishing Company, Dallas, Texas, 2001

CANADA

Culinary Herbs for Short-Season Gardeners. Ernest Small and Grace Deutsch. NRC Research Press, Ottawa, and Ismant Peony Press, Toronto, 2001.

Seasonal Garden Goods

Many of us have more garden tools than we know what to do with, but invariably certain tasks come up that require the use of a specialized tool that is not in our regular arsenal. Here are some relatively new tools that are worthy additions to your tool shed, along with a sharpener to keep all your tools on the cutting edge.

Uproot volunteer saplings, small weedy trees, and other heavy-stemmed invasive plants with the **Root Talon**. It has a 36-inch fiberglass handle with an 11-by-4-inch solid metal head that locks onto the base of unwanted plants. Available for \$47. Lampe Design, 262 South Griggs Street, St. Paul, MN 55105. (866) 334-9964. www.lampedesign.com.



Get rid of weeds without using herbicides or accidentally damaging valuable plants by using the **Circle Hoe**, a lightweight hoe that has a circular blade. Available in several sizes; the standard 39-inch model retails for \$29.95. Charley's Greenhouse Supply, 17979 State Route 536, Mount Vernon, WA 98273-3269. (800) 322-4707. www.charleysgreenhouse.com.



Keep your straight-edge garden tools in shape with this **4-in-1 Garden Tool Sharpener**. Its cutters are made of diamond-honed tungsten carbide. Retails for \$11.95. Kinsman Company, P.O. Box 428, Pipersville, PA 18947. www.kinsmangarden.com.

These corrosion-resistant **Groundbreakers** tools are designed for various garden tasks such as breaking ground, removing rocks, and tearing out weeds. The handles are rectangular to prevent them from twisting in your hand on impact. The tools start from \$13 and are available at home and garden centers. They are made by V & B Manufacturing Company, P.O. Box 268, Walnut Ridge, AR 72476. www.vbmfg.com.





Regional Happenings

NORTHEAST

JAN. 12–FEB. 24. **A Botanist's Look at Nature: Paintings and Sketches by Dr. Peter K. Nelson.** Brooklyn Botanic Garden, Brooklyn, New York. (718) 623-7220.

JAN. 17, FEB. 14 & MAR. 21. **American Gardening Lecture Series: Adoring the Exotic, Treasuring the Native.** New York Botanical Garden, Bronx, New York. (718) 817-8747.

JAN. 26 & 27. **The Power of Herbs: 10th Anniversary Weekend Celebration.** New York Botanical Garden, Bronx, New York. (718) 817-8747.

JAN. 29. **6th Annual Plant-O-Rama.** Horticultural trade show and symposium. Brooklyn Botanic Garden, Brooklyn, New York. (718) 623-7220.

FEB. 12. **Knickerbocker Society Begonia Lecture and Plant Sale.** 128 W 58 Street, New York, New York. (732) 246-0175.

FEB. 21–24. **Connecticut Flower and Garden Show.** Connecticut Expo Center, Hartford, Connecticut. (860) 529-2123.

FEB. 21–24. **New Jersey Flower and Patio Show.** Garden State Exhibit Center, Somerset, New Jersey. (317) 576-9933.

FEB. 21–MAR. 24. **Rhode Island Spring Flower and Garden Show.** Rhode Island Convention Center, Providence, Rhode Island. (401) 421-7811.

MID-ATLANTIC

JAN. 16. **12th Annual New Directions in the American Landscape.** Conference. Villanova University, Villanova, Pennsylvania. (215) 247-5777 ext. 125.

JAN. 18–20. **Virginia Flower and Garden Show.** Virginia Beach Pavilion, Norfolk, Virginia. (757) 853-0057.

JAN. 19–MAR. 22. **Welcome Spring.** Display. Longwood Gardens, Kennett Square, Pennsylvania. (800) 737-5500.

JAN. 25–27. **Eastern Winter Study Weekend.** Potomac Valley Chapter of the North American Rock Garden Society. Fairview Park Marriott Hotel, Falls Church, Virginia. (703) 979-5871.

FEB. 11–13. **Landscape Design Study Course I.** Sponsored by the National Capital Area Federation of Garden Clubs. U.S. National Arboretum, Washington, D.C. (301) 762-7855.

FEB. 23. **Western Pennsylvania Gardening and Landscaping Symposium.** Phipps Garden Center, Mellon Park, Pennsylvania. (412) 622-6915.

FEB. 27. **New Jersey Landscape Trade Show and Conference.** Meadowlands, Secaucus, New Jersey. (201) 664-6310.

MAR. 3–10. **Philadelphia Flower Show.** Pennsylvania Convention Center, Philadelphia, Pennsylvania. (215) 988-8899.

MAR. 7–10. **The Washington Home and Garden Show.** Washington Convention Center, Washington, D.C. (703) 823-7965.

SOUTHEAST

JAN. 12. **Tampa Bay Area Camellia Society show.** Tampa Woman's Club, Tampa Bay, Florida. (863) 688-0916.

JAN. 19. **Inaugural Orchid Gala: Orchids Under the Stars.** American Orchid Society. International Orchid Center, Delray Beach, Florida. (561) 404-2066.

JAN. 26. **20th Camellia Promenade.** Lakeland Camellia Society. Charles T. Thrift Student Center, Florida Southern College, Lakeland, Florida. (863) 688-0916.

FEB. 20–24. **Southeastern Flower Show.** Atlanta Exposition Center, Atlanta, Georgia. (404) 888-5511.

FEB. 22, 23 & 24. **Palm Beach Tropical Flower and Garden Show.** Flagler Drive between Evernia and Banyan Streets, West Palm Beach, Florida. (561) 655-5522.

FEB. 23–MAR. 3. **Carolina Spring: Annual Southern Spring Show.** Charlotte Merchandise Mart, Charlotte, North Carolina. (800) 849-0248.

FEB. 28–MAR. 3. **Nashville Lawn and Garden Show.** Tennessee State Fairgrounds, Nashville, Tennessee. (615) 352-3863.

MAR. 1 & 2. **Hellebore Days.** Piccadilly Farm, Bishop, Georgia. (706) 769-6516.

NORTH CENTRAL

JAN. 19. **Toward Harmony with Nature.** Seminar on native landscaping. Park Plaza Hotel and Convention Center, Oshkosh, Wisconsin. (920) 233-4853.

JAN. 19 & 20. **Orchid Show.** Frederik Meijer Gardens, Grand Rapids, Michigan. (616) 957-1580.

FEB. 2. **Starting Your Garden from Seed.** Workshop. Olbrich Botanical Gardens, Madison, Wisconsin. (608) 246-4550.

FEB. 8–10. **14th Annual Midwestern Herb and Garden Show.** Times Square Hall, Mt. Vernon, Illinois. (618) 242-2857.

FEB. 9–17. **National City Cleveland Home and Garden Show.** International Exposition Center, Cleveland, Ohio. (800) 600-0307.

FEB. 10. **Using Woody Plants.** Lecture by Marco Polo Stufano. Chicago Botanic Garden, Glencoe, Illinois. (847) 835-5440.

FEB. 13–17. **Des Moines Home and Garden Show.** Veterans Memorial Auditorium, Des Moines, Iowa. (800) 462-8782.

FEB. 23. **Natural Landscaping Seminar.** Conference Center of McHenry County College, Crystal Lake, Illinois. (815) 338-0393.

FEB. 23–MAR. 10. **Spring Flower Fest—A Japanese Garden.** Olbrich Botanical Gardens, Madison, Wisconsin. (608) 246-4550.

SOUTH CENTRAL

JAN. 19. **Rose Workshop and Consulting Rosarian School.** Houston Rose Society. Houston Garden Center, Houston, Texas. (713) 236-2600.

FEB. 15–17. **Texas Home and Garden Show.** George R. Brown Convention Center, Houston, Texas. (713) 821-1194.

FEB. 16. **East Texas Spring Landscape and Garden Conference.** Texas Cooperative Extension. Tyler Rose Garden Center, Tyler, Texas. (903) 535-0885.

FEB. 20–23. **Winter Conference.** Association of Professional Landscape Designers. Driskill Hotel, Austin, Texas. (717) 238-9780.

FEB. 27–MAR. 3. **35th Annual Wichita Garden Show.** Century II Expo Hall, Wichita, Kansas. (316) 721-8740.

MAR. 1–3. **Dallas Home and Garden Show.** Market Hall, Dallas, Texas. (713) 821-1194.

MAR. 8–10. **Texas Home and Garden Show.** Henry B. Gonzalez Convention Center, San Antonio, Texas. (713) 821-1194.

NORTHWEST

JAN. 20–FEB. 3. **Tacoma Home and Garden Show.** Tacoma Dome, Tacoma, Washington. (253) 756-2121.

FEB. 6–10. **Northwest Flower and Garden Show.** Washington State Convention and Trade Center, Seattle, Washington. (800) 229-6311.

FEB. 20–24. **GMC Portland Home and Garden Show.** Portland Expo Center, Portland, Oregon. (503) 246-8291.

SOUTHWEST

FEB. 8–10. **Colorado Springs Home and Garden Show.** Youth Outreach Center, Colorado Springs, Colorado. (800) 332-3976.

FEB. 22. **Xeriscape Conference.** Xeriscape Council of New Mexico. Albuquerque Convention Center, Albuquerque, New Mexico. (505) 341-5743.

WEST

JAN. 23–26. **Ecological Farming Conference.** Ecological Farming Association. Asilomar Conference Center, Pacific Grove, California. (831) 763-2111.

JAN. 23. **Gardening with a Sense of Place: Using California's Native Plants.** The Arboretum of Los Angeles County, Arcadia, California. (626) 821-4623.

JAN. 29. **12th Annual Reno Nevada Landscape Association Trade Show and Conference.** Silver Legacy Resort Casino, Reno, Nevada. (775) 673-0404.

FEB. 3–5. **IPM and Monitoring: Back to Basics with New Technology.** Association of Applied Insect Ecologists. Berkeley Marina Radisson Hotel, Berkeley, California. (530) 758-8909.

CANADA

FEB. 13 & 14. **Gardening from a Natural Perspective.** The Arboretum, University of Guelph, Guelph, Ontario. (519) 824-4120 ext. 4110.

FEB. 27–MAR. 3. **Calgary Home and Garden Show.** Round-Up Center/Stampede Park, Calgary, Alberta. (403) 209-3577. ∞

Plan Ahead for Michaux Symposium

IN RECOGNITION OF the 200th anniversary of botanist and explorer André Michaux's death, a consortium of Gaston County, North Carolina, organizations are planning the André Michaux International Symposium to be held May 15 to 19 at Belmont Abbey College in Belmont, North Carolina. Organizers are soliciting papers in the following areas: botanical science, plant species authored or named for Michaux, the 18th-century French-American culture and its influence and connection with Michaux, and Michaux's legacy and contribution to horticulture and botanical art. The deadline for submissions is February 1.

The symposium, co-sponsored by the Southern Appalachia Botanical Society, is open to the public. "The symposium is for people who have knowledge of plants and a curiosity about the wonderful stories associated with them," says Charlie Williams, one of the event organizers. "We are going to talk about history in the context of how it fits into a greater appreciation of plants."

The symposium's featured speakers are botanist James L. Reveal, professor emeritus at the University of Maryland, who will speak about Michaux's role in fostering knowledge of North American botany, and Mark J. Plotkin, an ethnobotanist who will be speaking on plants and traditions of the shamans of the tropical rainforest.

Other highlights include field trips to several local nature areas to observe plant life and the Celebrate France! Festival at Daniel Stowe Botanical Gardens. Regular registration is \$125, due by March 15. Additional fees are required for some activities. No registration is needed for the Celebrate France! Festival. Events will be announced in the spring. For more information visit www.michaux.org or call (704) 868-3181.

50th Anniversary of Pacific Orchid Exposition

TO MARK THE golden anniversary of the Pacific Orchid Exposition, the San Francisco Orchid Society—founded in 1951 and now with about 700 members—will provide an in-depth look at the past, present, and future of orchid cultivation with the theme "A Night in the Tropics" February 21 to 24 at the Festival Pavilion, Fort Mason Center, San Francisco, California.

Visitors to the exhibition will see orchids from around the world. Approximately 65 exhibitors will be judged by American Orchid Society judges as well as those from local orchid societies.

"The main goal of the show is educating the public about orchids," says Frances Larose, the society's marketing manager. "The show has really evolved over the last 10 years." She adds that they now have a waiting list for exhibitors. The benefit preview night on February 21 will feature 20 wineries pouring top shelf wines, hors d'oeuvres, and music.

This year's show will focus on how breeders are creating new flowers. Participants can enjoy hands-on workshops about orchid care, visit the Orchid Doctor to have their questions answered, and take a docent tour. These tours will be offered every hour on the half hour. Educational flyers covering how to care for many types of orchids will also be available. The exhibition also includes an orchid sale with plants from over 65 international nurseries.

Attendance for the weekend is expected to be around 20,000 people. General admission is \$11, with discounted prices for senior citizens and people with disabilities. A three-day pass is available for \$25. Tickets for the preview night are \$20 in advance and \$25 at the door. For information or tickets call (415) 546-9608 or visit www.orchidsanfrancisco.com.

—Sarah Schroeder, Editorial Assistant



Educational displays like this one will be part of the orchid show.

Garden Market

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Pronunciations and Planting Zones

Most of the cultivated plants described in this issue are listed here with their pronunciations, USDA Plant Hardiness Zones, and AHS Plant Heat Zones. These zones suggest a range of locations where temperatures are appropriate—both in winter and summer—for growing each plant. While the zones are a good place to start in determining plant adaptability in your region, factors such as exposure, moisture, snow cover, and humidity also play an important role in plant survival. The zones tend to be conservative; plants may grow outside the ranges indicated. A USDA zone rating of 0 means that the plant is a true annual and completes its life cycle in a year or less. Many plants that are perennial in warm climates are grown as annuals in cooler zones. To purchase a two-by-three-foot glossy AHS Plant Heat-Zone Map for \$9.95, call (800) 777-7931.

A-D

Alchemilla glaucescens al-kem-ILL-uh glaw-SES-senz (3-7, 7-1)
Arctostaphylos uva-ursi ark-toh-STAFF-ih-loss yew-vuh-UR-sigh (2-6, 6-1)
***Aster fendleri* 'My Antonia'** ASS-tur fend-LER-eye (5-7, 7-5)
Baccharis halimifolia BAK-uh-riss hal-ih-mih-FO-lee-uh (3-7, 7-1)
Bessera elegans BESS-ur-uh EL-ih-ganz (9-10, 10-8)
***Betula pendula* 'Youngii'** BET-yew-luh PEN-dyew-luh (3-7, 7-1)
Bismarckia nobilis biz-MARK-ee-uh NO-bil-is (9-11, 12-10)
Boltonia asteroides bohI-TOH-nee-uh ass-tuh-ROY-deez (4-8, 9-2)
Callicarpa japonica kal-lih-KAR-puh jah-PON-ih-kuh (5-8, 12-3)
Carex morrowii KAIR-eks mor-ROW-ee-eye (5-9, 12-1)
***C. oshimensis* 'Evergold'** C. o-she-MEN-sis (6-9, 9-6)
C. plantaginea C. plan-tuh-jih-NEE-uh (5-8, 8-4)
***Ceanothus thrysiflorus* 'El Dorado'** see-uh-NO-thus thriss-ih-FLOR-us (7-11, 12-1)
Cerastium tomentosum sair-ASS-tee-um toh-men-TOH-sum (3-7, 7-1)
***Cercidiphyllum japonicum* var. *magnificum* 'Pendulum'** sur-sid-ih-FIL-lum jah-PON-ih-kum var. mag-NIF-ih-kum (4-8, 8-1)
Chamaemelum nobile kam-may-ME-lum NO-bil-ee (6-9, 12-1)
Coptis groenlandica COP-tiss gren-LAN-dih-kuh (2-7, 7-1)
***Cornus florida* 'Pendula'** C. FLOR-ih-duh (5-8, 8-3)
***Cupressus arizonica* 'Blue Ice'** kyew-PRESS-us air-ih-ZOWN-ih-kuh (7-9, 9-7)
Curcuma elata kur-KEW-muh eh-LAY-tuh (8-11, 12-1)
Cynara cardunculus SIN-uh-ruh kar-DUN-kyew-lus (8-11, 12-1)
C. scolymus C. SKOH-lih-mus (8-11, 12-1)

***Deinanthef bifida* 'Pink Kii'** dy-NAN-thee BIF-ih-duh (5-9, 9-5)
***Diascia integerrima* 'Pink Adobe'** dye-ASH-ee-uh in-teh-JER-ih-muh (8-9, 9-8)

E-I

Elaeagnus umbellata el-ee-AG-nus um-bel-LAY-tuh (4-8, 8-1)
Epigaea repens eh-pih-GEE-uh REP-enz (3-9, 9-1)
Eryngium giganteum ee-RIN-jee-um jy-GAN-tee-um (4-9, 12-1)
***Eschscholzia californica* 'Milkmaid'** ess-SHOLTZ-zee-uh kal-ih-FORN-ih-kuh (0, 9-2)
Eucalyptus gunnii yew-kuh-LIP-tus GUN-ee-eye (8-10, 10-8)
***Euonymus fortunei* 'Coloratus'** E. for-TEW-nee-eye (4-9, 9-1)
***Euphorbia characias* 'Portuguese Velvet'** yew-FOR-bee-uh chuh-RAY-see-us (7-10, 10-7)
E. myrsinites E. meer-sin-EYE-teez (5-8, 8-5)
***Fagus sylvatica* 'Pendula'** FAY-gus sil-VAT-ih-kuh (5-7, 7-5)
Festuca glauca fes-TEW-kah GLAW-kuh (4-9, 9-1)
Gaultheria procumbens gawl-THEER-ee-uh pro-KUM-benz (3-8, 8-1)
Gelsemium sempervirens jel-SEE-me-um sem-pur-VY-renz (7-9, 9-4)
Hedera colchica* var. *dentata HED-er-uh KOAL-chih-kuh var. den-TAY-tuh (5-10, 10-7)
Helianthus debilis hee-lee-AN-thus DEB-ih-liss (0, 12-1)
***Helichrysum italicum* 'Nana'** hel-ee-CRY-sum ih-TAL-ih-kum (7-10, 10-7)
H. petiolaris H. pet-ee-o-LAIR-ee (9-11, 12-1)
***H. thianschanicum* 'Silver Spike'** H. thee-an-SHAN-ih-kum (10-11, 12-1)
Helictotrichon sempervirens hel-ik-toh-TRY-kon sem-pur-VY-renz (4-9, 9-1)
***Heliopsis helianthoides* 'Prairie Sunset'** hee-lee-OP-siss hee-lee-an-THOY-deez (3-9, 9-1)
***Ipomoea batatas* 'Margurita'** ih-po-ME-uh buh-TAH-tus (11-12, 12-1)

J-R

***Juniperus squamata* 'Blue Star'** jew-NIP-er-iss squaw-MAT-uh (4-8, 8-1)
Kalanchoe pumila kal-an-KO-ee PYEW-mih-luh (11, 12-1)
Kolkwitzia amabilis kol-KWIT-zee-uh uh-MAB-uh-liss (4-9, 9-1)
***Mazus japonicus* 'Albiflorus'** MAY-zus jah-PON-ih-kus (7-9, 9-4)
M. reptans M. REP-tanz (4-9, 9-1)
Mitchella repens mih-CHEL-luh REP-enz (4-9, 9-1)
Myrtus communis MUR-tus com-YEW-niss (9-11, 12-1)
***Oenothera macrocarpa* 'Comanche Campfire'** ee-NOTH-ur-uh mak-ro-KAR-puh (5-8, 8-3)
Onopordum acanthium oh-noh-POR-dum uh-KAN-thee-um (6-8, 12-7)

***Ophiopogon planiscapus* 'Nigrescens'** of-fee-o-PO-gon plan-iss-KAY-pus (6-11, 12-6)
***Origanum laevigatum* 'Hopley's'** o-RIG-uh-num lee-vih-GAY-tum (7-11, 12-7)
Pachysandra procumbens pak-ih-SAN-druh pro-KUM-benz (5-9, 8-3)
P. terminalis P. ter-mih-NAL-iss (4-8, 8-1)
***Panicum virgatum* 'Heavy Metal'** PAN-ih-kum vur-GAY-tum (4-9, 9-2)
***Pennisetum alopecuroides* 'Hameln'** pen-ih-SEE-tum al-o-peh-kyew-ROY-deez (5-9, 9-1)
***Persicaria amplexicaulis* 'Atrosanguineum'** pur-sih-KAIR-ee-uh am-pleks-ih-KAWL-is (5-8, 8-5)
Philadelphus coronarius fil-uh-DEL-fis kor-o-NAIR-ee-us (4-9, 9-4)
***Phormium tenax* 'Atropurpureum'** FOR-me-um TEN-aks (9-11, 12-2)
***Picea abies* 'Pendula'** PY-see-uh AY-beez (2-8, 8-1)
Pinus clausa PY-nus KLAU-suh (8-9, 9-8)
Plectranthus argentatus plek-TRAN-thus ar-jen-TAY-tuss (11, 12-1)
Polianthes tuberosa pol-ee-AN-thees too-bur-O-suh (11-12, 12-7)
***Prunus subhirtella* 'Pendula'** PREW-nus sub-her-TEL-uh (6-8, 8-6)
Pyrus salicifolia PY-russ sal-iss-ih-FO-lee-uh (5-9, 9-4)
***Rosmarinus officinalis* 'Prostrata'** roze-muh-RY-nus oh-fiss-ih-NA-liss (8-10, 12-2)

S-Z

Saccharum ravennae sak-AH-rum ruh-VEN-ee (6-9, 9-6)
Salix alba SAY-lik AL-buh (4-9, 9-3)
S. babylonica S. bab-ih-LON-ih-kuh (6-9, 9-5)
Santolina chamaecyparissus san-toh-LEE-nuh kam-ee-sip-uh-RISS-uss (6-9, 12-1)
Satureja hortensis sat-oo-REE-yuh hor-TEN-siss (6-11, 12-1)
Sedum acre SEE-dum AY-kur (3-8, 8-1)
S. kamtschaticum S. kamt-SHAT-ih-kum (3-8, 8-1)
S. middendorffianum* var. *diffusum S. mid-den-dorf-ee-AY-num var. dih-FYEW-sum (6-9, 9-6)
S. ternatum S. ter-NAY-tum (4-9, 9-4)
Serenia repens sair-eh-NO-uh REP-enz (9-11, 12-9)
Styrax japonicus STY-raks jah-PON-ih-kus (6-8, 8-6)
Symphoricarpos albus sym-foh-rih-KAR-pos AL-bus (3-7, 7-1)
Thymus serpyllum* var. *coccineus TY-mus sur-PIL-lum var. kok-SIN-ee-us (4-9, 9-1)
Verbena bonariensis ver-BEE-nuh bo-nair-ee-EN-siss (6-11, 12-1)
Veronica incana ver-ON-ih-kuh in-KAN-uh (4-8, 8-3)
Waldsteinia ternata wald-STY-nee-uh ter-NAY-tuh (3-8, 8-1)
Weigela florida wy-JEEL-yuh FLOR-ih-duh (4-8, 8-1)



Notes from River Farm

Seed Exchange

by David J. Ellis

FOR MOST OF the year, the seed room at River Farm is a quiet place. But each January and February, it becomes a beehive of activity as the horticultural staff, interns, and volunteers fill seed orders to send out to members as part of the Society's annual Free Seed Exchange.

"We use an assembly-line process to fill seed orders," says AHS Garden Manager Barry Stahl, "and sometimes, when the orders are really flying through the process, I am reminded of the scene from an old *I Love Lucy* episode where Lucy and Ethel are boxing chocolates and the conveyor belt is running so fast they have to start eating the chocolates to stay ahead."

POPULAR BENEFIT

The seed exchange has been a favorite with AHS members since it was first introduced as a member benefit in the spring of 1959. The first offering consisted of only six types of seeds of ornamental trees and shrubs that were made available by the Society's secretary. The members responded with such enthusiasm, however, that more seeds were made available that fall.

At first, most contributors to the seed exchange were members who were willing to share the fruits of their garden. But as the number of people who participated in the seed exchanges steadily climbed, donations were solicited from seed companies and botanical gardens, which responded generously.

In 1973, when the Society's headquarters was established at River Farm, a whole new source of seeds opened up. Since that time, seed exchange offerings have regularly included seeds harvested from plants growing on our grounds. In this year's exchange (AHS members received a special

insert with this issue of the magazine that included the seed list and order form), meadow rue (*Thalictrum rochebrunianum*) and Franklin tree (*Franklinia alatamaha*) are among the seeds that were collected at River Farm.

The number of seeds offered each year has increased gradually through the years and now averages around 130. Sometimes the amount of seeds sent in by individual donors is too small to offer in the ex-

to defray shipping expenses. Interns play a key role in coordinating the seed exchange, but in the fall, when seed donations start arriving—and again in early winter, when mail bins full of seed orders begin to pile up—the entire horticulture department staff and many volunteers pitch in to keep the program running smoothly.

To encourage more people to donate seeds, one significant change was made to the program this year: Members who donated seeds for this year's exchange will get their orders filled first up until a cut-off date, at which point other seed requests will be filled in the order in which they were received.

GIVE IT A TRY

Exchanging seeds with other gardeners is a time-honored way to share the bounty of your garden and extend the frontiers of your gardening experience—all at minimal to

no cost. No matter what your age, there's still a childlike delight to be found in successfully growing plants from seed and watching them mature. And it's a painless chance to experiment with plants you might otherwise not think of growing.

If you haven't participated in the seed exchange before, I urge you to try it out this spring. Then remember to save some seeds to donate to the 2003 seed exchange in the fall.

David J. Ellis is editor of *The American Gardener*.



By early January, jars of seeds donated by AHS members line seed room shelves.

change, but those seeds don't go to waste; they are either grown out and planted at River Farm or donated to school and correctional facility horticulture programs.

NEW TO THE PROGRAM

The seed exchange has always been a free service to members, but in recent years, donations generated by the program have been used to support the Society's National Horticultural Internship Program and

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"It's hard to imagine any part of my life that hasn't been touched by my passion for plants—food, friends, work, and weekends puttering in the garden. *AHS is all about creating this passion in children and supporting it in adults.* I give to AHS because it shares my values."

—Brian E. Holley, Director, Cleveland Botanical Garden

"Members tell me that '*giving something back*' to the gardening world is just as important as receiving *The American Gardener*."

—Linda D. Hallman, President and CEO, AHS

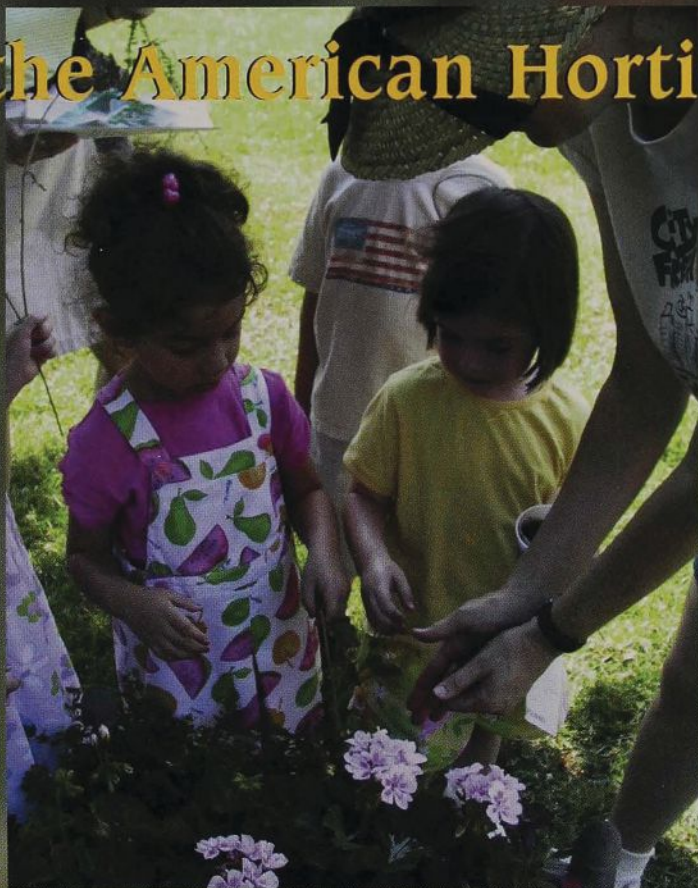


Garden Calm at River Farm

the American Horticultural Society

"I believe there is a moral dimension to horticulture: *Gardening makes us better people, and gardens make our communities better places to live.* That's why I and all gardeners should be supporting AHS."

—Duane Kelly, Producer of the Northwest and San Francisco Flower & Garden Shows



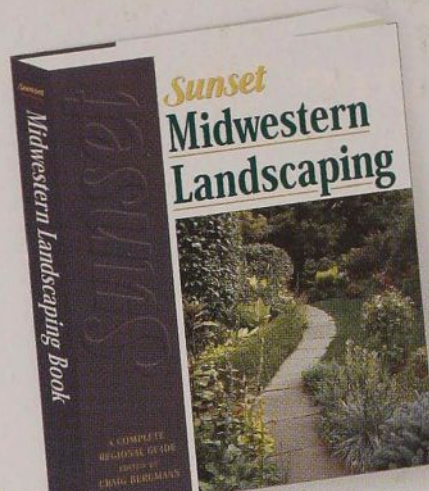
connects people to gardens.



The American Horticultural Society relies on the generous gifts of donors to fulfill its mission *to educate and inspire people of all ages to become successful and environmentally responsible gardeners by advancing the art and science of horticulture.* AHS fosters the human connection with plants, the environmental value of SMARTGARDEN™ practices, and an appreciation of beauty in the environments we create.

Contact Ashby Pamplin, Director of Development, at (800) 777-7931 to find out how you can help.

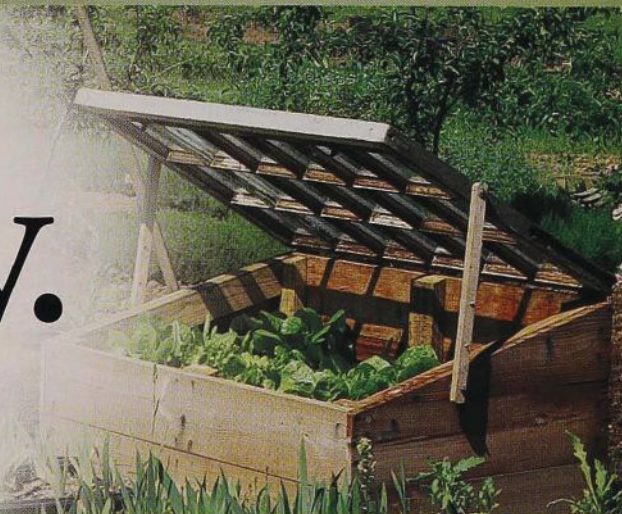
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