

# American Horticulturist

## *Scientists Clone Endangered Cacti*

Researchers at the New Mexico State University Agricultural Experiment Station and Plant Genetic Engineering Laboratory have recently developed a tissue culture technique that could not only save some cactus species from extinction, but might also lead to nursery production of these species.

Plant geneticist Dr. Gregory Phillips, horticulturist John Hubstenberger and master's degree student Philip Clayton have successfully performed tissue culture techniques on offshoots from more than 34 cactus species, producing growing plants that are genetically identical to their source. Of these 34 species, 23 are listed by the U.S. Fish and Wildlife Service as Endangered or Threatened. Because of the work of these scientists, conservationists or preservationists are now ensured of having specimens to plant out wherever they are conducting recovery programs.

The endangered cacti species are quite unusual, and are collected by people around the world. In fact, pressure from these collectors has pushed many species from rare to Threatened

or Endangered categories, Phillips said. The fact that the cacti are so slow-growing in the wild means that successful natural and artificial replacement can take years.

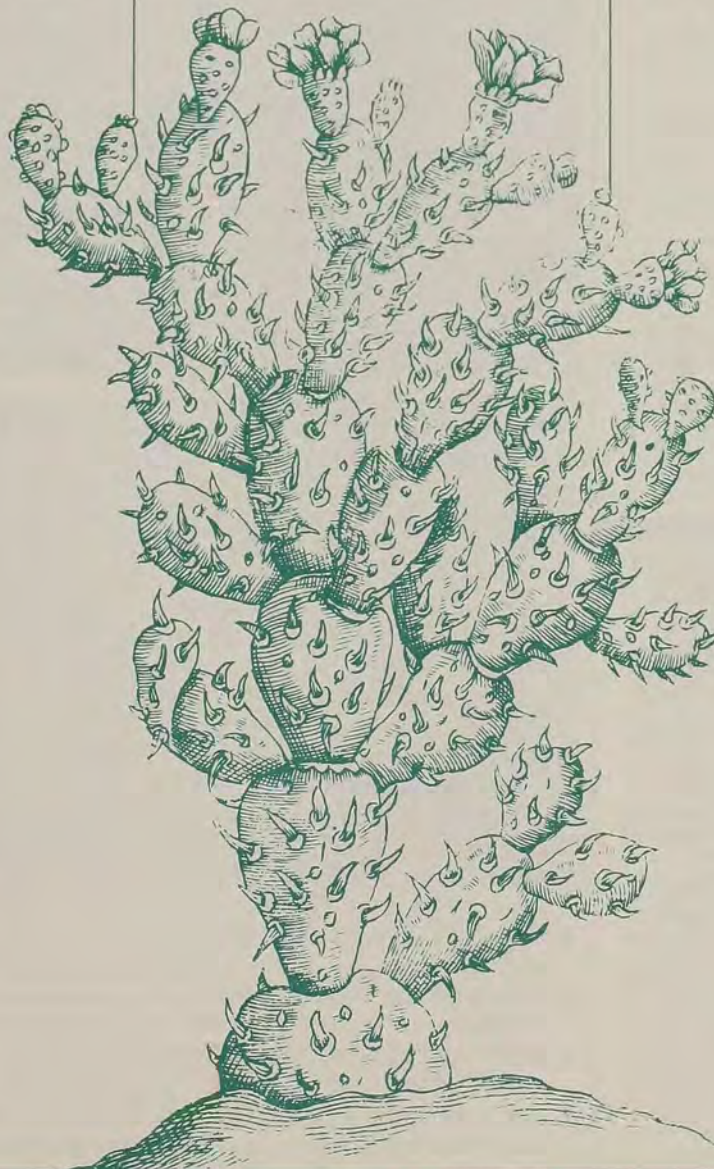
Perhaps more important than the fact that offshoots will regenerate in the laboratory is the rate at which these scientists have gotten them to grow. In as few as six months, the

cacti will grow to a size and quality comparable to or better than those grown in the wild for 10 years, according to Phillips.

"This makes commercial production feasible," the geneticist said, "and commercialization could significantly reduce or eliminate pressure from collectors in the wild."

The key to growing cacti at such a rapid rate lies in the fact that they have a spring flush—a short period of fast growth. During spring flush, a cactus might grow whole pads in two or three weeks, for example. It would then grow very little the rest of the year. The scientists decided to try to maintain spring flush growth rates for a longer period of time through the manipulation of vitamins, nutrients and hormones in the tissue culture medium. Because each species and genus has special growth hormone requirements, the researchers tried variations until they came up

*Continued on page 2*



# Endangered Plant Update

In the past year, the U.S. Fish and Wildlife Service has greatly expanded its list of Endangered and Threatened species, as well as its list of species proposed to be included as Endangered or Threatened. The following is a summary of those actions through July of 1986. For further information, write to the Associate Editor, American Horticultural Society.

## Listed as Endangered

- *Erigeron maguirei* var. *maguirei*, Maguire daisy, Utah
- *Solidago shortii*, Short's goldenrod, Kentucky
- *Acanthomintha obovata* subsp. *duttonii*, San Mateo thornmint, California
- *Hoffmannseggia tenella*, slender rush-pea, Texas
- *Cereus eriophorus* var. *fragrans*, fragrant prickly-apple, Florida
- *Dicerandra frutescens*, scrub mint, Florida
- *Dicerandra cornutissima*, long-spurred mint, Florida
- *Coryphantha robbinsorum*, Cochise pincusion cactus, Arizona, Mexico
- *Santalum freycinetianum* var. *lanaiense*, Lanai sandalwood, Lanai, Hawaiian Islands
- *Oxypolis canbyi*, Canby's dropwort, Maryland, North and South Carolina, Georgia
- *Achyranthes rotunda*, Oahu, Hawaiian Islands

- *Argyroxiphium sandwicense* subsp. *sandwicense*, Mauna Kea silver-sword, Hawaii
- *Erythronium propullans*, Minnesota trout lily, Minnesota
- *Hymenoxys texana*, Texas
- *Tumamoca macdougallii*, Tuma-moc globe-berry, Arizona, Mexico
- *Hibiscadelphus distans*, Kauai Hau Kuahiwi, Kauai, Hawaiian Islands
- *Chrysopsis floridana*, Florida golden aster, Florida
- *Scaevola coriacea*, dwarf Naupaka, Maui, Hawaiian Islands
- *Iliamna corei*, Peter's Mountain mallow, Virginia
- *Cycladenia humilis* var. *jonesii*, Jones cycladenia, Utah
- *Scutellaria montana*, mint, Tennessee, Georgia

## Proposed as Endangered

- *Eriogonum ovalifolium* var. *wiliamsiae*, Steamboat buckwheat, Nevada
- *Cypressus abramsiana*, Santa Cruz cypress, California
- *Glaucocarpum suffrutescens*, toad-flax cress, Utah
- *Deeringothamnus pulchellus*, beautiful pawpaw, Florida
- *Deeringothamnus rugelii*, Rugel's pawpaw, Florida
- *Serianthes nelsonii*, Rota, N. Marianas
- *Clematis socialis*, Alabama leather flower, Alabama
- *Pediocactus despainii*, San Rafael cactus, Utah
- *Trifolium stoloniferum*, running buffalo clover, West Virginia
- *Eryngium constancei*, Loch Lomond coyote-thistle, California
- *Lupinus aridorum*, scrub lupine, Florida
- *Prunus geniculata*, scrub plum, Florida
- *Chionanthus pygmaeus*, pygmy fringe tree, Florida
- *Eryngium cuneifolium*, snakeroot, Florida
- *Hypericum cumulicola*, Highlands scrub hypericum, Florida
- *Polygonella basiramia*, wireweed, Florida
- *Warea carteri*, Carter's mustard, Florida
- *Peperomia wheeleri*, Wheeler's peperomia, Puerto Rico
- *Banara vanderbiltii*, Palo de Ramon, Puerto Rico

- *Eriastrum densifolium* subsp. *sanctorum*, Santa Ana River woolly-star, California
- *Centrostegia leptoceras*, slender-horned spineflower, California
- *Lysimachia asperulaefolia*, rough-leaved loosestrife, North Carolina
- *Lesquerella pallida*, white bladder-pod, Texas
- *Lesquerella filiformis*, Missouri bladder-pod, Missouri
- *Eriogonum humivagans*, spreading wild-buckwheat, Utah
- *Penstemon haydenii*, blowout penstemon, Nebraska
- *Warea amplexifolia*, wide-leaf warea, Florida

## Proposed as Threatened

- *Asimina tetramera*, four-petal paw-paw, Florida
- *Lespedeza leptostachya*, prairie bush-clover, Minnesota, Wisconsin, Illinois, Iowa
- *Astragalus robbinsii* var. *jesupi*, Jesup's milk-vetch, New Hampshire, Vermont
- *Paronychia chartacea*, papery whitlow-wort, Florida
- *Geocarpum minimum*, Missouri, Arkansas

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## Scientists Clone Cacti

Continued from page 1  
with the correct medium for about 10 model species, Phillips explained. They found that through this technique, they could "... do in weeks what conventional propagation does in months or years," according to Phillips. He noted, however, that as soon as the cacti are planted in soil, growth slows to normal rates.

With the tissue culture cloning system, a nurseryman could be in the cacti business in one month. And the NMSU technique is simple enough that nursery operators could use it in their back rooms, Phillips said.

The NMSU researchers are continuing to evaluate this and other methods of regeneration, in an effort to ensure commercial production is as efficient and lucrative as possible. As a result, many endangered native cacti may soon be on the road to recovery.

# 1986 Annual Awards



TOP: Dr. Elizabeth McClintock receives the Society's highest honor, the Liberty Hyde Bailey Medal, from new AHS President Everitt Miller, while Carolyn Marsh Lindsay, Awards Chairman, leads the applause. MIDDLE: Retiring AHS President Edward N. Dane (r) accepts a Certificate of Appreciation from Everitt Miller (l). BOTTOM: The 41st Annual Meeting of the AHS in San Francisco attracted some key figures—both national and international—in the field of horticulture. Pictured here are (l to r): Dr. Charles Huckins, Executive Director, AHS; Dr. Christopher Brickell, Director General, Royal Horticultural Society, England; Mr. Richard Hutton, AHS Board Member, and President, American Association of Nurserymen; and Mr. H. Van der Borg, Secretary-general and Treasurer, International Society for Horticultural Science.

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## Plants Wanted

Members who are growing or who have access to any of the plants in this month's column are invited to help their fellow members locate seed, plants or cuttings of their "Plants Wanted" by writing directly to the address listed below.

Please send your "Plants Wanted" lists, including genus, species, common name and a brief description, to "Plants Wanted" in care of the Society. Please type or print neatly. We will publish them on a space-available basis after checking for sources in the Society's catalogue file.

- ***Adlumia fungosa***, climbing fumitory, mountain-fringe or Alleghany vine, is a herbaceous biennial vine that is native to North America, from Canada to North Carolina. It has delicate, fern-like leaves, grows from 10 to 12 feet tall and bears whitish or pale pinkish-purple flowers, ½ inch or longer, from June to October. Glen Winstein, 1112 Harding St., Bridgeville, PA 15017.

- ***Crataegus monogyna* 'Biflora'**, English hawthorn or Glastonbury thorn, is a deciduous species grown as a large shrub or small tree. It blooms in mid-winter in milder climates, and also in spring. Its leaves are gray-felty on the undersides. Marissa Fishman, Greenmantle Nursery, 3010 Ettersburg Road, Garberville, CA 95440.

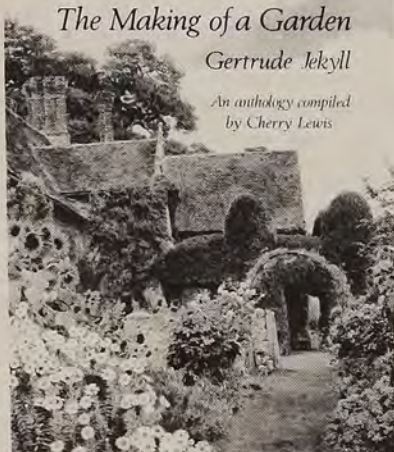
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### GARDENS FOR SMALL COUNTRY HOUSES

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**Gardens for Small Country Houses** by Gertrude Jekyll and Sir Lawrence Weaver. 11 x 8½ in. 260 pp., 387 illus. Jekyll and Weaver produced the essence of small garden design. Gardeners continue to find in it inspiration in planning their own gardens. Retail \$39.50, AHS price \$32.60

Please add \$1.75 per book for postage and handling. Allow six weeks for delivery.

Mail to: Robin Williams, American Horticultural Society, Box 0105, Mount Vernon, VA 22121.

## Seedy Citrus Cure

Scientists with the USDA Agricultural Research Service are using gamma radiation technologies on citrus seeds in order to produce plants with seedless fruit. In the past, 'Duncan' white grapefruit, pineapple, oranges, and 'Foster' red grapefruit got high marks for flavor, aroma, color, juiciness and size, but had too many seeds for commercial sale; that is, they contained more than 10 seeds per fruit. Now these prime fruits may be enjoyed by consumers, and better yet, the possibility exists that trees such as olives, pittosporums, flowering plums, privets, and others used as ornamentals may be irradiated to make them fruitless or to make their fruits seedless.

# Gardener's Dateline

## NOVEMBER 7-9

### Bermuda International Flower Show

Information: Bermuda International Flower Show, PO Box HM 150, Hamilton 5, Bermuda.

## NOVEMBER 8

### Georgia Organic Growers Association Annual Fall Conference

Mount Vernon Presbyterian Church, 471 Mount Vernon Highway, North Atlanta, Georgia. Hours: 10:00 a.m. to 5:00 p.m. Information: Georgia Organic Growers Association, PO Box 15324, Atlanta, Georgia 30333; or call Diana Jerkins, (404) 373-7843 or Larry Conklin (404) 253-0347.

## NOVEMBER 8-9

### American Rhododendron Society Northeast Regional Conference

Danbury Hilton Inn, Route I-84, Danbury, Connecticut. Information: Cheri Cooper, Conference Registrar, 676 Lowell Rd., Concord, MA 01742, (617) 369-2644.

## NOVEMBER 21-23

### National Chrysanthemum Society Annual Show

Tarrant County Courthouse, 101 East Weatherford, Fort Worth, Texas. Hours: Friday, 3:00 p.m. to 9:00 p.m.; Saturday, 9:00 a.m. to 9:00 p.m.; Sunday, 10:00 a.m. to 4:00 p.m. Information: National Chrysanthemum Society, Inc., USA, 2612 Beverly Boulevard, Roanoke, VA 24015, (703) 774-2359.

## NOVEMBER 22-25

### American Society of Landscape Architects Annual Meeting

Moscone Convention Center, San Francisco, California. Information: Pam Jensen, ASLA, 1733 Connecticut Avenue, NW, Washington DC 20009, (202) 466-7730.

## DECEMBER 5-7

### Second Pacific Northwest Chestnut Conference

La Sell Conference Center, Oregon State University, Corvallis, Oregon. Information: Larry Geno, Public Relations, PO Box 411, Northport, Washington 99157, or Mike Maki, PO Box 6138, Olympia, Washington 98502.

## DECEMBER 7-11

### National Urban Forestry Conference

Sheraton Twin Towers, Orlando, Florida. Information: Ali F. Phillips, American Forestry Association, 1319 18th Street, NW, Room 401, Washington, DC 20036, (202) 467-5810.

## DECEMBER 13

### AHS Christmas Open House

River Farm, 7931 East Boulevard Drive, Alexandria, Virginia. Hours: 10:00 a.m. to 4:00 p.m. Admission: free. Information: Sharon Barnes, AHS, PO Box 0105, Mt. Vernon, VA 22121.



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# AHS

## What's Happening



Fall is an especially beautiful time of the year here at River Farm, and brings to mind the fact that Thanksgiving will be upon us in just a few short weeks. And before we know it, Christmas will be here. Let me tell you a little bit about what we have planned for this year's Christmas Open House, and invite you to join in on this or any other listed activity that might be of interest to you.

**Christmas Open House. Saturday, December 13, 10 a.m. to 4 p.m.** River Farm, 7931 East Boulevard Drive, Alexandria, Virginia. Admission: Free. This year, for the first time, the Society will offer fresh-cut Christmas trees for sale. The operator of a local Virginia Christmas tree farm has agreed to supply trees to us, and we will offer them on a pre-order basis. Pre-ordered trees may then be picked up at River Farm the day of our Christmas Open House. For more information about the Christmas tree pre-order sale, please call the Society at (703) 768-5700.

Also offered for sale will be holiday plants of various kinds, fresh holiday greens, crafts, gardening books, other gardening-related items and our own AHS Endangered Wildflowers Calendar. Not only do the calendars make lovely, unique gifts, but by purchasing them you will be helping to save America's endangered wildflowers.

**AHS 42nd Annual Meeting. May 13-16, 1987, New York City, New York.** Please plan to attend this exciting and informative meeting, which will feature lectures and panel discussions on such subjects as gardening in the city and landscape design, and will include special tours of public and private gardens.

**AHS Seed Catalogue Coming Soon.** Watch for your AHS Seed Program Catalogue, which will be arriving in January. Steven Davis, our Director of Horticulture, informed me that we have received donations of some very lovely plants for this year's program, including baby's breath (*Gypsophila elegans*), passionflower (*Passiflora edulis*), German chamomile (*Matricaria chamomilla*) and Aspen daisy (*Erigeron speciosus*). Also, purple coneflower (*Echinacea purpurea*) from the wildflower meadow here at River Farm will be available. Please remember to make your selections and send your order early, to ensure that you receive the seeds of your choice.

If you would like more information or have questions on any of these activities, please write or call me at the Society: Sharon Barnes, AHS, P.O. Box 0105, Mount Vernon, VA 22121, (703) 768-5700.

—Sharon Barnes,  
Public Relations Director



## The American Horticultural Society



### Bay Area Gardens of California

March 26-April 4, 1987

A Tour Designed in Collaboration with Serendipity Tours

Early spring invites us to explore California's landscape and garden design with emphasis on the work of three distinguished designers of the San Francisco Bay Area, Thomas Church, Dan Kiley, and Lawrence Halprin. During our ten day visit we will stay at the charming Julianna Hotel in the heart of the city. From here we will radiate north and south to visit celebrated public gardens and parks, private estates, the famous redwoods, vineyards, a small specialty vegetable and flower farm, and a landscaped horse breeding farm. The leaders for this trip will be Eleanor M. McPeck, garden designer, landscape historian and co-author of *Beatrix Farrand's American Landscape: Gardens and Campus* and Sue Hossfeld, Bay area resident, world traveler, and knowledgeable horticulturalist.



### Spain in Private Splendor

April 12-26, 1987

A land of great beauty and history, the very name Spain provokes one's imagination. Our visit will encompass the four corners of this magical country—Barcelona, Galicia, Grenada, Sevilla and, of course, time in Madrid. Since many of the country's most interesting gardens are privately owned, we have enlisted two of Spain's leading horticulturalists to help design this exceptional tour. Private is the best word to describe what we are offering: from Arab castles, ducal palaces and monasteries to bullfights, country houses and city gardens, so much of what we will see will be opened to us exclusively. This trip will delight all those interested in such a fine blending of culture and horticulture.



### Capability Brown's England

May 18-June 1, 1987

The name Capability Brown is synonymous with the magnificent open parks and woodlands of England. His influence is also felt in some of the great houses and surrounding gardens which he was responsible for architecturally and aesthetically. Our two weeks which will include Press Day at the Chelsea Flower Show, will include visits to some of these Treasure Houses, with private tours conducted by the owners or head gardeners, as well as tours of some smaller and more private estates, little known to the general public.



### Emerald Gardens of Ireland

June 4-18, 1987

A Tour Designed in Collaboration with Serendipity Tours

The Emerald Isle is not as well known for gardens as her English neighbor, but Irish gardens have a wild and wonderful glory all their own. This trip is a romantic journey to some of the lost domains of Irish landscape as well as to the flourishing estates of today. The changing mood and character of the landscape will surprise us as much as our discovery of the variety and richness of the gardens we plan to visit. We begin in the Southwest with its dramatic views of sea and mountain. The second half of our trip finds us visiting gardens in Dublin and County Wicklow, "The Garden of Ireland".

*These trips are sponsored by the American Horticultural Society.*

*For further information please contact:*

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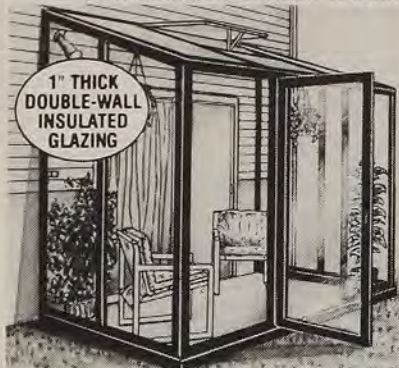
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## New Publications



### ● **Struggle for Space: The Greening of New York City 1970-1984.**

Surprisingly, there are over 448 community gardens on 156 acres of vacant land in New York City. These open spaces have had a tremendous impact on the quality of New Yorkers' lives, by providing better nutrition and a place for social interaction and recreation, not to mention a green oasis in the middle of a teeming city. The result of two years of field research, this book describes New York's community gardening movement and the people who made it happen. The inventory that is included contains charts, graphs and statistics describing the number of gardening facilities, where they're located, who's involved, why people are participating, who owns the land and a wealth of other information. The resource section contains information for those who might be interested in getting involved in such a project. The 165-page book is available for \$16.50, including postage and handling, from the Neighborhood Open Space Coalition, 72 Reade Street, New York, NY 10007.

### ● **Agricultural Tools, Equipment, Machinery & Buildings for Farmers & Ranchers with Physical Handicaps, Volume I.**

Published by the same group that puts out *Breaking New Ground* newsletter (see "New Publications," *American Horticulturist* News Edition, March 1986), this manual contains over 300 pages of information for agricultural producers with physical handicaps. Among the ideas and resources described in the manual are accessories for agricultural equipment, modifications for tools and equipment and a bibliography on rehabilitation technology for agricultural producers. Each idea that is presented contains a description of the concept and method of operation, as well as a brief overview of how the item was constructed and a black-and-white

photograph. A contact person is also listed for further information. The manual is available for \$30.00, including postage and handling, from Purdue University/Breaking New Ground, Department of Agricultural Engineering, Purdue University, West Lafayette, IN 47907.

● **Cultivation Guide for Native Plants.** The popularity of native plants for use in the home garden has swelled to phenomenal proportions in recent years, and the number of publications to support the trend is also on the rise. Wildflower gardeners looking for basic information on this subject will want to obtain a new 61-page handbook, the *Garden in the Woods Cultivation Guide*. Written by the staff of the New England Wildflower Society, this guide contains basic advice for beginning gardeners who want to know how to plant or transplant wildflowers. It gives cultivation requirements (light, moisture and soil conditions) as well as descriptions for over 275 plants that are cultivated and propagated at Garden in the Woods, and lists plant combinations that will grow successfully together. In addition, the booklet includes a common name index and a "suggested reading" list. To order this booklet, send \$4.50 (includes postage and handling) to the New England Wild Flower Society, Dept. CG, Garden in the Woods, Hemenway Road, Framingham, MA 01701.

● **Old Fashioned Dried Florals.** In this booklet, Sunny O'Neil introduces the reader to general drying and flower arranging techniques. Many of the dried materials and the supplies necessary to create the 14 lovely and elegant arrangements she includes are identified. Step-by-step instructions for the designs, which range from corsages to chair ornaments, are accompanied by full color photographs. This booklet shows that drying and creating floral arrangements can be an easy and beautiful way to decorate your home with colonial color and grace. For a copy of the booklet, send \$4.50 plus 85¢ postage to: Sunny O'Neil, 7106 River Road, Bethesda, MD 20817.





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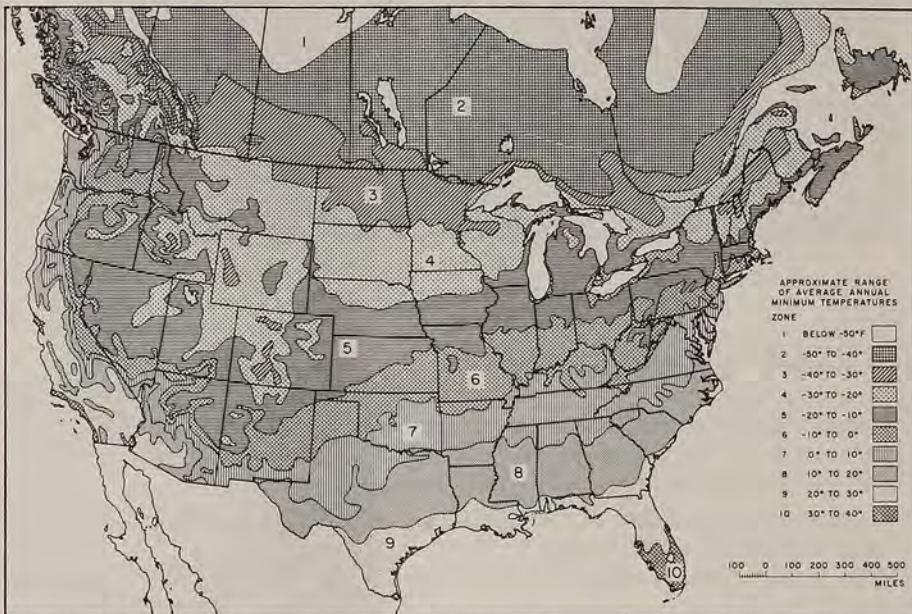
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# USDA Plans "Plant Performance Guide"



The USDA Hardiness Zone Map will receive a facelift next year, if all goes as planned, and will become even more useful to gardeners, nurserymen and landscapers.

Most, if not all, of our readers are familiar with the USDA Hardiness Zone Map, and have used it extensively in planning their gardens. Nurserymen, too, rely on the map as a guideline for their catalogue descriptions of plant hardiness and suitability.

Although the USDA map has been widely used since its publication in 1952, its limitations have become apparent through the years. The plant hardiness map, as it is known, is based quite simply on 10-degree differences in the average low temperature of particular regions. The map divides the United States and southern Canada into 10 hardiness zones, based on these average lows. Because it became apparent that many more factors than average low temperature must be considered for assessing the adaptability of landscape plants to a region, the USDA has decided to provide an updated and expanded version of the plant hardiness map—to be known as the Plant Performance Guide—which would include more detailed information useful to gardeners, landscapers and nurserymen. Through the use of the Plant Performance Guide, agriculturists, nurserymen, environmentalists and home gardeners will have an in-

creased ability to predict when a newly acquired species or cultivar can successfully be grown in a particular area.

As most gardeners and scientists know, plant health is dependent on daylength, radiation, temperature, frost, wind, rainfall and soil pH. In addition to these factors, some new considerations to be addressed in the Plant Performance Guide Project concern changes in our environment, our methods of gardening and landscaping, and the scope of the map itself. Specifically, changes to the environment include the effects of pollution such as acid rain and toxic wastes, and the effects of variations in climate such as the wider ranges in temperature, moisture and wind that have been recorded for North America. Changes in gardening and landscaping methods include the use of new forms of traditional plants that are adapted to a wider range of environments; the utilization of new techniques of planting, transplanting, watering, fertilizing and supplying pest control measures; and the use of plants in "alien" environments such as expressways, malls and elevated decks, where plant roots are usually exposed and miss the warming influence of deeper soil. Change in scope



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of the map involves an increased awareness that we share more than a common border with our neighbors to the north and south; we also share many plants that are indigenous throughout North America. Additionally, we share many introduced plants that may be grown successfully in some parts of the continent.

The scope of the new map will encompass the entire region from the Isthmus of Panama to the North Pole. The above considerations will be reflected in the Plant Performance Guide, which will be compiled from data gathered by the USDA.

For example, the USDA is analyzing weather records up to the present, and will make this information available as part of the guide. Additionally, through the guidance of Dr. Henry M. Cathey, Director of the U.S. National Arboretum, a list of approximately 2,000 species and cultivars has been prepared and entered into the Germplasm Resource Information Network (GRIN), a computerized seed/plant catalogue housed within the Agricultural Research Service of the USDA. Dr. Cathey has requested that the Society and its members, as well as other horticultural and plant organizations, lend their support and expertise during the compilation of data concerning these plants, and for the completion of the project. Qualified horticulturists, botanists and field naturalists are asked to partici-

pate by providing information on which of these 2,000 plants are flourishing in the participant's region. Information on location (latitude, longitude and altitude) should be recorded and sent to the USDA to be entered in the GRIN program.

To receive your copy of the list of 2,000 plants and instructions for participating in data gathering, write Plant Performance Guide, U.S. National Arboretum, 3501 New York Avenue, NE, Washington, D.C. 20002, or call (202) 475-4829. If you provide the program with information, you can expect to receive a personal copy of the Plant Performance Guide. The guide tentatively will include standardized botanical and common names for all plants, standardized computer code names of plants for the landscaping industry, and plant maps and weather data. This data base may be updated and expanded to address new areas of interest and concern in the future.

We at AHS are very excited about this project and we would like to encourage as many of our members as possible to participate in it. Approximately 10,000 observations are needed to complete the plant research portion of the project. With your help, the Plant Performance Guide could be available in 1987. We encourage you to write or call the USDA today, to receive your copy of the plant list and project instructions.

## *The Rose Chosen as National Flower*

After much deliberation and debate, the rose was chosen as our national floral emblem as a result of a resolution passed by both houses of Congress. (The resolution is awaiting approval by President Reagan as of this writing.) According to the resolution, introduced by Senator J. Bennett Johnston (D-La.) and Representative Lindy Boggs (D-La.), the rose stands for "love, peace, friendship, courage, loyalty and devotion." The representation of these qualities has won the rose a unique spot in the limelight of the American historical stage, and has allowed it to overshadow both strong and weak contenders such as the marigold, daylily, goldenrod and yucca.

The main argument against the

rose was the fact that it is not indigenous to the United States. But, as Charles A. Huckins, executive director of AHS stated, "after all, not everyone who claims to be an American is a native, and this has been true from our earliest history right up to today." Although Dr. Huckins expressed some doubt as to the need for a national floral emblem, saying that singling out one particular flower "leaves room for dissatisfaction," he does believe that if there must be a national flower, the rose is as good a choice as any. "It has enduring symbolic qualities," he said, "and it probably appeals to a broader segment of the public than any other flower. Roses are versatile and dependable—they're also very lovely."

# AHS

## Travel Program

**Bay Gardens of California** (March 26-April 4). Explore outstanding examples of landscape and garden design in California, with emphasis on the work of three distinguished designers of the San Francisco Bay area: Thomas Church, Dan Kiley and Lawrence Halprin. We will visit celebrated public gardens and parks, private estates, the famous redwoods, vineyards and a specialty vegetable and flower farm. Leaders: Eleanor M. McPeck, garden designer, landscape historian and co-author of *Beatrice Farrand's American Landscape: Gardens and Campus*; and Sue Hossfeld, Bay Area resident and knowledgeable horticulturist.

**Spain in Private Splendor** (April 12-26). A land of great beauty and history, the very name "Spain" provokes one's imagination. Our visit will encompass the four corners of this magical country—Barcelona, Galicia, Grenada and Sevilla—and, of course, will include time in Madrid. Private is the best word to describe what we are offering: from Arab castles, ducal palaces and monasteries to bullfights, country houses and city gardens, much of what we will see will be opened to us exclusively. Leader: Sofia Barroso, Ph.D., an art historian specializing in the history of garden design.

**Post-Annual Meeting Tour** (May 17-20). Annual Meeting participants are invited to join in on this optional tour of some of the spectacular public and private gardens in the New York area. We will leave the hustle and bustle of New York City far behind as we head for the hills and dales of the Hudson River valley and upstate New York. A side-trip to the lovely Berkshire Mountains in Massachusetts is also on the agenda. Tour leader: Robert Lindsay.

-----  
**YES! Please send me more information on the tours I have checked below.**

- Bay Gardens of California  
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# Plant a Living Legacy

To follow up on an earlier article (see "Trees as Living Memorials," *American Horticulturist* News Edition, September 1986), the Commission on the Bicentennial of the United States Constitution has developed a project entitled "Plant a Living Legacy," in which citizens all over the United States will be encouraged to plant a new garden, restore an existing garden or park, plant trees and flowers along public streets and roadways or identify and preserve natural areas in an effort to commemorate the signing of the U.S. Constitution.

On September 17, 1986, the Commission unveiled the project in a public ceremony at 2:30 p.m. at Constitution Gardens, 17th Street and Constitution Avenue, N.W., Washington, D.C. Former First Lady Lady Bird Johnson, well known for her efforts toward beautifying America, joined Chief Justice of the United States Warren E. Burger (Chairman of the Commission on the Bicentennial of the U.S. Constitution); Army Secretary John Marsh; U.S. Representative Lindy Boggs (D-La.) and U.S. Court of Appeals Judge Cornelia Kennedy for a planting ceremony.

The "Living Legacy" project was actually developed by a special committee, formed by the Commission, composed of such groups as the American Association of Nurserymen, the American Society for Landscape Architects, the American Forestry Association, the National Council for Rehabilitation and Therapy through Horticulture and the American Horticultural Society.

In order to be recognized as official "Living Legacy Projects" by the Bicentennial Commission, local projects must have a long-term maintenance plan, and they must be on publicly-owned land or on property that may be opened to the public. Specific ideas for such projects include refurbishing your town's courthouse square or the grounds of a public building; researching the history of trees in your town, and where feasible replanting species that were part of the historical design; creating a garden or park for the handicapped or elderly; or identifying and preserving the

remnants of a native prairie.

Each local project developed in the next year will be dedicated on September 17, 1987, the 200th anniversary of the signing of the Constitution in Philadelphia.

The "Plant a Living Legacy Project" provides a challenging opportunity for gardeners to get involved in the celebration of the Bicentennial of the Constitution. By doing so, Americans will be providing a lasting legacy, while also reflecting one of the major interests of our founding fathers, who were in many ways tied to the land they loved.

For more information on how you might become involved in this exciting project, write to "Living Legacy Project," Commission on the Bicentennial of the United States Constitution, 734 Jackson Place, NW, Washington, D.C. 20503.

## Gardening Grant Program

For the sixth consecutive year, the National Gardening Association will conduct its National Gardening Grants Program, which has served more than 40,000 gardeners to date. (See "Community Gardens: Helping People Help Themselves" in the March News Edition for information on the 1986 program.) In 1987, one hundred awards will be made to qualified and needy youth groups in schools, camps, clubs and other organized youth programs. Intergenerational gardens, gardens for disabled children and youth programs within community gardens are also eligible for grants.

Applications for next year's grants must be postmarked by November 15, 1986, so write for your application now and get it in as soon as possible. To request National Gardening Grant Guidelines and an application form, write to the National Gardening Association, Gardening Grants, 180 Flynn Avenue, Burlington, VT 05401. Please be sure to include your name, address, city, state and zip code. Awards will be made in January 1987.

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# Hydrilla: Friend or Foe?

Various methods for combating the spread of hydrilla, a fast-growing water weed that is clogging waterways in at least a dozen states, have been developed by scientists in recent years. (The plant is the scourge of boaters in these states, for obvious reasons.) Plant physiologists with the U.S. Department of Agriculture are currently working on a new method of eradicating the plant, by tampering with the day length in the plant's habitat. By shining lights on the plant at night, scientists were able to cut its reproduction by 50% on an experimental site on the Potomac River, near Washington, D.C. Disruption of the hydrilla's day length requirements decreases the production of small, bulblike reproductive parts called tubers, which are needed for the plant to overwinter and resprout the following spring. This type of night lighting may work best when used in conjunction with other controls, such as mechanical harvesting, using divers to maneuver underwater vacuums that pull hydrilla from river bottoms or applying herbicides.

In areas where hydrilla does not hamper the passage of boats, the plant may actually be indirectly beneficial to man. Hydrilla tends to form dense mats in shallow water, which in turn create excellent habitat and are a source of food for aquatic life such as fish, including perch, min-

nnows, rockfish, bass and carp. The beds also attract other forms of wildlife that come to feed on the rich resources available. The plant also filters out silt and consumes nutrients that would normally feed algal blooms, thus clarifying the water.

Even mechanically harvested hydrilla has proved its usefulness. As a matter of fact, hydrilla harvested

from the Potomac River by the Lake Weed Cutting Service of Hartland, Wisconsin, is being used right here at River Farm as a surface mulch. The hydrilla mulch combats weeds and enhances water retention in our demonstration vegetable garden, and is also used as a soil additive via the compost bin. As compost, it appears to be second to none; it breaks down quickly and emits little odor. And best of all, it is readily available and free.

## AHS Spring Interns



Interns (l to r) Brian Little, Nancy McKean and Drew Williams take a break from sprucing up the grounds this spring here at River Farm.

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