Thanks to the enthusiastic support of over 1,000 Society members, River Farm benefited from the energetic care of four Summer Interns in 1984: Robin Roughton (College of William and Mary), John Losey (Oberlin College), and Mike Wild and Tim Sams (Old Dominion University). These young horticulturists fulfilled the exciting promise of the AHS Summer Intern Program through their long, hot hours of challenging grounds work: they learned what horticulture is first-hand, enriched their formal educations immeasurably, and kept River Farm's 25 acres looking beautiful through the summer.

This year's Interns were featured in an article in *The Washington Post*. Mike Wild gave the Interns a new motto (and new notoriety) by telling the *Post* reporter, who visited on a typically steamy day, "I love to sweat." After this phrase appeared in print, it became the unglamorous and thoroughly appropriate watchword of the 1984 Interns. From all of us at River Farm, thanks once again to the AHS members who made this year's program possible.
President Edward N. Dane presented the Society's annual awards Saturday, November 3, at the American Horticultural Society's Annual Meeting in San Antonio, Texas.

Former First Lady Mrs. Lyndon B. Johnson was presented with the Society's first National Achievement Award. Long known for her active participation in environmental and beautification projects, Mrs. Johnson is the founder of the National Wildflower Research Center in Austin, Texas. The primary object of the Center is to conduct basic scientific research on native and naturalized plants in an attempt to answer questions about their cultivation. A national information clearinghouse that will distribute information about wildflower products, projects, problems and research is also planned. In addition to her work with the National Wildflower Research Center, Mrs. Johnson is an active board member of the National Geographic Society, The National Park Service Advisory Council and the American Conservation Association.

The Society's coveted Liberty Hyde Bailey Medal was awarded to Elizabeth Scholtz, Vice President of Brooklyn Botanic Garden, Brooklyn, New York. From 1960 to 1971, Scholtz was in charge of the Garden's extensive Adult Education Program. Scholtz then served as Director of the Garden from 1971 until 1980. Her work with dye plants led to a Plants & Gardens handbook on the subject, as well as a documentary film produced by the Botanic Garden, Nature's Colors—The Craft of Dyeing With Plants. A graduate of South Africa's University of Witwatersrand, Scholtz has also received honorary degrees from Pace University and Long Island University. In 1981, she was awarded Swarthmore College's distinguished Arthur Hoyt Scott Garden and Horticulture Award for having "devoted her career to inspiring people's interest in horticulture—from the smallest child to fellow professionals." Scholtz, a noted lecturer and author on horticultural topics, is also on the Visiting Committee of Old Westbury Gardens and the Board of Magnolia Tree Earth Center. Currently, she is Chairman of the American Association of Botanical Gardens and Arboreta Publication Awards Committee.

Dr. Paul Bigelow Sears was the recipient of the G. B. Gunlogson Medal, awarded each year to an organization or individual whose creative use of new technology has made gardening easier and more enjoyable. Emeritus Head of Yale University's Department of Conservation, 92-year-old Sears is still actively studying restoration and preservation of the best grasses and grains for the central and western United States. He has recently rediscovered the use of grama grass, which is an excellent food for cattle, as well as a valuable ground cover in the desert Southwest. Sears has also had an important influence in developing native plants into useful horticultural subjects; his experimentation has spanned six decades. Sears is the recipient of eight honorary degrees and numerous awards.

The Amateur Citation was awarded to Margaret Kane, an avid horticulturist who has lived in the San Antonio area for over 15 years. An exceptional gardener, she has shared much of her knowledge with the public through a regular newspaper column and is active in her local garden club, the American Hemerocallis Society and the San Antonio Botanical Society.

Jack E. Christensen, Director of Research at Armstrong Nurseries, Inc., is this year's recipient of the Individual Commercial Citation. Christensen has helped develop numerous culti-
vars of roses and fruit trees, including well-known All-America Rose Selections winners 'White Lightning', 'Mon Cheri' and 'Brandy'. He has also introduced numerous miniature roses. Christensen serves on the Board of Trustees of the National Association of Plant Patent Owners and is Chairman of the All-America Rose Selections Schedule Committee.

Lawry's California Center, a 15-acre complex in Los Angeles, California that includes the corporate headquarters of Lawry's Foods, Inc., is the recipient of the Corporate Commercial Citation. The gardens, found throughout the complex, are a renowned showcase for exotic plantings and colorful flowers. According to garden creator and AHS Board Member Georgie Van de Kamp, the plantings at Lawry's are designed to achieve the "informality of a restful, colorful garden, where the visitor can relax and dream, and appreciate the calm and serenity about him."

Rachel Snyder, recipient of the Horticultural Writing Citation, is the editor of Flower & Garden Magazine. An avid gardener, garden writer and lecturer, Snyder is a former director of the American Horticultural Society, a founding member of the Kansas Wildflower Society, and a member of numerous conservation organizations.

Lawrence Halprin was presented with the Landscape Architecture Citation in recognition of his many award-winning designs. His landscapes include Battery Park City, New York, New York; Seattle Freeway Park, Seattle, Washington; and Ghirardelli Square, San Francisco. He is also a noted author in his field, the recipient of numerous landscape awards, and an advisor to the National Endowment for the Arts.

The Local Horticulture Citation was awarded posthumously to Carroll Abbott, a remarkable individual who devoted much of his life to saving Texas' wildflowers. Author of How to Know and Grow Texas Wildflowers, he also established a family-operated wildflower mail-order business called Green Horizons. In addition to growing his own seeds, he collected hundreds of pounds of a wide variety of wildflower seeds from city parks, airports, ranches and highway rights-of-way. He was considered the premier seed dealer in the world in Texas species.

Carlton B. Lees was awarded the Society's Meritorious Service Citation in recognition of his lifelong commitment to horticulture. A former senior vice-president of the New York Botanical Garden, Lees also served as Executive Director of the Massachusetts Horticultural Society and the Pennsylvania Horticultural Society, as well as a board member of the American Horticultural Society. A noted writer, lecturer, designer and photographer, he was instrumental in reproducing the New York Botanical Garden's End A. Haupt Conservatory.

The Professional Citation was awarded to Marion T. Hall, Director of the Morton Arboretum in Lisle, Illinois. In addition to directing the 1,500-acre Arboretum, Hall is a Professor of Horticulture at the University of Illinois, and is on the board of directors of The Joyce Foundation. He formerly served as Chairman of the Natural Resources, Illinois Planning and Conservation League and as Director of Northeast Illinois Natural Resources Service Center.

Lester P. Nichols, recipient of the Scientific Citation, is best known for his annual survey of flowering crabapples. By collecting information on the disease resistance and performance of crabapple cultivars across the country, Nichols has been instrumental in promoting knowledge about disease-resistant plants. He is responsible for the availability of many of these cultivars in the trade. Nichols is Professor Emeritus of Plant Pathology Extension at The Pennsylvania State University. His articles have appeared in many scholarly publications.

Mr. and Mrs. C. Roy Boutard were awarded the Teaching Citation in recognition of their devoted service to the Berkshire Garden Center in Stockbridge, Massachusetts. Mr. Boutard has staged outstanding exhibits at the old New York Flower Show and at the Boston Spring Flower and Garden Show. Mrs. Boutard has directed an innovative teaching program for inner-city children in Pittsfield, Massachusetts.
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 addresses 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.

- **Bactris gasipaes**, peach palm or pejibaye, a densely spiny, 60-foot palm with 12-foot fronds. Probably from Peru, and cultivated as an ornamental in Hawaii. Maximiliana marija (formerly M. regia), cucurite palm, inaja palm, a 60-foot palm from Trinidad and northeastern South America. Its 20-foot fronds are used for thatching. Pamela S. Bone, Urban Horticulture Advisor, 4145 Branch Center Road, Sacramento, CA 95827.
- **Chionanthus virginicus** 'Floyd', fringe tree, an upright selection of the species that was introduced by Professor Joseph McDaniel of the University of Illinois. Dr. David Wilcox, 5206 Lexington Road, Memphis, TN 38119.
- **Prunus x irensii**, a small, vigorous, weeping crabapple with snow-white, fragrant flowers. Dee Hamilton, 2300 Delaware Avenue, Wilmington, DE 19806.
- **Hydrangea aspera subsp. sargentiana** (also listed as var. sargentic), a subspecies with broadly ovate leaves that are 12 inches long and velvety beneath. Cheryl Wetter, 6 Snug Hill Court, Potomac, MD 20854.
- **Scaphroglottis lurida**, piggy-back orchid. Jean Schroder, 1543 Michigan Avenue, Salt Lake City, UT 84105.
- **Ipomoea**, morning-glories. Looking for a variety of cultivars from old seed catalogues, including 'Super Giant Gentian Blue', similar to 'Heavenly Blue' but darker in color; 'Super Giant Red Dawn', a deep rose with a white throat; 'Double Flowering Blue', star-shaped, 2½-inch, violet-blue flowers with white edges; 'Candy Pink', 'Cornell'; 'Madam Anna'; 'Royal Crown Mixture'; 'Sunrise Serenade Double Mixture'. **Melon 'Zucca',** a very sweet cultivar of melon. Mrs. H. Whittenburg, 6450 Heintz Road, St. Louis, MO 63129.
- **Allium agrigatum**, a species of ornamental onion. Melenium 'Ellen Champion', a cultivar of sneezeweed. Mr. C. D. Miley, 207 Old Landing Road, Ocean City, MD 21842.

Join Us in Los Angeles

Explore the amazing horticultural diversity of Los Angeles at the American Horticultural Society's 1985 Spring Symposium, March 20-23. We'll visit private gardens open only to AHS Spring Symposium participants, and we'll enjoy behind-the-scenes tours of the city's beautiful public gardens.

Los Angeles offers a wonderful variety of experiences for the gardening enthusiast—from the breathtaking camellia forest of Descanso Gardens to the Los Angeles County Arboretum's comprehensive displays of drought-tolerant plants...from a tiny but glorious privately owned tropical garden to the formal-garden splendor of the Getty Museum. For special advance information about the 1985 Spring Symposium, please write to Robin Williams, AHS, P.O. Box 0105, Mount Vernon, VA 22121, or call her at (703) 768-5700.
* HOW FLOWERS WORK, Bob Gibbons. Overviews plant life in a clear text supported by lavish illustrations, plus demystifies the classification and naming of plants. Covers bacteria, algae, fungi, lichens, etc. including structure, reproduction, life cycle plus ecology, medicines, garden plants, and more. 28 full-color photos. 160 pp. Hardcover $15.95 retail, $12.75 to AHS members.

**THE ABC'S OF HYDROPONICS, Margot Schubert. Only book to feature the newest equipment. Do away with inefficient watering systems, crowded containers, unreliable water level indicators. Packed with 133 spectacular color photos, it covers transplanting, adaptability, feeding, housing, pruning, lighting, common mistakes, etc. Best book available. 128 pp. Paper $7.95 retail, $6.35 to AHS members.

* BONSAI: THE COMPLETE GUIDE TO ART AND TECHNIQUE, Paul Lesniewicz. Truly magnificent! Combines 159 incomparable color photos, plus 200 illustrations with detailed text by Europe's top expert. Learn Bonsai styles, cultivation and training methods, general care, Chinoese and indoor Bonsai and more including growing from seeds or cuttings, grafting, pruning, soil, problems, tools, etc. 192 pp. Hardcover $19.95 retail, $15.95 to AHS members.

**PUBLIC EXOTIC CACTI IN COLOR*, Edgar and Brian Lamb. Combines 100 glamorous full-color photos of cacti from far away places like Burma, China and India, authoritative information of unusual or rare specimens detailing habitat, description and cultivation plus full introduction of how to raise each species. Incredibly low-priced! 176 pages (88 in color). Paper $8.95 retail, $5.55 to AHS members.


**THE ABC'S OF ORCHARDS IN COLOR, Brian and Wilma Rittershausen. For orchard hobbyists—lavishly illustrated with over 100 full-color orchid portraits and packed with useful information on the genus and pedigree of over 100 plants. Bonus! Graphic descriptions of plant structures and 30-page introduction to raising orchids. 192 pages. Paper $6.95 retail, $5.55 to AHS members.

**NEW FOR FALL 1984**

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Japanese chrysanthemum dolls, called *kiku-ningyos*, will be constructed and exhibited outside Japan for the first time in history this November. Nine of these life-size dolls will be featured at the New York Botanical Garden's Fourth Annual Kiku-Ka Ten: A Japanese Chrysanthemum Exhibition, to be held November 3 through 25 at the Garden's Enid A. Haupt Conservatory.

First created in Tokyo in 1804, chrysanthemum dolls are an intricate art form. They have become a very popular attraction at the chrysanthemum festivals held annually throughout Japan.

Three *kiku-ningyo-shi*, or Japanese chrysanthemum doll-makers, arrived in New York in October to begin construction of the dolls. Two of these craftsmen are 65 years old; the third, who has been declared a "living national treasure" by his government, is 85. There are only 26 qualified *kiku-ningyo-shi* in all of Japan.

The dolls are constructed of a bamboo frame covered by hundreds of blossoming, flexible-rooted chrysanthemums. The dolls' hands, feet and faces are made from sawdust formed into a paper-maché-like material. Accoutrements such as pocketbooks, shoes, sashes, scarfs and swords are added to the striking, life-like figures.

The nine dolls will be displayed in six separate scenes that depict different Japanese customs or fables. As part of the exhibition, the doll makers will change the flowers on the dolls approximately once a week.

Five of the 11 glass galleries at the Enid A. Haupt Conservatory will be devoted to the Chrysanthemum Exhibition, an exact replica of the chrysanthemum festivals held throughout Japan. Ten thousand chrysanthemums in all will be on display. In addition to the dolls, chrysanthemum patterns, or *kiku*, will be exhibited. These "patterns" include single-stem, single-bloom and three-stem, three-bloom chrysanthemums, as well as plants trained into cascades, columns and bonsai. There will also be plants trained in the "thousand bloom" pattern, with each single-stem plant trained into branches that produce hundreds of blooms of the same size, all of which open simultaneously.

For more information on the display, write or call the New York Botanical Garden, Bronx, NY 10458, (212) 220-8700.
AHS 1985 Study Travel Tour Program

The American Horticultural Society is sponsoring an exciting program of horticultural explorations for the 1985 season. Plan to join fellow AHS members on one or more of these interesting garden-related tours. Use the coupon below to request information on any of these tours.

ROMANTIC FRANCE (June 1-10) Visit the gardens of Princess Sturza and the Comte de Brogue's chateau in Normandy. Stop in Giverny for a visit to Monet's garden and house, and explore Paris.

FABLED GARDENS OF CHINA (June 10-27) Explore the Chinese garden cities of Suzhou and Hangzhou, and visit the Ming Tombs and the Great Wall in Peking. Tour Leader: Edwin T. Morris, author of Gardens of China.

TROPICAL ECOLOGY: THE AMAZON (June 26-July 15) This tour provides an in-depth look at the plant and animal life in remote, undisturbed habitats along the Amazon. This is a wilderness experience for the adventurous traveler only. Tour Leader: Mildred Mathias, Emeritus Professor of Botany, UCLA.

GARDENS OF GERTRUDE JEKYLL (July—dates uncertain) Tour the gardens of Gertrude Jekyll during a midsummer visit to England. Tour Leader: Carlton Lees, Retired Vice-President of the New York Botanical Garden.

SOUTH AFRICA (September 10-29) Tour the Drakensburg Mountains, Kruger National Park, Durban, Kirstenbosch and other public and private gardens. Tour Leader: Ernie Chew, Former Horticulturist of the San Diego Zoo.

AUTUMN IN ENGLAND (September 11-26) Visit the Royal Horticultural Society's Great Autumn Show, and tour the rolling, unspoiled English countryside. Tour Leader: John Clayton, Retired Curator of Horticulture, Royal Horticultural Society.

FRANCE (October—dates uncertain) Tour the vineyards and sample the wines of Burgundy and Bordeaux. Tour Leader: Rob DeFord, Winemaker of Boody Vineyards, Maryland.

AUTUMN IN THE ORIENT (November 1-20) Visit private gardens in Japan, the temple gardens in Kyoto, autumn chrysanthemum festivals, and gardens in Taiwan and Hong Kong. Tour Leader: Robert Savage, frequent escort of Society tours.

YES! Please send me more information on the tours I have checked below:

□ Virgin Islands Cruise
□ Carnival in Rio
□ Barbados Exploration
□ Hawaii
□ Spring Gardens of the Southern United States
□ Spring in the Mediterranean
□ Belgium and Holland by Road and Waterway
□ England and the Chelsea Flower Show
□ Romantic France
□ Fabled Gardens of China
□ Tropical Ecology: The Amazon
□ Gardens of Gertrude Jekyll
□ South Africa
□ Autumn in England
□ France
□ Autumn in the Orient

Name ____________________________

Address ____________________________

City _______ State _______ Zip _______

Mail to: Robin Williams, American Horticultural Society, PO Box 0105, Mount Vernon, VA 22121.
Gardener's Dateline

NOVEMBER 3
Native California Plant Sale
Rancho Santa Ana Botanic Garden, Claremont, California. Hours: 8 a.m. to 2 p.m. Information: Education Department, Rancho Santa Ana Botanic Garden, 1500 North College Avenue, Claremont, CA 91711, (714) 462-1917.

NOVEMBER 3-4, 10-11
Exotica Seed Company Rare Fruit Tasting
Exotica Seed Company, 2508 B. Riviera Drive, Vista, California. Hours: 9 a.m. until dusk. Information: Exotica Seed Company, 2508 B. Riviera Drive, Vista, CA 92083, (714) 724-9093.

NOVEMBER 7-9
National Agricultural Career Show
H. Roe Bartle Exhibition Hall, 501 West 13th Street, Kansas City, Missouri. Information: Future Farmers of America.

NOVEMBER 8-10
American Camellia Society Fall Meeting
Perry, Georgia. Information: American Camellia Society, Box 1217, Fort Valley, GA 31030, (912) 967-2358.

NOVEMBER 10-11
Plantation Days
Plantation Stables at Middleton Place, Charleston, South Carolina. Hours: 10:00 a.m. to 5:00 p.m. Admission: Adults $6.00; Students $4.00; Children 4-12 $3.00. Information: Middleton Place, Rte. 4, Charleston, SC 29407, (803) 556-6020.

NOVEMBER 10
American Daffodil Society Fall Middle-Atlantic Regional Meeting
Annapolis, Maryland. Admission: $30. Information: Mrs. Harris George, 614 W. Tilton Road, Lutherville, MD 21093.

NOVEMBER 14

NOVEMBER 15-18
41st Annual National Chrysanthemum Society Meeting and Show
Union Plaza Hotel, Las Vegas, Nevada. Information: Ms. Bonnie Sue Mulligan, 4271 East Twain Ave., Las Vegas, NV 89121, (702) 451-3394.

NOVEMBER 17-20
American Society of Landscape Architects 84th Annual Meeting and Educational Exhibit

DECEMBER 1
New York Botanical Garden Symposium—"Integrated Disease and Pest Management: Focus on Horticultural Crops"

Gardening Exhibit Opens

Springtime in the Country, a hand-colored wood engraving first published in Harper’s Weekly, May 9, 1868.

The Strong Museum in Rochester, New York has a new exhibit, scheduled to run through January 1985, that will interest gardeners and garden historians alike. Titled "Gardening in America, 1830-1910," the three-part exhibit is designed to show how the Industrial Revolution, scientific discovery and the resulting increases in both middle-class spending power and leisure time helped make gardening popular. The first section of the exhibit examines our traditional perceptions of the garden. The second section explores how gardening was promoted by science and the Industrial Revolution as America became a consumer-oriented society. Finally, the third section examines the various aspects of American gardening during this era. The exhibit includes approximately 250 items, including garden furniture, tools, advertising pieces, food processing tools, prints, photographs and other graphic materials.

For more information on the exhibit, write or call the Strong Museum, One Manhattan Square, Rochester, NY 14607, (716) 263-2700. A 96-page, illustrated catalogue of the exhibit is also available for $9.95 per copy. To order, write the Strong Museum Shop at the above address.
**New Journal**

World-famous *Curtis's Botanical Magazine* has been incorporated into a new quarterly publication, *The Kew Magazine*. Edited by the staff of the Royal Botanic Gardens at Kew, England, this new journal includes plant portraits on such diverse species as *Paphiopedilum sanderianum*, *Aechmea abreviata*, *Pilea peperomioides* and *Rhododendron rariiapedulum*. The first issue includes such articles as "The Conservation of Rare and Endangered Bulbs" and "Alpine Ecology in Barun Kholo, Nepal."

*Curtis's Botanical Magazine*, founded in 1787, was famous for the excellent quality of its color plates, as well as for its authoritative text. The editors of *The Kew Magazine* plan to maintain these high standards. Volume 1, Part 1 contains six beautiful color plates and numerous drawings.

To order an annual subscription (four issues), send $45 to Marston Book Services Limited, 108 Cowley Road, Oxford, England.

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American Horticultural Society

**PLANT STUDY TOURS FOR 1985**

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**HAWAII MARCH 4-16**

A 4-island study and collecting garden tour. Ernie Chew has contacted many associates who have agreed to open areas generally closed to the public. You will visit Pacific Tropical Botanical Gardens, unusual nurseries, private gardens and experimental stations, and the chance to collect plants and seeds for your own garden.

**SOUTH AFRICA SEPTEMBER 10-29**

A visit to one of the most extensive plant populations of the world, this tour will start in the Drakensberg mountains. You will then travel to Kruger National Park, Durban, the garden route, the Karoo and on to the cape. Numerous visits to gardens and special stops will make this an outstanding collecting tour for plant lovers.

For information on these plant study tours feel free to write or call Robin Williams, American Horticultural Society, PO Box 1015, Mount Vernon, VA 22212, (703) 768-5700.

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SYMPOSIUM
Integrated Disease and Pest Management—Focus on Horticultural Crops, Saturday, December 1, 1984, 8:00 a.m. to 1:00 p.m. This symposium, designed for those involved in growing and maintaining plants in greenhouses, home gardens and interior landscapes, will consider various aspects of Integrated Pest Management (IPM). Topics include: • Integrated Pest Management: An Introduction • Principles of Insect and Mite Control • Principles of Plant Disease Control • Implementation of Integrated Pest Management—Putting Theory into Practice • The Role of the Computer in IPM Programs. This symposium has been approved for 5½ hours of recertification credit in Categories 1a, 2, and 3 by the New York State Department of Environmental Conservation. For further information, write or call the Education Department, The New York Botanical Garden, Bronx, NY 10458. (212) 220-8747.

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- **English Country House and Garden Guide.** Gardeners wishing to read about English country houses will want to order the Library of Congress' latest publication, *Delightful Places: A Book Tour of English Country Houses and Gardens.* This free booklet lists books in the Library's collections that were specifically chosen to give an overview of the country house and the life which grew up and around it, and to offer an idea of the development of the garden in England. The titles are divided into various categories, including general works on country houses, castles, abbeys, and manor houses; general works on gardens; and books on individual gardeners.


- **Free Ortho Brochure.** Gardeners may want to send for a free copy of the new Ortho brochure with tips on using garden chemicals properly at home. The brochure, which folds out into an 11-by-17-inch poster that can be displayed where garden chemicals are stored, offers practical advice that can help gardeners avoid injury caused by the improper use of herbicides and insecticides. It includes a clear explanation of how to read a pesticide label, as well as information on mixing, applying, disposing and storing garden chemicals. Also included are sections on spills and first aid.

To request a free copy, send a stamped, self-addressed envelope to Chevron Chemical Company, Ortho Consumer Affairs Division, 575 Market Street, Room 3646, San Francisco, CA 94105.

- **Bromeliad Conference Proceedings.** Bromeliad fanciers will want to consider ordering the *Proceedings of the 1982 World Bromeliad Conference,* a 160-page, hard-bound volume with articles by some of the world's most respected and knowledgeable bromeliad experts. The 17 articles are illustrated with 53 color photographs, as well as over 200 black and white photographs and illustrations.

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- **Maple Disease Booklet.** Gardeners, nursery operators and foresters will want to order the new Cornell Cooperative Extension booklet, *Diseases of Maples in Eastern North America.*

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Author George W. Hudler has included illustrated examples of such noninfectious problems as root girdling, chlorosis and salt injury. Hudler is an assistant professor of plant pathology at Cornell University's New York State College of Agriculture and Life Sciences.

"Diseases of Maples in Eastern North America" is priced at $1.75 per copy, including postage and handling. To order a copy, write Cornell Distribution Center, 7 Research Park, Ithaca, NY 14850.

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Endangered Plant Update

The U.S. Fish and Wildlife Service has added six plants to the list of Endangered Species, and has proposed 11 species for listing as Endangered or Threatened.

Agave arizonica, Arizona agave, has been listed as Endangered. Fewer than 100 plants of A. arizonica are known to exist in the wild, and all of these are found only in a small area in the New River Mountains in central Arizona. The species is an attractive succulent that bears pale yellow, star-shaped flowers. It is threatened by collecting for both private gardens and the commercial trade, as well as browsing by deer and cattle. Browsing is especially harmful because the animals eat the flowering stalks of the plant before they mature and distribute seed, and thus contribute to the poor reproductive success of the species. Critical Habitat was not designated for the species, because publication of the exact location of the plants would increase the threat of collecting and vandalism.

Cowania subintegra, Arizona clffrose, has also been listed as Endangered. The flowers of this evergreen shrub are small and yellow or white. The leaves, twigs and flowers are covered with dense, short, white hair. Arizona clffrose is known from only two small populations (one in Mojave County and the other in Graham County, Arizona) totaling about 700 plants. The species is threatened by mining, road maintenance procedures, and browsing by cattle, deer and tule burros. Critical Habitat was not designated for the species to avoid increasing threats due to collection and vandalism.

Jatropha costaricensis, Costa Rican jatropha, is known from only one population of less than 50 individuals. The species, which has been listed as Endangered, is found only on steep, rocky limestone slopes along the Pacific coast of Costa Rica. It is threatened by dry-season fires, trampling by cattle, and potential development.

Cereus robitii, key tree-cactus, is the largest of Florida's native cacti. This species, which has been listed as Endangered, grows in erect clumps that reach a height of approximately 25 feet, and produces attractive white to green or purplish flowers. C. robitii is threatened by collection by hobbyists and commercial plant dealers, and, more importantly, by habitat destruction due to residential and recreational development. Because collection is a threat, Critical Habitat was not designated for the species.

Dysodia tephroleuca, ashy dogweed, is a grassland species from southwestern Texas that has been listed as Endangered. Approximately 1,700 individuals of the species, along with other relic grassland species, survive on a single acre of private land in Zapata County. The leaves of this perennial species are covered with soft, woolly, ashy-white hairs and emit a pungent odor when crushed. In addition to grazing, ashy dogweed is threatened by vandalism and collecting. Because of the latter two threats, Critical Habitat was not designated.

Eriogonum pelinophilum, clay-loving wild buckwheat, is a small shrub native to Colorado. Listed as Endangered, it is primarily threatened by grazing and land conversion for agriculture.

Amsinckia grandiflora, large-flowered fiddleneck, has been proposed for listing as an Endangered Species. An annual species with bright red-orange flowers borne in fiddlehead-shaped inflorescences, A. grandiflora is known from only one half-acre site in San Joaquin County, California. Very little is known about the ecology and life history of this plant, which has an unusual reproductive system that may contribute to the rarity of the species. Other threats include conversion of habitat to agriculture, and explosives testing in the area.

Tournesol a趴ca, Last Chance townsendia, is a perennial that grows less than one inch tall. Proposed as Endangered, this member of the sunflower family forms a dense, low mat, and produces three-quarter-inch flower heads with yellow ray florets. Only 220 individuals are known to exist. The species, which has never been abundant, occurs on heavy clay soil underlain by coal, and thus is threatened by off-road vehicles, oil and gas exploration, and cattle grazing and trampling.

Cirsium vinaceum, Sacramento Mountains thistle, is a tall perennial species that bears many purple flower heads during July and August. Known only from 14 populations in the Sacramento Mountains in central New Mexico, the species is threatened by livestock, water development, competition with introduced plant species, road construction, logging and recreational development. Most of the remaining plants are found in the Lincoln National Forest. The species has been proposed as Threatened.

Acanthomintha obovata subsp. atitlantica, San Mateo thornmint, only exists in one small population near Redwood City, California. Although this subspecies was once found throughout San Mateo County, all other populations except the one have been destroyed by urban development, road construction and other development activities. The remaining population, which exists in a county park, is threatened by unauthorized and uncontrolled recreational activities, and there is evidence that plants have been collected. San Mateo thornmint, which is listed by the State of California as an endangered species, has been proposed for a federal Endangered status.

Asclepias welshii, Welsh's milkweed, is found only on the Coral Pink Sand Dunes in southern Utah. A perennial with oval leaves and cream-colored flowers, this member of the milkweed family grows only on sparsely vegetated sand dunes. Off-road vehicles and livestock grazing threaten the approximately 8,500 remaining individuals. Another threat to the species, which has been proposed as Endangered, is the fragile nature of its habitat; the dunes are easily destroyed by activities on adjoining lands.

Goztea elegans, beautiful goztea, is an evergreen shrub that is found in the semi-evergreen seasonal forests in the northern part of Puerto Rico. Only 59 individual plants of this species remain. Road construction, trimming of roadside vegetation and conversion of forest to pasture threaten G. elegans, which has been
proposed as Endangered. Blooming plants had not been observed from 1936 until recently.

*Erigeron maguirei* var. *maguirei*, Maguire daisy, is a small, five-inch perennial that blooms in June. It is perhaps the rarest plant in Utah; only seven plants are known to exist. These plants are on land administered by the Bureau of Land Management and are threatened by oil and gas exploration, mineral claims and grazing.

*Solidago spithamaea*, Blue Ridge goldenrod, is found only on high mountain peaks in North Carolina and Tennessee. This lovely goldenrod, which is known from only three populations, has been proposed as Endangered. The population decline of the species has primarily been caused by construction of observation platforms, trails, parking lots and roads on the mountain peaks where the species once thrived. Disturbance by hikers is also a problem.

*Dicerandra immaculata*, Lakela's mint, is a low-growing, dome-shaped shrub found only on the Atlantic coast between Vero Beach and Fort Pierce, Florida. Only 10 colonies of this lavender-rose- to purplish-flowered plant remain. The species is threatened by a fungal disease that affects the seeds, as well as by sand mining and commercial and residential development. *D. immaculata* has been proposed as Endangered.

*Buxus valhii*, Vahl's boxwood, is a native Puerto Rican species with only 40 individuals remaining in the wild. Urbanization, limestone mining, and other kinds of potential habitat destruction threaten the existence of the species. *B. valhii* is an evergreen with dark, shiny, oblong leaves. It reaches a height of approximately 15 feet and has a very narrow ecological niche; it is restricted to ravines and ledges in semi-evergreen forests. The species, which is also threatened by collection, has been proposed as Endangered.

*Orpine maguirei* var. *maguirei*, Maguire daisy, is a small, five-inch perennial that blooms in June. It is perhaps the rarest plant in Utah; only seven plants are known to exist. These plants are on land administered by the Bureau of Land Management and are threatened by oil and gas exploration, mineral claims and grazing.

### Endangered Wildflowers 1985 Calendar

Help save our endangered wildflowers by purchasing the American Horticultural Society's 1985 Endangered Wildflowers Calendar. Funds raised from sales will be used to support conservation projects.

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### Horticultural Exploration on a Mediterranean Cruise

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Among the high quality of lecturers and staff on board of historians, artists, and scientists is Alfred Evans, Assistant Curator of the Royal Botanic Garden, Edinburgh, Scotland. A delightful gentleman, he has frequently cruised this area. Also accompanying our group is Harold Epstein, former Board Member of the American Horticultural Society and the American Rock Garden Society.

For your free brochure write to: The Education Department, American Horticultural Society, P.O. Box 0105, Mt. Vernon, VA 22121. Or phone (703) 768-5700.

Other Explorations in 1985 include Barbados, China, Spring and Fall England, Fall Orient, and Romantic France.
Nursery Source Guides Published

- Nursery Sources for Native Plants. The New England Wild Flower Society has published a 53-page guide entitled Nursery Sources: Native Plants and Wild Flowers. The guide, which lists over 193 nurseries in every region of the country except Alaska and Hawaii, indicates the percentage of plants sold that are propagated or collected from the wild, or that are obtained from unknown sources. The listings are divided into six regions for easy reference.

To order a copy of *Nursery Sources: Native Plants and Wild Flowers*, send $3.50, including postage and handling, to New England Wild Flower Society, Department NS, Garden in the Woods, Hemenway Road, Framingham, MA 01701.

- Seed and Nursery Directory. The Rural Advancement Fund has published a directory of sources for traditional cultivars of vegetables, fruits, nuts and other plants. The 22-page *Seed and Nursery Directory* lists 37 companies that offer old vegetable cultivars. In addition, it lists several non-profit organizations that are involved in the fight to save old garden cultivars, as well as specialty seed companies and sources for native plants. Also included are a seed-saving glossary, a chart detailing how to harvest and save seed from common vegetable plants, information on seed banks and a suggested reading list.

To order a copy of the Rural Advancement Fund’s *Seed and Nursery Directory*, send $2.00, including postage and handling, to Seed and Nursery Directory, Rural Advancement Fund, PO Box 1029, Pittsboro, NC 27312.

Citrus Oil Kills Insects

Orange peels may be the insecticide of the future. Researchers at the University of Georgia’s Coastal Plain Experiment Station at Tifton have found that citrus oil has tremendous insect-killing power. Thus far, it has been proven effective against fire ants, flies, fleas and wasps.

Although the researchers have not yet isolated the substance in citrus oil that kills insects, they have identified one of the citrus oil components. According to David C. Sheppard, who is directing the studies, several other components are probably involved. Scientists have yet to determine how strong the oil is in its pure form, how much it will cost to produce, and what species of insects are vulnerable to the oil.

Crushed orange peels are not as potent as some insecticides now on the market. However, experiments indicate that the citrus oil fumes released from a scratched orange are enough to kill flies. One company that uses discarded orange peels to make industrial hand cleaner has discovered that the mixture of peels and fluid it obtains from juicing factories can kill fire ants.

Researchers have focused their studies on oranges largely because of the fruit’s availability; lemons, limes and grapefruits also contain citrus oil. [Editor’s note: I found scratched lemon peels to be very effective in killing fungus gnats in a terrarium.]

— *Indoor Citrus & Rare Fruit Society Newsletter*, Spring 1984

Protect Sculpture

The Avant Gardener reports that Brookgreen Gardens in Murrells Inlet, South Carolina protects and preserves its stone and metal sculpture by washing it three times a year with a mild soap (such as Ivory) and a soft rag or brush, and then rinsing thoroughly. After drying, stone sculpture is treated with Hydrozo Clear, a water repellent available from Hydrozo Products (414 30th Avenue North, Myrtle Beach, South Carolina 29577). Metal sculpture is coated with Traffic Wax, made by the Johnson Wax Company.