American Horticulturist

"How-to" Hints for July

In some areas of the United States, the month of July indicates to vegetable gardeners that it's time for a midsummer harvest. It is usually time to harvest the cool season crops that were planted in late winter and early spring, and that are now about to flower and wilt.

If you are gardening in the eastern U.S., you'll want to replace those crops that you are harvesting with other crops that can be harvested in the fall. If you are gardening in the western U.S., you might want to consider replacing those plants in your garden that have become "leggy" and are producing fruit sparsely, or those that have reached maturity. Remember that any area left unattended in your garden is susceptible to weed invasion.

Before replacement crops are planted, have your soil tested by an agricultural extension agent so you can acquire an updated report on those nutrients your soil needs, and on your soil's relative acidity. Incorporate nutrients in the bare areas of your garden, and add limestone if your soil test indicates high acidity.

If you plan ahead, it is possible to have fresh vegetables in the fall—or all year 'round in warmer climates. During the planning stages, you might want to consider using replacement plantings of warm season crops like corn (use only the earliest varieties), string beans, bush beans and okra, which can be harvested later in the year (until the first killing frost in the eastern U.S.). If you are gardening in the eastern U.S., consider using vegetable cultivars that mature quickly. Cool season crops such as mustard, cabbage, broccoli and cauliflower grow very well during the latter part of the season in the East.

Check with your local county extension agent for the average date of the first killing frost in your area. Once you have this date, count backwards to find the date on which you should plan to plant the replacement crops you have selected. Look for cultivars that can be harvested 14 days before the date

> of the first killing frost. (Dates to maturity should be listed on seed packets; check with your county extension service if you are buying plants.)

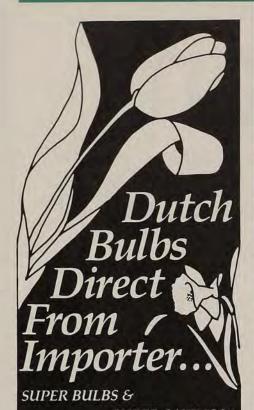
> If your area is experiencing a dry spell, be sure to water the soil the day before you plan to plant your replacement crops. The soil will be easier to work with, and moisture in the soil will facilitate germination and help get transplants off to a good start. Water again after plant-

ing to ensure that water will be available well below the soil surface.

• Replacement crops that can withstand some cold: cabbage, cauliflower, broccoli, spinach, Brussels sprouts.

• **Replacement crops that may survive all winter**: evergreen bunching onions, lettuce, parsley, parsnips, carrots, kale, spinach (use eight inches of mulch around the plants).

• **Replacement crops for warmer seasons or climates:** snap beans, half runner beans, pole type beans, cucumbers, eggplant, melons, squash, tomatoes. —*Brian Little, Horticulturist*



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1986 Awards to be Presented at Meeting

Releven individuals and four organizations will be honored for their horticultural contributions at the Awards Banquet to be held in conjunction with the Society's 41st Annual Meeting in San Francisco, California, August 13-16. President Edward N. Dane will present the awards and citations during a special ceremony on the final evening of the meeting.

The Society's most prestigious award, the Liberty Hyde Bailey Medal, will be presented to Dr. Elizabeth McClintock, Research Associate for the Herbarium of the University of California, Berkeley. Dr. Mc-Clintock specializes in the taxonomy of seed plants. She has been active in programs promoting the conservation and preservation of California's native plants, through cooperation with the California Native Plant Society, the California Natural Areas Coordinating Council, The Nature Conservancy and the Sierra Club. Dr. McClintock also specializes in California's ornamental flora; she has made numerous collections of this group of plants, which has been largely neglected by other botanists. She has published many papers on California's flora and has collaborated with the Strybing Arboretum Society in publishing four Guide Lists to aid those interested in identifying the Ar-

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EDITOR, PUBLICATIONS DIRECTOR: Barbara W Ellis ART DIRECTOR: Lynn M. Lynch. ASSOCIATE EDITOR: A. Brooke Russell. ASSISTANTS TO THE EDITOR: Martha Palermo, Cindy Weakland. MEMBERSHIP DIRECTOR: Sallie Hutcheson.

Address all editorial correspondence to: **The Editor**, **American Horticulturist, American Horticultural Society, Box 0105, Mount Vernon, Virginia 22121. AMERICAN HORTICULTURIST, ISSN 0096-4417, is published** monthly by the American Horticultural Society, 7931 East Boulevard Drive, Alexandria, Virginia 22308, 703-768-5700 Dues for membership in the Society start at \$20 per year, \$12 of which is for AMERICAN HORTICULTURIST. Copyright © 1986 by the American Horticultural Society. The American Horticultural Society is a non-profit organization. Contributions are deductible for income tax purposes Second-class postage paid at Alexandria, Virginia and at additional mailing offices. **Postmaster:** Please send Form 3579 to AMERICAN HORTICULTURIST, Box 0105, Mount Vernon, Virginia 22121. boretum's plants. Dr. McClintock also has compiled information on the remarkable collection of trees and shrubs in San Francisco's Golden Gate Park, and provides information about the collection to Recreation and Parks Department staff. It is quite appropriate that Dr. McClintock be awarded the Society's highest honor at its Annual Meeting in California.



Dr. Elizabeth McClintock Dr. Paul V. Nelson

The G.B. Gunlogson Medal, awarded each year to an individual or organization whose creative use of new technology has made gardening easier and more enjoyable, will be awarded to Dr. Paul V. Nelson, professor in the Department of Horticulture at North Carolina State University. Dr. Nelson's research has demonstrated that tulips, grown previously in the Southeast as annuals only, can be grown as perennials if they are fertilized properly. This finding has revolutionized the homeowner's use of these beautiful flowers throughout the Southeast. Dr. Nelson found that tulips begin taking up nutrients as soon as the roots emerge from the basal plate. He subsequently demonstrated that all nutrients necessary to bulb growth and development must be taken up before flowering; thus, spring-flowering bulbs need nutrients to be available in the fall and early winter, not during or slightly after flowering. Dr. Nelson's research resulted in the development of special fertilizers that, when applied once in the fall, provide all the essential nutrients springflowering bulbs require for their growth and development. In addition, he found that all tulips, even if they are to be grown as annuals, will

benefit from fertilization. Thus, even parks, and arboreta, for example, should follow a fertilization program. Dr. Nelson also developed a list of tulip and daffodil cultivars for the South that give good performance when grown as perennials.

Mrs. Marie Aull is slated to receive the Society's Catherine H. Sweeny Award, which acknowledges extraordinary and dedicated efforts in the field of horticulture. Mrs. Aull. a long-time resident of Davton. Ohio, received her education from the University of Cincinnati, where she developed her love of biology. Throughout her lifetime, she has blended her interest in conservation with her love of gardening, serving on the boards of both the Garden Club of America and the National Audubon Society. In 1957, Mrs. Aull donated 70 acres of land to the National Audubon Society for the creation of Aullwood Audubon Center, in memory of her late husband, John W Aull. Five years later, she purchased adjoining farmland, which became the Aullwood Children's Farm. Mrs. Aull is dedicated to preserving as much of the natural environment as possible for future generations, and she is especially devoted to educating children about that environment. She helped to establish the Davton-Montgomery County Park District, and the woodland garden that she and her husband created has now been given to the park with an endowment to keep it in perpetuity.

The Lane Publishing Company's Sunset magazine has been chosen to receive the Commercial Citation (Firm) in recognition of its high standards and significant contributions to gardening. One glance at the landscape plan for this company's headquarters, and you will know why its magazine was selected, and why its headquarters, located in Menlo Park, California, are described as a "Laboratory of Western Living." Designed by well-known landscape architect Mr. Thomas Church under the direction of the Lane family, the main garden features a border of plants native to (or widely grown in) the Pacific coastal area. The headquarters also houses experimental gardens, test kitchens and a craft shop, so the staff can, in effect, "practice what it preaches" in the regional magazine, which emphasizes gardening, cooking and home improvement, as well as travel in and beyond the West. In fact, many of the ideas for garden and travel articles, recipes and menus, craft projects and buildingrelated reports originate at the headquarters. Not only will *Sunset* be receiving a Society award, but Society members will be visiting the magazine's demonstration gardens as part of an optional tour during the Annual Meeting.





Mr. Charles B. Thomas will be honored with the Commercial Citation (Individual), awarded to those with a commitment to the highest standards of excellence in the field of commercial horticulture. Mr. Thomas, a third-generation member of a family devoted to growing water lilies, is President of Lilypons Water Gardens. Educated at the University of Maryland (B.S., 1957) and George Washington University (M.S., 1973), Mr. Thomas has been a guest lecturer for Cornell University, the University of Maryland, the Ohio State University, Virginia Tech and the American Horticultural Society. He has collected aquatic plants from many domestic and foreign sources in order to improve offerings for water garden enthusiasts, and holds several patents for water lily cultivars. He founded the Water Lily Society, and serves on its Board of Directors. Mr. Thomas has led Lilypons to become one of America's largest companies specializing in water gardening, and has served as a water gardening consultant for American Horticulturist, Horticulture, Time Life Publications, Southern Living, The New York Times and the Washington Post, among others. He has also discussed water gardening on many TV and radio shows.

Mr. W. George Waters, editor of *Pacific Horticulture*, will receive the Horticultural Writing Citation. Born and educated outside London, Eng-



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land, Mr. Waters has been a gardener for most of his life. He was a founder of England's Garden History Society, and contributed to exhibits for that society at Royal Horticultural Society shows in Westminster. Mr. Waters came to California in 1972, and worked as a restorer and designer of gardens. He took over as editor of Pacific Horticulture in 1976. He contributes to every issue of Pacific Horticulture, with editorials, articles, book reviews and photographs. Recently his work has appeared in publications of the Brooklyn Botanic Garden and in the magazines Harrowsmith and House and Garden. Many of his photographs are featured in illustrated books on gardening.

The Society's Horticultural Therapy Citation will be jointly awarded to the Department of Horticulture at Kansas State University (KSU) and the C.F. Menninger Foundation of Topeka, Kansas. KSU is the only university in this country that offers recognized Bachelor's and Master's degree programs in horticultural therapy The programs were initiated by the University in cooperation with the Menninger Foundation in 1971. Since then, the University has graduated more than 160 persons with Bachelor of Science degrees and 22 persons with Master of Science degrees. The University's horticultural therapy curriculum combines a regular program of studies with a supervised, six-month-long clinical study practicum. The University also sponsors a summer short course for horticultural therapy practitioners. Such programs have provided a source of leadership and an academic focus for horticultural therapy

The Landscape Architecture Citation will be presented to Mr. Hideo Sasaki for his work in expanding the awareness of horticulture in landscape architecture. Mr. Sasaki is Principal and Chairman of the Board of Sasaki Associates, Inc., a Massachusetts-based landscape architecture firm. He was educated at the University of Illinois, where he received a Bachelor of Fine Arts degree in Landscape Architecture in 1946, and at Harvard University, where he received a Master of Landscape Architecture from the Graduate School of Design in 1948. Mr. Sasaki is a member of numerous advisory committees and review boards throughout

the country. He has received awards from such prestigious organizations as the American Society of Landscape Architects and the American Institute of Architects, as well as Honorary Doctorate degrees from the University of Illinois, Urbana, and the University of Colorado, College of Design and Planning, Denver.

It seems appropriate that the Society award Mr. Victor Reiter, Jr., its Local Horticulture Citation, which is presented to an individual or group who has contributed to the improvement or excellence of horticulture in the city that is hosting the Society's Annual Meeting. Mr. Reiter was born in San Francisco, and has lived there for almost all of his 83 years. His horticultural interests began early in his childhood but flourished after his graduation from the University of California in 1926. He eventually started his own nursery, named "La Rochette," and began collecting and trading plants from all over the world. At one time, one-third of the nursery was devoted to display collections, testing and breeding projects. Mr. Reiter is President Emeritus of the California Horticultural Society, Past President of the Pacific Horticultural Foundation and a Founder of the Strybing Arboretum Society.

The Northwest Horticultural Society (NHS) will be the recipient of the Society's Meritorious Service Award, which recognizes the outstanding and exemplary service of a member or friend who supports the Society's goals, services and activities. Over its 19-year existence, NHS has provided lectures, exhibits, plant sales, seed exchanges, garden tours, study groups and related horticultural events, all in order to stimulate the interest of gardeners in the wealth of ornamental plants that can be propagated and grown in the Northwest. NHS also publishes a journal, Horticulture Northwest. The group's overall goal is to give support to the University of Washington Arboreta and other horticultural endeavors. The most tangible realization of that goal was the establishment, in 1984, of the Center for Urban Horticulture at the University. The group also has set up a Horticulture Education Fund with a goal of \$100,000, to be used exclusively to further horticultural education, development and related activities.





Dr. Ray Collett

Dr. Fred B. Widmoyer

Dr. Ray Collett will receive the Society's Professional Citation for his efforts in establishing and maintaining an arboretum on the Santa Cruz campus of the University of California. Educated at the University of California, Berkelev, Dr. Collett is a geographer by training, but a horticulturist at heart. He established the arboretum with little financial help from the University, but with backing from the Stanley Smith Horticultural Trust and the Elvenia J. Slosson Fund. He and his associates have introduced 300 new plants for California gardens to the commercial trade; five times that number are currently undergoing trial

Dr. Fred B. Widmoyer will be presented with the Society's Scientific Citation, which recognizes an individual who has enriched horticulture through outstanding and notable research. Dr. Widmover is currently a professor and horticulture specialist at New Mexico State University, where he has organized a research/ demonstration center for Christmas trees and other forestry crops. Dr. Widmoyer identified the Afghanistan pine, Pinus eldarica, for its landscape and Christmas tree potential: the tree has become a valuable crop and is now used extensively throughout the arid Southwest. He has been honored with awards from several organizations in the past, including the Massachusetts Horticultural Society and Future Farmers of America.

The Teaching Citation will be awarded to Raymond T. Greiten in recognition of his enthusiastic sharing of his horticultural knowledge with others. Dr. Greiten lectures to over 800 gardeners each year; his work has been published in gardening magazines and newspapers, and shown on television as well. He has cooperated in experimental work with both commercial operations and

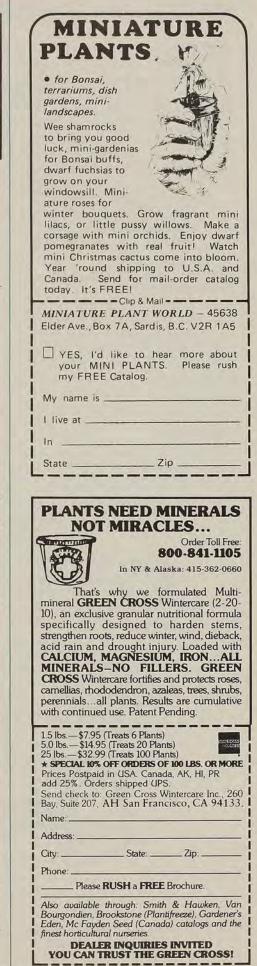


Raymond T. Greiten Ralph Steyer

the University of Wisconsin, in areas ranging from testing new seed varieties for home garden use to fertilization and propagation practices for golf greens. Mr. Greiten also is very active with the Master Gardeners Program in Wisconsin.

The Franklin Town Corporation will receive the Urban Beautification Citation (Commercial) for its significant contribution to urban horticulture in the city of Philadelphia. In 1980, the corporation initiated the development of the International Garden of Franklin Town with the assistance of the Morris Arboretum. Since then, the garden has been maintained by the Morris Arboretum under contract with Franklin Town Corporation. The garden serves as an instructional site for horticulture students and a testing site where a wide variety of species from throughout the world can be grown and monitored under urban conditions.

The Urban Beautification Citation (Individual), presented for significant contributions to urban horticulture, will be awarded to Ralph Stever of Blair, Nebraska. Mr. Stever has unselfishly committed himself to making Blair one of the most beautiful communities in his state. He prepared landscape plans for and supervised the development of the 80-acre Black-Elk/Neihardt Park and Arboretum, and the 21/2-acre Stemmerman Park. Mr. Stever has served as a Park Board Member and City Forester for the past 24 years, and was responsible for the designation of Blair as a "Tree City USA." He is a member of the Nebraska Statewide Arboretum Board of Directors and received the Arboretum's Johnny Appleseed Award in 1981 for his personal devotion to tree planting. Mr. Stever is dedicated to the belief that trees are of great importance to our communities and our lives.



Sponsoring Member's News

he 1986 Convention of the Ohio Association of Garden Clubs, "A Touch of Elegance," will be held at the Hyatt Regency Hotel in downtown Cincinnati on July 18, 19 and 20 (Friday through Saturday). Planned activities include clinics for men on patio and deck building, and for juniors on crafts and horticulture; a garden tour of Spring Grove Cemetery, with its beautiful, rolling hills and over 800 varieties of trees, shrubs and flowers; a tour of Laurel Court, an old home with an eight-acre garden based on "Petit Trianon" in Versailles, France; and a moonlight riverboat cruise.

The Convention promises to be quite interesting. Donald K. Vanderbrook, the famous rose hybridizer, will speak on "total effect" parties, and how to use floral accents at such parties; Steve Sandfort, Urban Forest Manager in Cincinnati, will describe Ohio's "big trees." Charles Harper, whose work has appeared in *Audubon* magazine and *Ranger Rick*, will talk about his experiences as a nature artist; and Lou Riddle of Columbia, South Carolina, will discuss flower arranging in a "modern mode." A beautiful flower show is also part of the itinerary.

If you would like further information on the convention or on membership with the OAGC, write or call either Mrs. Dean Wells (publicity), 2185 Woodville Road, Mansfield, OH 44903, (419) 756-6863; or Mrs. Gordon C. Hoffman (membership), 1347 Merribrook Court, Fairborn, OH 45324, (513) 879-1561.

If your organization would like to become a Sponsoring Member of the American Horticultural Society, write the Society's Membership Department (AHS, P.O. Box 0105, Mt. Vernon, VA 22121).

Seed Program Start-up

Believe it or not, it is again time to begin collecting and packaging seed for next year's seed program. Several early birds have already sent some rather interesting selections, including blazing star (*Liatris punctata*), sponge gourd (*Luffa aegyptiaca*), perennial sweet pea (*Lathyrus* sp.) and perennial lupine (*Lupinus* sp.). In addition, beautybush (*Kolkwitzia amabilis*) seed has been collected right here at River Farm.

Although the program can always use new and interesting collections, seed of more common species is always welcome. And you don't need to collect mounds of seed, either. Most donations are rather small, but when added together with donations of the same species from other members, the collection quickly becomes large enough to be offered as part of the program.

Don't miss this opportunity to share your best-loved plants with fellow members. Your generosity is directly responsible for the success of a program from which all members may benefit—including yourself. For more information on donating seed to the 1987 Seed Program, write to Steven Davis, Attn. 1987 Seed Program, American Horticultural Society, Box 0105, Mount Vernon, VA 22121.



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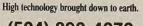
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Gardener's Dateline

JULY 2-5

American Gloxinia & Gesneriad Society Annual Convention

Clarion Hotel, Denver, Colorado. Information: Karen Wagner, Registrar, 9064 Fayette St., Denver, CO 80221.

JULY 4-10

Summer Course: "The Protection & Conservation of Historic Landscapes, Parks & Gardens"

West Dean House, Sussex, England. Information: The Conference Organizer, West Dean College, West Dean, Singleton, Nr. Chichester, West Sussex PO18 OQZ England.

JULY 9-13

International Bonsai Congress

The Shoreham Hotel, Washington, DC. Information: Molly Hersh, 102 Devon Court, Silver Spring, MD 20910, (301) 589-3725.

JULY 10-12

Canadian Geranium & Pelargonium Society Conference

Floral Hall of Van Dusen Botanical Gardens, W. 37th Avenue & Oak St., Vancouver, BC, Canada. Advance Registration: \$35 (Canadian). Information: Mr. Ian Gilliam, Canadian Geranium & Pelargonium Society, 4040 West 38th Ave., Vancouver, BC, Canada V6N 2Y9, (604) 266-6318.

JULY 18-20 Ohio Association of Garden Clubs

National Convention Hyatt Regency Hotel, Cincinnati, Ohio. In-

Hyatt Regency Hotel, Cincinnati, Ohio. Information: Mrs. Dean Wells, Publicity, 2185 Woodville Rd., Mansfield, OH 44903, (419) 756-6863.

JULY 18-21 Small Fruits Program

New Brunswick, New Jersey. Program sponsored by the Garden Writers Association of America. Information: Garden Writers Association of America, PO Box 433, Mt. Dora, FL 32757, (904) 343-0618.

JULY 21-22

Fundamentals of Assessment: Techniques for Horticultural Therapists

Morrison Horticultural Demonstration Center, Denver Botanic Gardens, Denver, Colorado. Registration: \$150. Information: National Council for Therapy and Rehabilitation through Horticulture, 9220 Wightman Rd., Suite 300, Gaithersburg, Maryland 20879.

JULY 21-23

Herb Growing and Marketing Conference

Sheraton University Inn, West Lafayette, Indiana. Sponsored by the Department of Horticulture and the Cooperative Extension Service, Purdue University. Information: Dr. J.E. Simon, Department of Horticulture, Purdue University, West Lafayette, Indiana 49709, (317) 494-1328.

JULY 21-15

Perennial Wildflowers Course

Longwood Gardens, Kennett Square, Pennsylvania. Cost: \$155. Information: Longwood Gardens, Education Department, PO Box 501, Kennett Square, PA 19348-0501, (215) 388-6741, ext. 516.

JULY 28-AUGUST 1

Summer Course: "Garden Design for Beginners"

Harvard University Graduate School of Design, Cambridge, Massachusetts. Information; Office of Special Programs, Graduate School of Design, 48 Quincy St., Cambridge, MA 02138, (617) 495-9340.

JULY 31-AUGUST 3 Marigold Society of America Annual National Convention

San Jose, California. Information: William Morris, PO Box 2489, El Macero, CA 95618, (916) 756-8099.

AUGUST 7-9

Conference: "Landscaping with Native Plants"

North Carolina University, Cullowhee, North Carolina. Co-sponsored by Western Carolina University and the Tennessee Valley Authority. Pre-registration (limit 400): \$30 (does not include housing or meals). Information: Dr. James Horton, Department of Biology, Western Carolina University, Cullowhee, NC 28723, (704) 227-7244.

AUGUST 8-10

American Association of Botanical Gardens & Arboreta Western Regional Meeting

University Arboretum, University of Cali-

fornia, Davis. Information: University of California, Davis, #0900, Davis, CA 95616, (916) 752-2498. Mary Burke, Convenor.

AUGUST 10-14

Northern Nut Growers Association **Annual Meeting**

Augustana College, Moline, Illinois. Information: Program Committee, Northern Nut Growers Association, 207B Miller Hall, East Campus, University of Nebraska, Lincoln, Nebraska 68583-0714.

AUGUST 10-16

Summer Course: "Garden Design for **Experienced Professionals**"

Harvard University Graduate School of Design. Information: Office of Special Programs, Graduate School of Design, 48 Quincy St., Cambridge, MA 02138, (617) 495-9340.

AUGUST 10-18

American Society for Horticultural Science Annual Meeting

Held in conjunction with the XXII International Horticultural Congress, Davis, California. Information: Congress Secretariat, XXII International Horticultural Congress, Campus Events & Information Office, University of California, Davis, CA 95616.

AUGUST 13-16

American Horticultural Society **Annual Meeting**

The Fairmont Hotel, San Francisco, California. (Optional all-day tours, August 17 & 18.) Information: AHS Annual Meeting, American Horticultural Society, PO Box 0105, Mt. Vernon, VA 22121.

AUGUST 16-24 Southern California Home & Garden Show

Anaheim Convention Center, 800 W. Katella Ave., Anaheim, California. Information: George Calouris, Producer, 501 N. Brookhurst, Suite 100, Anaheim, CA 92801, (714) 635-8330.

AUGUST 18-29

Summer Course: "Plant Cell and **Tissue Culture**"

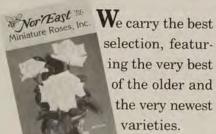
University of Tennessee, Knoxville, Tennessee. Registration (limit 16): \$1100. Information: Dr. Donald Dougall, Botany Department, The University of Tennessee, Knoxville, TN 37996-1100, (615) 974-2256.

AUGUST 22-23

American Association of Botanical Gardens & Arboreta Mid-western **Regional Meeting**

Des Moines Botanical Center, Des Moines, Iowa. Information: Des Moines Botanical Center, 909 East Dr., Des Moines, IA 50316, (515) 283-4148. Matthew Rosen, Convenor.

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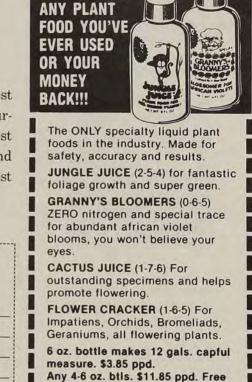
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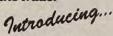
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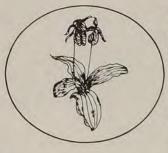
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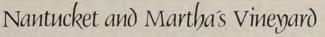
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The American Horticultural Society





September 14-21, 1986

This fall the island gardens of Nantucket and Martha's Vineyard will be the focus of a special trip co-sponsored by the New England Wild Flower Society and the AHS. Our visit will concentrate on the natural flora of the islands and the unique qualities resulting from their isolation and unusual climatic conditions. We will be guided by well-known New England botanists, and our tour leader will be Polly Pierce, President of the New England Wild Flower Society.

Baltimore and Beyond—Fall Foliage Cruise on the Chesapeake

October 7-18, 1986

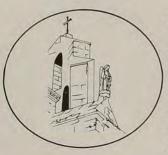
The Foliage Season, nature's last hurrah before winter, invites us to cruise the Chesapeake Bay in early October. With thousands of miles of tidal shoreline, the Chesapeake provides a brilliant backdrop for our seven day cruise. We begin our tour in the Baltimore area with three days of private visits and special activities arranged by enthusiastic and knowledge-able members of the AHS. We then board the M/V *America*, a lovely small ship boasting spacious outside cabins and the best of southern hospitality, sail along the unspoiled landscape of Maryland's eastern shore and visit such historic and exquisite landmarks as Williamsburg and Norfolk.

Kenya and East Africa

Dates to be announced

April 10-26, 1987

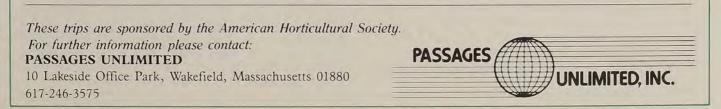
A land of contrast, with near perfect climate, Kenya is one of the world's most evocative countries. With fertile green highlands, vast open plains, thick forests and semi-arid deserts, Kenya offers an incredible spectrum of botanic wonders. During our stay we will visit private gardens, arboreta, great tea estates, rain forests, mountains and moorlands. We intend to spend an equal amount of time viewing the vast array of East Africa's extraordinary wildlife. This is a most unusual trip encompassing a scope and variety rarely found in other itineraries to Kenya.



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AHS Travel Program

Island Gardens and Wildflowers (September 14-21). Learn about the natural flora of Nantucket and Martha's Vineyard on a unique tour co-sponsored by the American Horticultural Society and the New England Wild Flower Society. Participants will visit Polly Hill's magnificient garden at Barnard Inn Farm as well as architect Tom Payette's Lambert's Cove garden. We will also tour many natural areas. Leader: Polly Pierce, President of the New England Wild Flower Society and AHS Board Member.

Wildflowers of Western Australia (September 24-October 12). Join AHS and Virginia Wildflower Preservation Society members on a tour of natural areas and gardens in "the land down under." Visits to Adelaide Botanical Gardens and Kooringai Chase National Park near Sydney are scheduled. Several days are devoted exclusively to touring the countryside and learning about Australia's unique wildflowers. Leader: Dr. Stanwyn G. Shetler, Curator of Botany, Smithsonian Institution. Autumn Tour of Japan (October 19-November 5). Explore unique private gardens not open to the general public, and learn about Japan's fascinating temple gardens while enjoying this country's beautiful autumn foliage. Participants will visit the Imperial Palace East Garden in Tokyo, Toshogu Shrine and lovely gardens in Kyoto such as Kenrokuen and Seisonkaku Villa. Leader: Ernie Chew, former director of plantings at the San Diego Zoo.

YES! Please send me more information on the tours below: Island Gardens Western Australia Autumn Tour of Japan

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4' Windermere 19" Sq. Grantham Planter



"Sweet Meter" Developed

nited States Department of Agriculture scientists have developed a method that tells, with 95 percent accuracy, how much carbohydrate (including sugar) an onion contains, without cutting into it. The method combines near infrared radiation and special filters to produce a measurement of dry matter, which is related to sweetness in onions, according to Dr. Gerald G. Dull, a chemist with the USDA's Agricultural Research Service. Dull and engineer Dr. Gerald S. Birth have been working since 1973 on the technology, at the agency's Richard B. Russell Research Center in Athens, Georgia. Both Dull and Birth believe the same technology-spectrophotometry-can be adapted to objectively rate the sweetness of many fruits and vegetables. "Of the 80 different fruits and vegetables usually available in the marketplace, fewer than six have objective quality standards," said Dull. As the state-of-theart technology develops, Dull continued, "a portable meter in a supermarket could possibly analyze the chemical makeup of fruits and vegetables to find out just what carbohydrates and other nutrients they contain-like the labels on canned and frozen foods.'

Carotene, a yellow to red pigment, is a good indicator of fruit maturity, and can be measured in papayas us-



ing a different model of the meter, Dull said. If the carotene level is high, then the fruit is more likely to be sweet. According to Dull, meters like that being tested for papayas could help in timing the harvesting of high quality fruits and vegetables for consumers.

Unlike the papaya meter, which uses visible light to measure pigments, the onion meter uses near infrared wavelengths, because sugar has no color. Near infrared wavelengths (about 800 to 2,000 nanometers) are higher than those of visible light, and are rarely used in spectrophotometry of fruits and vegetables, said Dull.

The onion meter, which is now available commercially, works because the skin of an onion is not completely opaque and can transmit about one percent of the light directed at it, according to Birth. Two devices on either side of the meter measure the light passing through the onion. Once collected, this reading is fed into a small computer that analyzes the information.

In the future, growers and packers could use the "sweet meter" to develop labels indicating the sweetness or pungency of their onions, Dull said. Packers would also know which onions should be marketed immediately and which ones have a long shelf life. Plant breeders might also use the meter to screen vast numbers of onions quickly without destroying them, so that they could then select and develop sweeter cultivars.

As indicated earlier, fruits and vegetables also vary in sweetness. A three- or four-day difference in flowering can cause a whole range of differences in fruit maturity, said Dull. No two fruits, even on the same limb, will have exactly the same sweetness. "Some fruits and vegetables are picked when they are too green, which can also influence sweetness. For example, once picked, peaches will not increase in sweetness one bit," Dull said.

Dull and Birth are continuing to work on their light meter technology, and are testing more fruits and vegetables. So in the future, if you happen to see comparison shoppers intently "reading" the sides of cantaloupes and potatoes while holding them up to a light, don't be surprised; they will just be doing what they always do—checking nutritional content.

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