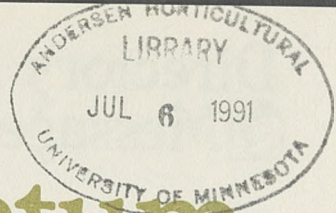


Minnesota Landscape Arboretum



July-August 1991
University of Minnesota
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News

Developing Tough Plants

by Harold Pellett and Nancy Rose

At Arboretum headquarters, the Center for Development of Hardy Landscape Plants, leads the way to superior plants.

Gardeners in Minnesota know how difficult it can be to successfully grow a number of the landscape plants currently available to them. Cold winters, hot summers, drought, insects and diseases take their toll on landscape plants, especially those growing in difficult urban situations. Widespread concern about global warming and its hazardous effects on the environment has encouraged major efforts to plant trees and other landscape plants to help alleviate the greenhouse effect.

Many of the most commonly grown trees and shrubs are not sufficiently tolerant of stressful growing conditions, performing poorly or dying within a few years of planting.

The Center for Development of Hardy Landscape Plants is a cooperative organization established to promote and coordinate research to develop superior landscape plants, more tolerant of biological and environmental stresses.

Headquarters for the Center is presently located here at the Minnesota Landscape Arboretum, a participating research institution. The Center includes 50 participating research institution members. Among them are universities, botanical gardens and arboreta, and experiment stations in locations scattered across the United States and Canada.



Hardy x Beautiful
Lisa Hunt crosses "Pyrus ussuriensis" with other "Pyrus" species using trees growing at the National Clonal Germplasm repository, Corvallis, Oregon.

Stress-tolerant plants a benefit to all

Though the term "hardy" is used in the Center's name, vigorous plants are being developed, adapted to stresses encountered in many North American regions, not just the northern states. Plants that are more tolerant of common stresses will not only survive and perform better, but will result in lower maintenance and replanting costs.

Developing tolerant trees and shrubs will pay great dividends by helping to solve issues of chemical pesticide dependence, air purification and passive energy conservation, in addition to helping counteract the predicted trend of global warming.

Searching the four corners...

Several aspects of research are involved in the development of better-adapted woody plants. The first step towards making the most of nature's tremendous genetic potential is looking for new sources of superior landscape plants.

The Center promotes plant exploration in regions of the world that have difficult growing conditions. Plants which are already adapted to cold, drought, or other stresses are important bases for further breeding and selection work. Parts of northeast Asia, for example, have environmental conditions similar to those found in Minnesota, so the woody plants found growing in those areas would be ideal candidates for our research.

...To cross-parent vigorous, beautiful new breeds

The process of breeding and selection for stress tolerance is the primary focus of the Center for Development of Hardy Landscape Plants. Initial crosses are made between stress tolerant plants and plants that have outstanding ornamental qualities but perhaps limited stress tolerance. The progeny of this cross are then crossed again to produce the F₂ generation.

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This spring, the Arboretum looked as beautiful as it ever has. The tulip display was so spectacular, people stopped me to express their delight. Others sat in front of the Snyder Building painting the scene with a brush in one hand—and umbrella in the other!

Heavy spring rains may have dampened visiting plans for many, but they also brought forth the most luxuriant summer growth our plants have seen since the drought. We extend a standing invitation to you to share in the rewards of knowledge and delight we have cultivated at the Arboretum, as beautiful and magnificent as ever.

As a member of the Arboretum, you can be proud of our accomplishments over the past few years: new gardens, maturing gardens, more environmentally sound maintenance, better service and more research and educational programs.

The first stop on your way in is the Arboretum gatehouse. More than a place to collect fees, it is our place to welcome you and our chance to express appreciation.

It is here that we ask to see a member's membership card. Wield it proudly—it lets us know you are one of 10,000 exceptional people—the members

who have helped us create this beautiful educational facility. Make this your chance to say, "I am one of your best supporters," or to voice comments, questions or concerns.

We also extend a warm welcome to the 70,000 yearly non-member visitors who pay a gate fee to enter. Gatehouse proceeds also play a major role in the support of garden and collection maintenance, programs and research. We welcome you, explain our rules of operation, and invite to enjoy and learn.

As with all Arboretum operations, we are constantly reviewing and revising our policies so that we may better serve you. The gatehouse policies are now under review. We invite your comments. As the newly-planted trees at the Arboretum entry grow to welcome your future arrivals, so, too, will the gatehouse activity improve as an important highlight of your visit.

It takes a lot to maintain a place as large and as beautiful as the Arboretum—a lot of people, a lot of funds, a lot of energy, a lot of commitment. We are committed to welcoming you to the Arboretum.

Peter J. Olin,
 Director

July-August Blooms

July

Annuals
 Clematis
 Dahlias
 Daylilies
 Grass Collection
 Herbaceous Perennials
 Herbs
 Hosta
 Hydrangea
 Old-Fashioned Rose Collection
 Potentilla
 Prairie
 Rose Garden



August

Annuals
 Dahlias
 Daylilies
 Grass Collection
 Herbaceous Perennials
 Herbs
 Hosta
 Hydrangea
 Lilies
 Old-Fashioned Rose Collection
 Potentilla
 Prairie
 Rose Garden

Detailed weekly bloom list are posted at the Arboretum reception desk. All periods are estimates, bloom period varies year to year.

Fatal Attraction: Non-Toxic Insect Traps

by Jody Fetzer, IPM Specialist

Volunteer Opportunities

If you are interested in any of the following volunteer opportunities, please call Shirley Mah Kooyman, volunteer program coordinator, at (612) 443-2460.

Lobby Desk Assistant

Assist the receptionist with greeting the public, answering questions relating to the Arboretum, helping with tram ticket sales. Commitment is for once a week, from 9:30 a.m.-2:30 p.m., Wednesday through Sunday.

Curatorial Assistant

Help with mapping, plant collection inventories, and plant label verifications. Need to be accurate and good with detail plus be comfortable with map reading. Commitment is for a 4-hour block or 1/2 day a week during the week.

Bloom List Person

Work in a team with another person to keep the Arboretum's weekly bloom list up to date. The list includes plants blooming in the natural areas as well as in the gardens near the Snyder Building. Commitment is for 1/2 day on Fridays.

Label Production

Engrave display labels, stamp record labels, assemble labels and collect broken labels for repair. Must be dextrous and detail oriented. Commitment is for 1/2 day a week or a 4-hour block of time.

Integrated Pest Management

Help with disease and insect control in the gardens by physically removing diseased plant materials and using non-chemical methods to control or minimize pest problems. Will train. Commitment is for 1/2 day a week.

Office Assistant

Assist with general office duties. There will be some work with the calculator. Knowledge of 10 key would be helpful. Commitment is for 1/2 day a week.

Laboratory Assistant

Keep research laboratory in order, wash lab glassware, make agar media, filing and miscellaneous office tasks. Need to have good organizational skills, ability to follow recipes, and able to work independently. Will train. Commitment is for 1/2 day a week.

*Bright red apples as deadly as they are shiny.
Sex lures as seductive as the song of the sirens...*

Themes from mythology and tales of intrigue await your discovery in the Arboretum Home Demonstration Garden this summer. Look for them in the guise of sticky insect traps designed to attract victims with scintillating color or titillating scent (at least to insects), part of our Integrated Pest Management (IPM) Program.

Our death-trap super "apples," red spheres dipped in a non-poisonous sticky product for trapping insects, are designed to lure adult apple maggots. Because apple maggots use both scent and sight to locate apples, these simulated apples, hung from apple boughs, look too good to be true to the egg-laying adults. And so they are, permanently fixing any unlucky little vagrant who strays too close. One sphere per 150 apples provides fair crop protection in our garden.

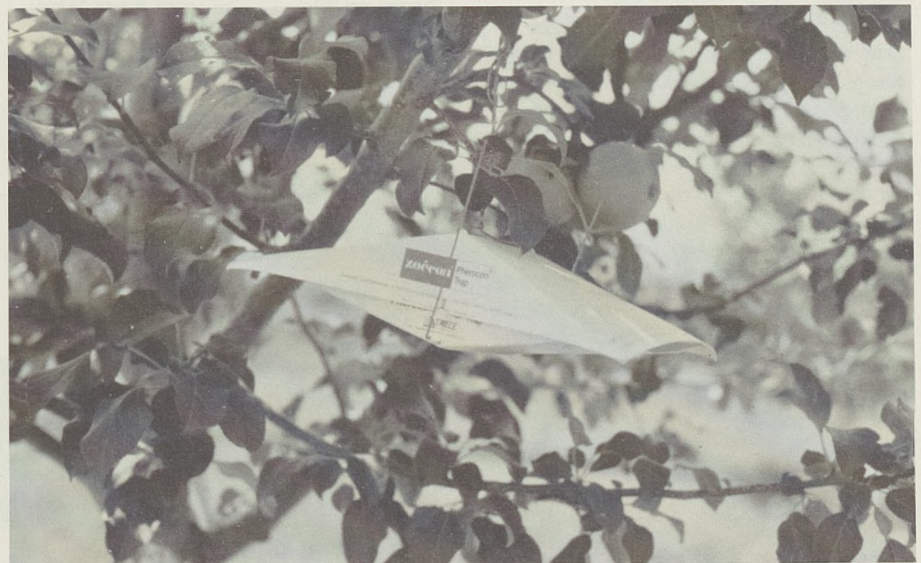
In the Arboretum production orchards, sphere traps used are alongside vials filled with "apple essence," luring adult apple maggots with an apple scent replicate. Used in conjunction with insecticide spraying, this program not only reduces spraying frequency, but aids in effective spray timing. When population outbreaks are identified by specific threshold counts of adult maggots in the traps, spraying

is begun.

Codling moths are another destructive apple pest. White "wing" traps, baited with codling moth pheromone replicates, are hung on inner apple branches. Wafting an irresistible female codling moth scent, these traps entice enchanted male moths to an early grave. At the Arboretum, these traps are also used with an insecticide spraying program to improve spray timing for maximum effectiveness.

White, yellow and blue sticky cards—shades of flypaper revisited—are staked or hung about our Home Demonstration Garden to trap various flying insects. Every insect seems to have a favorite color: white attracts tarnished plant bugs, flea beetles and sawflies; yellow attracts flying aphids, apple maggots, fruit flies, fungus gnats, whiteflies, thrips, leaf miners and others; blue attracts thrips.

Reducing quantities of pesticides in our environment is a vital goal that can be effectively intertwined with the goal of maintaining quality—the quality to which we have become accustomed. Programs such as these and others at the Arboretum gardens and Horticultural Research Center help us reach these goals in a safer, gentler way.



White wing pheromone trap

Children's Garden Program Draws to Annual Close:

Harvest Fair Brings Family Fun to August

The Arboretum's 11th Annual Harvest Fair, closing highlight for the Children's Garden Program, takes place on Saturday and Sunday, August 3-4, at the Arboretum Learning Center.

The two-day fair is open to the public. Visitors may tour the Children's Garden, visit a parade of garden scarecrows, meet the greenhouse topiary animals, scratch and sniff herbs, pot a plant to take home and register for door prizes. Garden craft demonstrations and fresh vegetable recipes from around the



world will also be presented, reflecting the fair's international theme this year.

On exhibit will be best crops from children who participated in the Children's Garden Program, including categories for longest bean, best sweet corn, largest onion, best tomatoes and weirdest vegetable. Terrariums, flower arrangements and "vegetable creatures" will also be displayed.

Everyone is cordially invited to join the fun from noon to 3 p.m. each day.

Arboretum Tours

Walking Tours

Free walking tours of the gardens near the Snyder Building will be offered every Tuesday, Wednesday and the first Saturday of the month beginning May 4. No reservations are necessary. Meet the tour guide in the lobby at 10 a.m. for the 1 1/2-hour long tour.

Bus and Walking Tours for Groups

During the May 1-October 11 tour season, tour arrangements can be made for groups of 15 people or more with a two-week advance notice. The tours are conducted at no additional charge and are only available during the weekdays. For bus tours, groups must provide their own bus. For more information, call the Arboretum reservationist at (612) 443-2687.

Tram Tours

Narrated, hour-long tram tours aboard the "Trumpet Creeper" will begin on May 1. The tram tours leave from the front of the Snyder Building. The weekday schedule is: Wednesday through Friday at 10 a.m., 11:30 a.m., 1 p.m.; Thursday evenings, 6 p.m. and 7 p.m. The weekend and holiday schedule is: Saturday, Sunday and holidays at 11:30 a.m., 1 p.m., 2:10 p.m. A fourth tour will be offered on weekends and holidays if there are at least 20 riders.

The cost is \$1.50 per rider. Infants sitting on an adult's lap ride free. Tickets may be purchased the day of the tour in the Snyder Building lobby. Groups of 15 people or more may reserve seats with a two-week advance notice and prepayment. Arrangements should be made through the reservationist at (612) 443-2687.

For Members Only



Plant and Insect Information

**Membership Privilege
Phone Number
(612) 624-4776**

**April 1st — September 30
9 a.m.-5 p.m. Weekdays**

Present name and member number.
A.M. times are busiest.
Always dial the above listed number
to avoid an automatic \$2.50
non-member charge.

Cool Off at the Members' Ice Cream Social

Mark your calendars for the annual Membership Appreciation Ice Cream Social, Tuesday, August 6th from 5-8 p.m. at the Arboretum. Invite a friend, relative or neighbor who you think may want to join the Arboretum. Anyone joining as a new member at this event will receive a \$5 discount on regular-priced memberships. Enjoy ice cream cones, musical entertainment, balloons for the kids and more throughout the evening. Tram tours will be available at 5, 6 and 7 pm. at the cost of \$1.50 per rider. Invitations for this event will be mailed to members in July.



Tree magnifique



Pictured here in one of many alleys of trees at the Castle Beloeil in April, Beloeil, Belgium is the Arboretum/Lake Minnetonka Garden Club art and flower tour group, led by Arboretum staff scientist Mervin Eisel. From left to right, front row: Merry and Guy Detlefson. Second row: Judy Reiking, Jean Jungst, Jean Mooney, Sandy Coleman, Lynn Oehler, B. J. Dahlberg and Jobe (the motorcoach driver). Third row: Paul and Shiela Steiner, June Lees, Georgia Decoster, Chloe Massie and Helen Zabel. Fourth row: Kathy Schlangen, Marney Hensel, Rina Kost (the Dutch tour guide), Barbra Dow, Pam Kearney, Mervin Eisel and Bob Zabel.

At their peak of bloom, tulip fields and the Kuekenhof gardens made this spring tour memorable from the start. The immensity of the Aalismeer flower market was overwhelming; the floating flower market in Amsterdam intriguing. Other 1991 trip highlights included the former summer palace Het Loo and surrounding French formal gardens, Rijkesmuseum (the Van Gogh Museum) and the Kroller-Mueller Museum and Sculpture Gardens in Otterloo. For the grand finale, fine dining and a night tour of the Royal Greenhouses in Brussels completed the spring tour.

Arboretum 1992 travel plans include two tours slated for August and September that will both highlight a visit to Holland's "Floriade," a spectacular exposition sponsored by the Dutch government every ten years. On August 12-28, 1992, Arboretum Director Peter Olin will host one of the Floriade tours, also to include the Grand Alpine garden tour with visits to Germany, Austria, Switzerland, Italy and Belgium, as well as Holland. On September 17- October 1, 1992, Mervin Eisel will host the other Floriade tour, with special focus on English gardens. In addition to the Holland visit, other countries on the itinerary include England, Scotland and Wales.



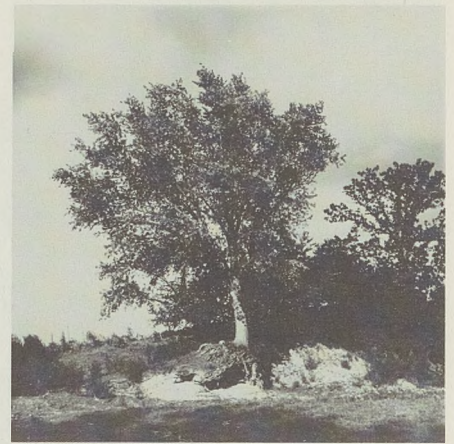
AUGUST HERB SYMPOSIUM New Trends in Herbs

The latest trends in raising and using herbs will be presented at the Seventh Annual Herb Symposium, Thursday through Sunday, August 15-17, 1991, sponsored and hosted by the Minnesota Landscape Arboretum. Three day-long sessions will feature guest lecturers from here and around the country speaking on a variety of topics, including:

- Medicinal herbs and their uses, presented by authors Drs. Walter and Memory Lewis
- New trends in herbal arrangements
- Landscaping with herbs in containers with Colorado author Steve Wild, Peep O'Day Farms
- Prints and pressed designs with dye herbs
- Planning a kitchen garden
- Tours of outstanding gardens and greenhouses
- Companion planting and pest management
- Southwestern cooking with San Jose, California author Carolyn Dille . . . and more. Thursday and Friday session lunches include a tantalizing array of dishes seasoned with fresh herbs.

For more program information, contact Theresa Mieseler, (612) 443-2460, or for registration information, contact Pat Madden, (612) 443-2687.





Along the Wisconsin Riverway

*"I don't do
pretty trees—
I do distressed
trees."*



Clockwise from top,
*Clear-cut by Wisconsin Power
and Light Company; The Tree
Past Gotham; and Botanical
#4: Prairie Grass Detail. All
photos © Jill Metcoff, 1990.*

For the past 18 years, Chicago photographer Jill Metcoff has been capturing landscapes on film of a 92-mile stretch of Wisconsin River, from the Prairie du Sac Dam to the Mississippi. Beginning Thursday, August 1 through September 15, her photographic work can be viewed on the first and second floors of the Minnesota Landscape Arboretum in her unique exhibit entitled "Along the Wisconsin Riverway: Points of View".

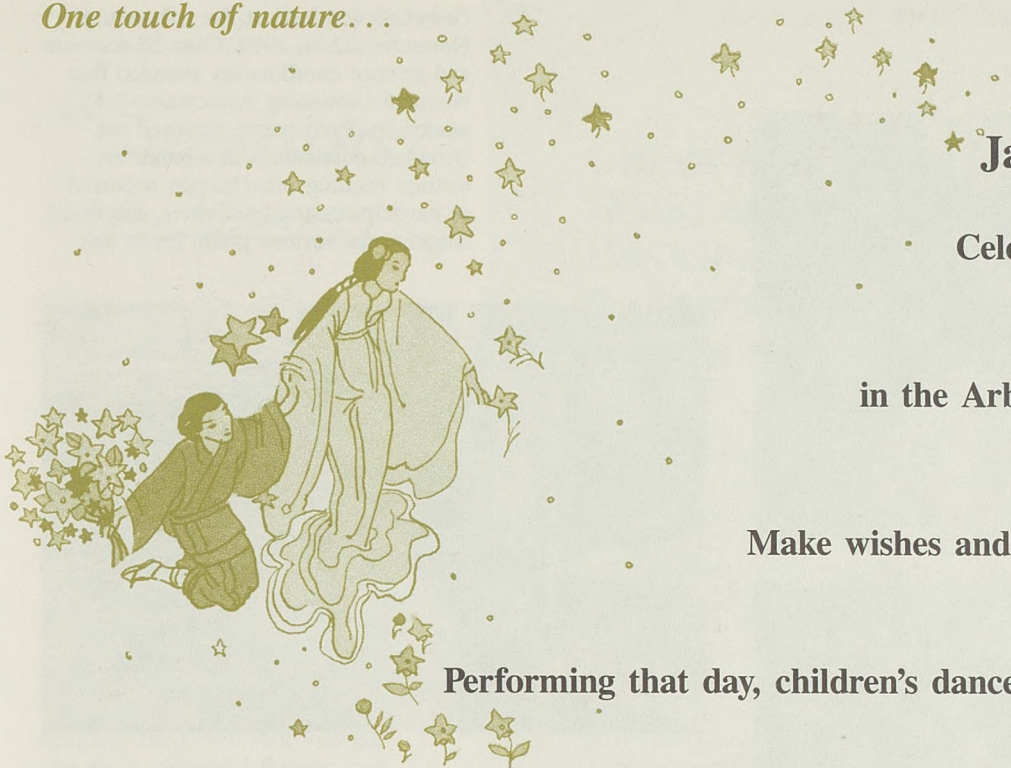
Her work is largely dedicated to portraying trees and rocks, although she's photographed other picturesque rural-scapes from horse auctions to cow chip throwing championships.

"I don't do pretty trees," she's been quoted as saying in *The North Suburban Chicago Pioneer Press*. "I do distressed trees."

Communicating the drama and mystique of this semi-wilderness area, Metcoff's black and white works are printed in a large format (20"×24"). The display is interspersed with labels and quotes from controversial public hearings on the land management of this area. The emotionally powerful exhibit evokes a visceral response to her subjects and portrays her reverence for this compromised area of Southwestern Wisconsin.

Metcoff, 43, combines a bachelor's degree in the philosophy of religion from Smith College and a master's degree in social work from the University of Chicago. Her exhibit received enthusiastic reviews when displayed last summer at the Chicago Botanical Garden.

One touch of nature...



Tanabata

Japanese Star Festival

**Celebrate Sunday July 7, 1991
2-4 p.m.**

**in the Arboretum Japanese Garden,
Seisui-Tei**

Make wishes and shake off summer *nemuri*

Performing that day, children's dance group, *Sansei, Yonsei Kai*

A MIDSUMMER



CHINA FESTIVAL

SUNDAY, AUGUST 11, 1991

1 - 4 PM

Minnesota

Landscape Arboretum

Join members of the University Art Museum and the University China Center in a midsummer celebration of Chinese culture at the Minnesota Landscape Arboretum. Enjoy an afternoon of special activities and entertainment for the whole family, featuring an array of Chinese artists, artisans and musicians.

While sampling the variety of activities throughout the Arboretum, members may also opt to view a colorful and fascinating exhibition of Chinese folk art, on display in the Arboretum Library. Bring the family to this special event, presented in cooperation with the University Art Museum and the University China Center.

Arboretum members are also invited to view the current exhibit at the University Art Museum entitled *Laughter in the Palace of the Dragon: Chinese Fisherfolk Paintings*. Call the museum at 624-9876.

*...makes the whole world kin
Shakespeare*



Educators enjoy learning many new hort skills including light-garden unit operation, above, with GrowLab trainer Nell Ische.

GrowLab was held at the Arboretum November 12-14, 1990. Over 55 teachers and science coordinators attended this National Gardening Association-led workshop. Participants explored the GrowLab curriculum in a hands-on setting: exciting interchanges occurred as participants tried activities, discussed adaption for various grade levels and

settings and learned to "think science" with a lively new approach.

Due to its popularity the Arboretum will present a second GrowLab workshop on Monday, November 18, 1991. Brochures and additional information will be available by August 1; call the Arboretum at 443-2460.

Arboretum Graduate Course

Arboretum staff will be presenting a new three credit graduate level course "Classroom Gardens: Planting Seeds of Science Learning" from July 9-25, 1991 in cooperation with Hamline University. The course will be based on two plant science curricula, GrowLab and the Wisconsin Fast Plants project developed by Professor Paul Williams at the University of Wisconsin.

Participants will investigate the principles of plant growth through lecture and lab, upgrading their skills in teaching the process of scientific discovery. Experiments with tropisms, propagation techniques, germination chambers and microscope study will be conducted to prepare teachers for leading activities with their own students next year.

For enrollment information, contact Hamline University Graduate School, 1536 Hewitt Avenue, St. Paul, MN 55104; (612) 641-2008. Questions about course content may be directed to the Arboretum, Sandy Tanck, Youth Education Manager, at (612) 443-2460.

New Teacher Training Opportunities

Lively new approaches help educators respond to reforms in science teaching methods

A national effort to reform science teaching in American schools is underway. The traditional approach based on textbooks and an assign-recite-test sequence is being replaced by activity-based units which involve students directly in science learning as they design experiments, predict outcomes, and measure results. To achieve the transition to new instructional methods, teachers are seeking enhancement and training programs. Many are finding valuable assistance at the Minnesota Landscape Arboretum through new teacher training opportunities.

Growlab Workshops

GrowLab is an outstanding new plant curriculum developed by the National Gardening Association with support from the National Science Foundation. Using classroom light gardens, children can investigate plant growth needs, photosynthesis, pollination and devise experiments to study the ways acid rain, pollution and erosion affect plants. Watching plants grow through full life-cycles from seed to seed before their own eyes, they can even harvest their own salad gardens.

A three-day regional training workshop for educators interested in

In the F₂ generation, there are usually some individuals which combine hardiness and aesthetic appeal. A few individual plants may even be more tolerant of stresses than the hardiest parent. By distributing these seedlings to research institutions throughout North America, we can evaluate plants and select individuals that are well adapted to different regions. After thorough screening for tolerance to specific stresses and evaluation of ornamental features such as foliage, flowers and fruit, outstanding plants are selected for further propagation and eventual release to the public.



The best of all worlds: multiple sites across different climates

A site in a mild or moderate climate is needed for part of the hybridization effort to maintain potential parents that possess superior aesthetic qualities, but which may not be tolerant enough to survive in a harsher environment such as the winters that we have in Minnesota. Plants in the F₁ generation are usually intermediate in tolerance between the two parents and thus also may not possess sufficient tolerance for the most severe climates.

Often, a lack of funding limits breeding, selection and evaluation research on woody ornamentals. Through this cooperative approach, the costs of the initial hybridization efforts become very efficient as the effort can be shared in producing superior plants selected for tolerance to different climatic regions.



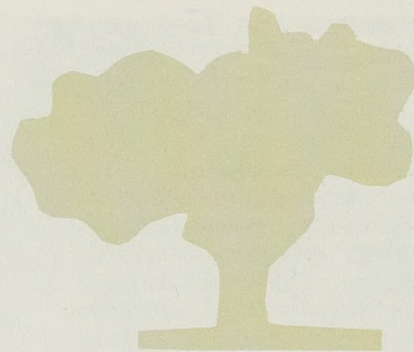
Thus the breeding efforts can serve a much broader geographic area than can be well served by breeding programs conducted solely at one site. Having participants across North America allows the Center to evaluate and select plants in many different growing conditions. It also provides access to a larger pool of plant materials to use for hybridization and selection. By developing coordinated breeding activities to develop new plants adapted to different regions, efficient use can be made of the scarce financial resources available.

Genetic research targets plant potential

In order to make this breeding and selection process more accurate and efficient, the Center also supports research into the genetic and physiological basis of stress tolerance. Understanding why certain plants tolerate stresses gives us a better idea of how to incorporate this tolerance in our breeding work and also give us clues about which plants we should use as parents in our breeding efforts.



Genetic and physiological research will also help develop effective screening methods evaluators can use to rapidly select well-adapted plants. If researchers can screen plants for drought or cold tolerance when they are still seedlings, many more prospects can be selected or rejected at an early stage.



First fruitful efforts: small ornamental trees

The first project initiated by the Center for Development of Hardy Landscape Plants is the breeding of small ornamental trees. Since urban planting space is often limited and residential lot sizes have decreased, there is a strong need for attractive, stress tolerant trees which will not outgrow their planting sites.



Ornamental pears (*Pyrus* spp.) and Asiatic maples (*Acer* spp.) are two groups of trees with considerable potential for development. An ornamental pear with the hardiness of the Ussury Pear (*Pyrus ussuriensis*) from northern China, combined with the smaller fruit size of the less hardy Bradford Pear (*Pyrus calleryana* 'Bradford') would be a valuable addition to Minnesota landscapes. Crosses between several different species of *Pyrus* were made this spring using the plants growing at the National

Clonal Germplasm Repository in Corvallis, Oregon.

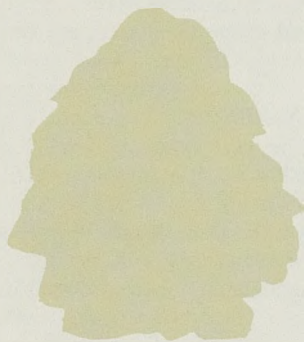
Minnesota gardeners are already familiar with the Amur Maple (*Acer ginnala*) which is native to northeast Asia. There are a number of other small maples native to that area which deserve further evaluation for landscaping use. Additional cooperative research projects will be chosen by the Center's research committee as specific plant development needs are identified and funding is raised to initiate the efforts.

Spread the word—Become a member

To achieve its goal of developing superior landscape plants, the Center needs the support of horticultural organizations, research institutions, the nursery industry, and individual gardeners. The importance of developing high quality, stress tolerant plants for the landscape depends on widespread support.

The Center is non-profit: all donated funds go towards achieving the Center's goals. We invite *anyone who is interested in hardy landscape plants* to become a member. An annual donation of \$20.00 more qualifies one as a contributing member of the Center. Members receive the Center's newsletter which describes current research and other information related to the activities of the Center.

To become a member of the Center for Development of Hardy Landscape Plants or for further information, please contact Dr. Harold Pellett, Coordinator, Center for Development of Hardy Landscape Plants, P.O. Box 39, Chanhassen MN 55317.



Mail Order from the Gift Shop

Many folks know we sell fascinating and beautiful books on the subject of horticulture and gardening. What they may not be aware of is our mail order service. Here's how it works: dial 443-2460 and ask for the Gift Shop and the book you desire. If we don't have what you are looking for, we are happy to order it for you. Mail order is available also for our videos, posters, sweatshirts and T's.

Colorful, bright caps with the Arboretum logo have been good sellers to all visitors recently. Rainy day visitors will be pleased to know we

keep rain ponchos in stock.

For a special anniversaries or other big occasions, keep in mind the Albrecht one-of-a-kind acrylic images that capture the essence of nature's beauty. We always carry a good selection.

Once again there will be items with herb themes to correlate with the herb conference: books, aprons, new herb markers, charts, etc.

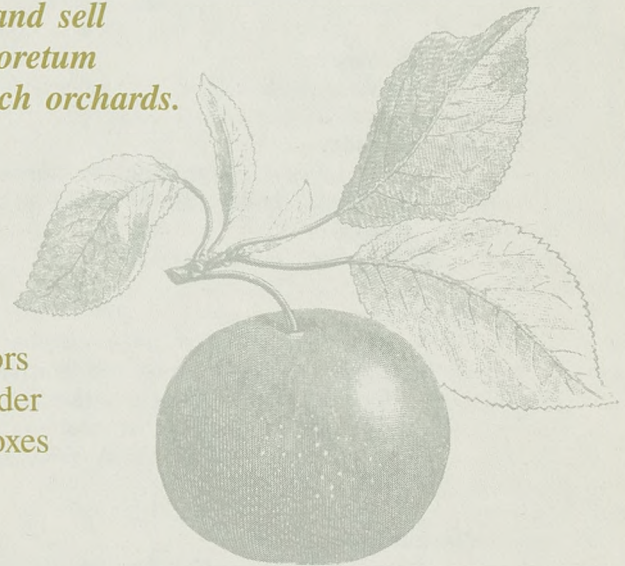
See you in the Gift Shop.

*Lea Youngquist,
Gift Shop Manager*

Apple Harvest Hands Needed

*Temporary jobs are available
to help pick, grade and sell
apples from the Arboretum
Horticultural Research orchards.
Job requirements:*

- enjoy outdoors
- climb 8' ladder
- lift 50 lb. boxes



Pickers and graders work 8-4:30, M-F.
Cashiers, 9:30-5:00, 3-5 days per week.
Call Peter Moe, building and maintenance
director at 443-2460 for more details.

JULY

- 2-31— Tuesdays and Wednesdays throughout July
Free walking tour of gardens
10 a.m., Snyder Building lobby
- 6— Saturday
Free walking tour of the gardens
10 a.m., Snyder Building lobby
- 6-27— Saturdays throughout July
Hennepin Master Gardeners:
Plant Information Specialists
10 a.m.-2 p.m., Morgan Terrace
- 7— Sunday
Tanabata, Japanese Star Festival
2-4 p.m., Arboretum Japanese Garden and
Home Demonstration Garden
- 9-25— Tuesdays, Wednesdays & Thursdays
GrowLab/Fast Plants Graduate Course for
Educators
9 a.m.-12:25 p.m., Hamline University
- 10— Wednesday
Auxiliary Garden Tour
- 11— Thursday
Class: Lilies—The Queen of the Summer
Garden & Culinary Herbs—You Will Go Away
Hungry
7-8:30 p.m., Classroom I & II
- 12— Friday
Carver County Day at the Arboretum
Sponsored by the Minnesota Extension Service
— Carver County Office and the University
of Minnesota Landscape Arboretum
1-8 p.m., Free admission for residents of Carver
County
- 12— Friday
Music Night, Westwind Concert Band of
Hopkins
Margot Picnic Area
- 13— Saturday
Biological History of Lake Minnetonka
9-11:30 a.m., Freshwater Biological Institute
- 17— Wednesdays (through Aug. 14)
Class: Capturing the Arboretum in
Watercolors
9:30 a.m.-12:30 p.m., Classroom II
- 18— Thursday
Class: Daylilies—More than Beauty for a Day
& Fragrant Herbs—In the Garden and More
7-8:30 p.m., Classroom I & II
- 18— Thursday
Class: Aquatic Flowering Plants
7-8:30 p.m., Ordway Shelter
- 18— Thursday (Tuesdays and Thursdays through
Aug. 22)
Hort. 1021: Woody Plant Class (5 credits)
5-8 p.m., Arboretum
- 21— Carver/Scott County Master Gardeners:
11 a.m.-3 p.m., Home Demonstration Gardens
- 24— Wednesday
Tea in the Garden — Guaranty Fund Donor
Recognition Event
3:30-5:30 p.m., Morgan Terrace
- 25— Thursday
Class: Flowers and Woody Plants for the
Flower Arranger & Butterflies and the Plants
That Attract Them
7-8:30 p.m., Classroom I & II
- 25— Thursday
Music Night, J.C. Jazz Band
7 p.m., Margot Picnic Shelter
Tram tours at 6 and 7 p.m.
- 29— Monday
Auxiliary Board Meeting
9:30 a.m.-noon, Fireplace Room
- 29-8/5— Mondays
'Analysis of Flower Garden Design', Compleat
Scholar Class
6-9 p.m., Learning Center

AUGUST

- 1— Thursday, everyday through Sept. 15
"Along the Wisconsin Riverway"
Jill Metcoff Photo Exhibit
First and second floors, Snyder Building
- 1— Thursday
Auxiliary Quarterly Meeting
10 a.m.-2 p.m., Snyder Building auditorium
- 1— Thursday
Class: Annuals for a Summer of Color & Hedges—Don't Fence Me In
7-8:30 p.m., Classroom I & II
- 3-4— Saturday-Sunday
Children's Garden Harvest Fair
12-3 p.m., Learning Center
- 3— Saturday
Free walking tour of the gardens, no reservations
10 a.m., lobby of the Snyder Building
- 3-31— Saturdays throughout August
Hennepin County Master Gardeners:
Plant Information Specialists
10 a.m.-2 p.m., Morgan Terrace
- 6— Tuesday
Membership Appreciation Ice Cream Social
\$5.00 Discount for New Memberships
5-8 p.m., Arboretum grounds
- 6-28— Tuesdays and Wednesdays throughout August
Free walking tours of the gardens, no reservations
10 a.m., Snyder Building lobby
- 8— Thursday
Class: Plants for Moist Places & Plants for Dry Sites
7-8:30 p.m., Classroom I & II
- 8— Thursday
Children's Garden Graduation Picnic
6 p.m., Margot Picnic Area
- 9— Friday
Music Night, University of Minnesota Alumni Band
7 p.m., Margot Picnic Area
- 11— Sunday
Chinese Folk Art Festival, reduced admission
University of Minnesota Art Museum,
University of Minnesota China Center and the Arboretum
1-4 p.m., Arboretum grounds
- 10-11— Saturday-Sunday
Iris Society Sale
Arboretum grounds
- 15— Thursday
Class: Rock Gardening—More Than a Pile of Rocks & Evergreens for Fall Planting
7-8:30 p.m., Classroom I & II
- 15-17— Thursday-Saturday
Herb Symposium (see article)
- 18— Carver/Scott County Master Gardeners:
11 a.m.-3 p.m., Home Demonstration Gardens
- 21-25— Wednesday-Sunday
Plants, Animals and Waters of the Boundary
Waters Area Field Trip
Freshwater Biological Institute
- 22— Thursday
Class: Dahlias to Enjoy and Brag About & Ornamental Grasses—Part of the Landscape
7-8:30 p.m., Classroom I & II
- 26— Monday
Auxiliary Board Meeting
9:30 a.m.-noon, Fireplace Room
- 28— Wednesdays (through Oct. 2)
Class: Capturing the Arboretum in Watercolors
9:30 a.m.-12:30 p.m., Classroom II

Coming September 12

The Minnesota Extension Service - Carver County Office

and

the University of Minnesota Landscape Arboretum

cordially invite

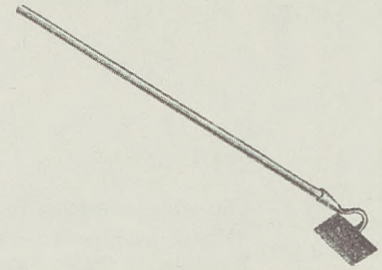
residents of Carver County to:

Carver County Day
Friday, July 12, 1991
1-8 p.m.

Program Highlights

- 1-8 p.m. Free Admission for Carver County residents to the Arboretum, includes exhibits, guided tours of the grounds and Horticultural Research Center, educational sessions and more...
- 1-5 p.m. Carver County 4-H Demonstrations
- 2-7 p.m. "Ask the Expert"—University personnel and Master Gardeners field your questions
- 5-7 p.m. Box suppers sold, \$5.50 or bring a picnic supper
- 6-8 p.m. Ice Cream Social, Carver County Dairy Association, plus special appearances by Princess Kay and Carver County Princesses
- 6-7 p.m. Evening Entertainment: 4-H Share the Fun Program and Chaska Community Choir
- 7-8:30 p.m. Westwind Concert Band of Hopkins; Prize Drawing

For more information, call the University of Minnesota Landscape Arboretum at 443-2460 or the Minnesota Extension Service, Carver County Office at 442-4496, 446-1722 ext 276, or 448-3435 ext 276.

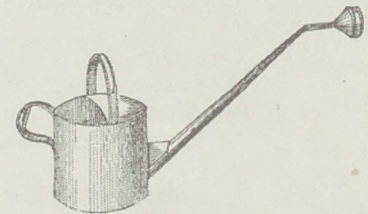


Horticultural Therapy Symposium:

An Arboretum First

On Thursday, September 12 the Arboretum will present a one-day symposium, "Plants and People: A Growing Interaction," the first Arboretum offering in horticultural therapy. Esam Aal, horticultural therapist at the Faribault Regional Center and national speaker on horticultural therapy, will give the keynote address. Also included in the day-long symposium will be experiential workshops, opportunities for discussion and networking, and a lunchtime tour of accessible gardening features already in place at the Arboretum.

We hope you will join us for this exciting day. Registration fee is \$25.00 per person, including box lunch. Deadline for registration: August 26. Register now! Questions? Call Kathryn McFadden at 443-2460, ext. 60. See you there!



Class Schedule

THE ARBORETUM SUMMER GARDEN SERIES

Thursday evenings:
7:00-8:30 p.m.

Fee: \$5.00 per person.

One-half hour or less in classroom; the rest in the gardens (Bring your mosquito repellent). *Vouchers are accepted for these classes.

July 11

- "Lilies, the Queen of the Summer Garden"* — Mike Heger
- "Culinary Herbs - you will go away hungry"* — Ruth Seaman

July 18

- "Daylilies - More than Beauty for a Day"* — Mike Heger
- "Fragrant Herbs for the Garden and More"* — Steve Kelly
- "Aquatic Flowering Plants"* — Jim Gilbert (Ordway Shelter)

July 25

- "Flowers and Woody Plants for the Flower Arranger"* — Nancy Rose
- "Butterflies and the Plants that Attract Them"* — Jim Gilbert

August 1

- "Annuals for a Summer of Color"* — Mike Heger
- "Hedges: Don't Fence Me In."* — Peter Moe

August 8

- "Plants for Moist Places"* — Mike Heger
- "Plants for Dry Sites."* — Nancy Rose



August 15

- "Rock Gardening - More than a Pile of Rocks"* — Mike Heger
- "Evergreens for Fall Planting"* — Pete Moe

August 22

- "Dahlias: To Enjoy and Brag About"* — Ken Vogel
- "Ornamental Grasses as Part of the Landscape"* — Mike Heger

CAPTURING THE ARBORETUM IN WATERCOLORS

Wednesdays, July 17-August 14 and August 28-October 2
9:30 a.m.-12:30 p.m.

David Ice

Learn watercolor techniques and improve your skills while painting flowers, plants and landscapes at the Arboretum. Students will be critiqued during each class.

Bring a set of watercolors, watercolor brushes, a plastic palette, watercolor paper, water jar, masking tape, drawing board or stiff cardboard at least 20 inches by 25 inches.

Ice is an artist, art educator and art consultant.

Meet in Classroom II. Fee for the class is \$60 for members, \$75 for nonmembers.

Class Registration Form

Advance registration by mail or in person should be made for all classes at least three days before the first class session. Phone registrations are discouraged; your placement in a program is secured only upon receipt of payment.

Refunds—Registration fees will be refunded if requested at least three full working days prior to the first class session. If the Arboretum must cancel a course, we will contact you and the registration fee will be refunded in full. Refunds take about four weeks to process.

Vouchers—Volunteer vouchers will be accepted for all classes marked with an asterisk (*) on the class registration form. Vouchers are worth \$7 toward the class fee, but have no cash value. Only one voucher per class accepted.

CLASS REGISTRATION FORM

The Arboretum Summer Garden Series

- July 11
Lilies \$ _____
Culinary Herbs \$ _____
- July 18
Daylilies \$ _____
Fragrant Herbs \$ _____
Aquatic Flowering Plants \$ _____
- July 25
Flowers and Woody Plants \$ _____
Butterflies and Plants \$ _____
- August 1
Annuals \$ _____
Hedges \$ _____

- August 8
Plants for Moist Places \$ _____
Plants for Dry Places \$ _____
- August 15
Rock Gardening \$ _____
Evergreens for Fall Planting \$ _____
- August 22
Dahlias \$ _____
Ornamental Grasses \$ _____

- Capturing the Arboretum in Watercolors
July 17-August 14 \$ _____
August 28-October 2 \$ _____

Total Fee \$ _____

Name _____

Address _____

City/State/Zip Code _____

Phone (days) _____ (evenings) _____

_____ Member _____ Membership Number _____ Nonmember

Please enroll me as an Arboretum member.

Enclosed is _____ \$25 (individual) _____ \$35 (household)



Summer Hours (May 2 to September 26)

| | Mon.-Fri. | Sat./Sun./Holidays |
|------------------|---|---|
| Grounds | 8 a.m.-sunset | 8 a.m.-sunset |
| Building | 8 a.m.-4:30 p.m. 8 a.m.-8 p.m. (Thursday) | 11 a.m.-4:30 p.m. |
| Gift Shop | 9:30 a.m.-3:30 p.m. 9:30 a.m.-8 p.m. (Thursday) | 11:30 a.m.-3:30 p.m. |
| Library | 8 a.m.-4:30 p.m. 8 a.m.-8 p.m. (Thursday) | 11 a.m.-4:30 p.m. |
| Tearoom | 11:30 a.m.-1:30 p.m. Lunch & Dessert 1:30 p.m.-3:30 p.m. Beverages & Dessert 11:30 a.m.-7 p.m. (Thursday) | 11:30 a.m.-2:30 p.m. Lunch & Dessert 2:30 p.m.-3:30 p.m. Beverages & Dessert |

Gate Fees: \$3 per adult, \$1 per child under 16, (free when accompanied by a parent).
Admission is free after 4:30 p.m. Thursdays starting May 2 through September 26.



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The Arboretum is a unit of the Department of Horticultural Science, University of Minnesota.

| | |
|--------------------------------|----------------|
| General Information | (612) 443-2460 |
| Administrative Offices | (612) 443-2778 |
| Andersen Horticultural Library | (612) 443-2440 |
| Director | (612) 443-2882 |
| Membership Services | (612) 443-2478 |
| Reservations | (612) 443-2687 |

Editor — Susan Binkley Hillard

Associate Editor — Lisa Taylor Lake

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University of Minnesota
Minnesota Landscape Arboretum Foundation
3675 Arboretum Drive
P.O. Box 39
Chanhassen, MN 55317

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