

# Seasons

A Newsletter of The Morton Arboretum

The Morton  
Arboretum

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July & August 1999

## Great Green Getaways

Prairie Heritage Days

Dollar Discovery Days

Camera Club Photo Exhibit

## Schulenberg Prairie in Bloom

## Research Projects

Elm Yellows

Roots and Construction Damage



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*The mission of The Morton Arboretum is to collect and study trees, shrubs, and other plants from around the world, to display them across naturally beautiful landscapes for people to study and enjoy, and to learn how to grow them in ways that enhance our environment. Our goal is to encourage the planting and conservation of trees and other plants for a greener, healthier, and more beautiful world.*

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Visitors enjoy the Ground Cover Garden  
Cover photo by Rich Malec  
Page 2 photo by Photo Ideas, Inc.

## Letter from the Plant Information Specialist



We tend to think of summer as simply the green season. However, now is the time when some of our showiest late-blooming plants take center stage. One of my favorites, bottlebrush buckeye (*Aesculus parviflora*), begins its powerful presence as large cylindrical panicles create a white "bottlebrush" against dark green foliage.

Many other midsummer flowering trees and plants brighten the Arboretum's summer landscape, including the long, arching branches of butterfly bush (*Buddleia* sp.), the deep blue, fragrant flowers of blue spirea or bluebeard (*Caryopteris*), and the spicy, spiked flowers of the native summersweet (*Clethra alnifolia*). Colorful hostas enrich perennial shade gardens and ground covers (see "Plant Picks" on page 8). I encourage you to take a

reprieve from your own gardening chores and come see more of these attractive plants in their summer glory.

As you explore the spectacular scenery and gardens of The Morton Arboretum, does something catch your eye or spark a new interest? To learn more about enhancing your summer landscape, plan to attend one of the Sunday afternoon Step-by-Step Gardening lectures (see the *Education Program* or call 630-719-2468 for information). For suggestions on choosing the right plant for the right location or information about caring for your established plants, our experts at the Plant Clinic are ready to assist you with your landscaping questions. See page 3 for Plant Clinic hours.

Summer at The Morton Arboretum is an exciting time to have fun exploring the outdoors, hiking the trails that wind through the flowering Schulenberg Prairie, or enjoying some of our summer favorites in bloom in the Ground Cover Garden, Four Seasons Garden, and throughout the collections. This is your chance to experience the pleasure of one of nature's great green getaways — Chicagoland's own Morton Arboretum. I look forward to seeing you here.

A handwritten signature in dark ink that reads "Doris Taylor".

Doris Taylor  
Plant Information Specialist

# Garden Calendar

Is your garden ready for summer? Here is the Plant Clinic's advice for your warm season garden:

## July

- Plants should receive 1 to 2 inches of water every 7-to-10 days; supplement water if we have not had a natural rainfall.
- Pay particular attention to drought-sensitive plants such as maples, birch, hydrangea, and katsura.
- Thin overgrown shrubs by removing  $\frac{1}{3}$  of the older stems.
- Remove watersprouts and suckers from ornamental fruit trees.
- Monitor all plants regularly for insect and disease problems.
- Improper use of pesticides can be harmful to plants.
- Contact Plant Clinic (630) 719-2424 for proper identification, diagnosis, and control of plant problems.
- Continue to pull weeds before they go to seed. After a rain, roots will pull more easily and completely.
- Cool weather and excess moisture this spring have allowed many fungal diseases to thrive. To prevent reinfection, remove fallen infected leaves.
- Cut rose blooms back to the first set of five leaves after blooming, to encourage stronger canes and more flowers.
- Divide and replant iris. Discard any plant showing signs of insect or disease. Iris should be divided every three to five years.
- Remove spent flowers and pinch back leggy foliage from annuals and perennials to promote bushier growth and more flowers. Stop pinching mums after July 10 to allow flower buds to set.

- Check container plants frequently for watering needs.
- In hot weather, let grass grow longer by raising the height of your lawn mower.
- Provide fresh water for birds and other wildlife.
- Spectacular summer-flowering shrubs and perennials are blooming in the Fragrance Garden, along Joy Path, and in the Four Seasons Garden at the Thornhill Education Center. Plan a visit soon.

## August

- Monitor rainfall, keeping plants well watered during times of heat or drought, especially newly planted trees and shrubs.
- Continue to remove faded flowers on roses, annuals, and perennials. Pinch back leggy growth.
- Don't fertilize woody plants now. New growth will not have time to harden off before winter.
- Mid-August through mid-September is a good time to establish a new lawn or seed bare spots.
- Late summer or early autumn is the best time to divide perennials that bloom in the spring and summer.
- In hot weather, check water needs of container plants regularly.
- Continue regular weeding and monitoring for insect and disease problems.
- Start cuttings of herbs to grow in a sunny windowsill during the winter.
- Order spring flowering bulbs to plant this fall.
- Remember to photograph gardens for winter planning.

## Plant Clinic Hours

### Weekday Afternoons

Visitors & Telephone Calls

### April - October

1:00 to 4:00 pm

### November - March

1:00 to 3:00 pm

### Saturdays

Visitors Only

### May - August

10:00 am to 1:00 pm

630-719-2424

## Bloom 'n Color Hotline

To find out where summer flowering is especially colorful, phone the Arboretum's Bloom 'n Color Hotline, 630-719-7955. Messages are updated weekly.

## Passport to Adventure

Take time out with your children this summer to enjoy the Arboretum and many other wonderful museums. Kids can receive a Passport to Adventure and enjoy the Arboretum and other local museums. If you pick up your passport at the Arboretum and then get it stamped at at least 7 other participating museums, you can return to the Arboretum and show your passport for a prize. (Prizes can only be redeemed at the museum of passport origination.) The more museums you visit, the more fun you'll have!

Pick up your passport at Visitor Services between June 8 and August 22. Call 630-719-2465 for more information.

### How to bring specimens to the Plant Clinic

We're happy to help you identify plant problems. We also need to make certain that insects and diseases are not introduced into the Arboretum. To accomplish both goals, please follow these guidelines when transporting specimens to the Plant Clinic for diagnosis and identification.

- Place all specimens in a sealed plastic bag.
- Select samples from the plant that show various stages of the problem.
- Collect samples on the day you are going to bring them in, if possible. Your sample should remain in a cool place. If the sample must remain in a closed, hot car for any length of time, place it in an insulated cooler with ice.
- Transport insects in a sealed glass jar or vial. If you suspect an insect to be the Asian Longhorned Beetle, **PLEASE DO NOT** bring it into The Arboretum. Check our Visitor Center display or our website ([www.mortonarb.org](http://www.mortonarb.org)) for comparison and call the Asian Beetle hotline number, 800-641-3934.



*Asian Longhorned Beetle*

Photo courtesy Jim Appleby, University of Illinois

## Plant Clinic Questions and Suggestions

**Q:** I am familiar with the U.S. Department of Agriculture (USDA) cold hardiness zone rating, but what is the American Horticulture Society (AHS) heat-zone rating that has been showing up on plant labels?

**A:** AHS heat-zone map is based on the average annual days above 86°F recorded each year from 1974 to 1995 in the United States. The temperature 86°F is the point at which plants experience cellular damage when stressed. The Chicago area's AHS heat zone is 5, which means we have an annual average of 30 to 45 days above 86°F. Not all plants can tolerate our summer heat. For example, white-barked birch grows well in northern Wisconsin where summers are cool, but further south, the trees become stressed and more susceptible to insect and disease problems. Not all plants have been rated, and evaluations are ongoing, but the rating is useful in selecting plants that are more tolerant of dry, sunny conditions. Plant hardiness and heat-zone ratings are important factors in selecting plants, but soil type, soil pH, drainage, light, and moisture conditions also must be considered.

**Q:** I planted a lilac shrub about five years ago and so far it has only had a few flowers. How can I make it bloom?

**A:** This is a very common question. There may be many reasons why your plant will not flower. First, age may be a factor. Many woody plants go through a vegetative phase of growth before they produce flowers. This juvenile stage can last anywhere from

2-10 years, depending upon the species. Crabapple, wisteria, and lilac are some of the more common plants that go through this phase.

Temperature can affect flowering plants. A mild winter may not provide an adequate chilling period to induce flowering and inadequate snow cover may not provide the insulation against freeze damage that some plants need, causing damage to flower buds. Sometimes a plant may survive the winter only to have its flower buds damaged by a late-spring frost.

Pruning at the wrong time of year also can eliminate spring flowering. Most spring-flowering shrubs form their flower buds in late summer and early fall. Pruning anytime after these buds have formed will remove the flower buds. The best time to prune spring-flowering shrubs is just after they finish blooming. Also, as shrubs age, older stems should be removed to allow younger stems to grow, which results in a more vigorous and better flowering shrub.

Finally, consider the growing conditions for your particular plant. Plants in need of full sun will flower poorly if grown in the shade. Also, excess nitrogen from over-fertilization will promote vegetative growth instead of flowers. Make sure you match the plant to the site.

For more information, please contact the Plant Clinic at 630-719-2424.

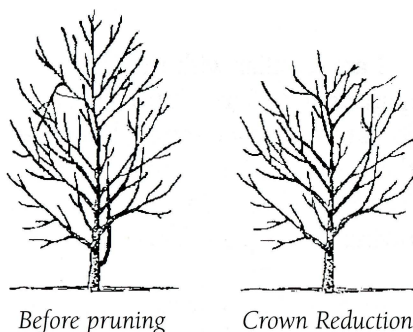
# What You Can't See Below Ground May Hurt You

Each year, thousands of trees are injured or killed because of root injury or removal by construction equipment.

When roots are damaged, how exactly does the tree respond, and can it survive? That's what Dr. Gary Watson, an internationally known tree root specialist on the Arboretum's Research Staff, set out to discover beginning in May of 1991. His research has been supported annually by generous donations from Hendricksen the Care of Trees, which has contributed \$35,000 to this project (see photo, page 11).

Tree roots, for the most part, are situated in the top 12-24 inches of soil. A viable root system is the key to a healthy tree. Cutting or damaging too much of the root system jeopardizes the tree. But that's exactly what Dr. Watson did to some 30-year-old pin oak trees located in a research plot on the Arboretum's West Side. The Arboretum staff used a trenching machine to dig on 1, 2 or 3 sides of the trees to simulate the kind of damage that might occur to trees during construction. The trenches resulted in a root loss of approximately 33%, 66%, and 75%, respectively, of the trenched root systems.

Next, half of the trees were carefully pruned to reduce the crowns by approximately 30% (see illustration). "Historically, it has generally been accepted in arboriculture that compensatory pruning can help to minimize stress resulting from serious root loss," Dr. Watson explained. "However, in recent years some have suggested that pruning is of no value, and possibly harmful."



The results of the study so far have shown that trunk diameter and twig growth on trees with the greatest root loss were slowed the most and for the longest. Even after five years, trees with the most heavily damaged root systems had not recovered. Pruned trees recovered faster and had less branch dieback than trees that were not pruned.

This was the first step in a long-term project to look carefully at tree root responses to the kind of damage that often occurs on construction sites. The results showed clearly that severe stress is inevitable when roots are lost, but that trees can survive if given proper care during an extended period of root regeneration and recovery.

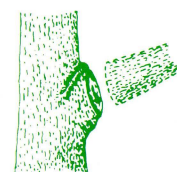
"Our company has been involved with the pruning of trees for decades," said Larry Hall, Senior Vice President for Hendricksen the Care of Trees. "We have always sincerely believed that our pruning efforts were of benefit. We are glad to know that this study supported our belief."

Dr. Watson is following-up this work with research on other construction site problems affecting roots, including soil compaction and grade changes.

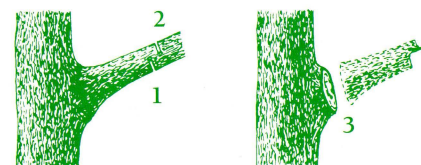
## Proper Pruning

Pruning should be done with an understanding of how the tree responds to each cut. Improper pruning can cause damage that will last for the life of the tree, or worse, shorten the tree's life.

Pruning cuts should be made just outside the 'branch collar' (see illustration). The branch collar should not be damaged or removed. When removing a large limb, its weight should first be reduced using the three-cut method (see illustration). This technique reduces the possibility of tearing the bark.



Branch Collar



3-cut method for removing limbs

Pruning large trees can be dangerous. If pruning involves working above the ground, or using power tools, it is best to hire a professional arborist who can complete the job safely. Contact The Morton Arboretum Plant Clinic for more information on pruning.

*Adapted from Pruning Mature Trees Consumer Education Brochure published by the International Society of Arboriculture, Champaign, Illinois.*

### Trees of the Month

■ Look for **July's** Tree of the Month, a Chinese chestnut (*Castanea mollissima*), near Parking 16 in the China Collection. A rounded, spreading tree with low branching, the Chinese chestnut's pale yellow flowers provide a showy display in July. Later it will signal fall with a blaze of yellow and bronze foliage. The Chinese chestnut grows 40-60' tall with an equal spread. A tough and durable tree, this Asian native is resistant to the blight that devastated the American chestnut, making it an excellent replacement plant. Though not as majestic as its American cousin, the Chinese chestnut's fruits are equally delicious. Our specimen has a special claim to fame. It was grown from seeds personally gathered in the 1920's by an important figure in Asian plant exploration, Belgian collector Joseph Hers.

■ **August's** Tree of the Month, blue ash (*Fraxinus quadrangulata*), should be better known to the general public. It is a handsome tree native to the Midwest, with lustrous, dark green, compound leaves. The stems of the blue ash sport four corky wings. Its thin gray bark is divided into plate-like scales, often giving it a shaggy appearance. Clusters of purple flowers appear in mid-April. In the fall, its leaves turn a golden yellow. Blue ash gets its name from its sap, which turns blue when exposed to the air. Early settlers used it to make dye. You can find our August Tree of the Month growing near Meadow Lake. This fine example originated as a wild sapling in the Arboretum's east woods.

## Planting a Prairie at the Arboretum

Prairies give the impression of being gloriously abundant, haphazard, low maintenance plantings. This is especially true in July and August when the prairie bursts into bloom. Anyone who has ever tried to plant a prairie, however, knows that establishing a prairie is a tricky task.

Certainly Ray Schulenberg learned what a labor of love a prairie is during the years he spent coaxing the Arboretum's Schulenberg Prairie into existence.

The prairie project's roots go back to December 1962 when Arboretum Director Clarence Godshalk announced a new project: the development of a native plant community on the recently purchased Tom Slusser farm on the Arboretum's West Side. The land had been farmed for a century. Some of the area was eroded; all of it had been tilled for drainage. Ray Schulenberg, then Assistant Propagator, was put in charge of the project and given the title Curator of Native Plants.

Two concepts guided initial planting. The first was to establish all the species that the former farm fields would support. The second was to attempt to maintain only local species. With few exceptions, the seeds came from within fifty miles of the Arboretum.

For the first year, and annually until 1972, two planting methods were used. In the first, greenhouse propagation, seeds were planted in shallow boxes (flats) in April. After the seedlings developed, they were transplanted individually in a 2x2-inch wood veneer "band," a cube without top or

bottom. By late May, when frost danger was past, the seedlings were planted in prepared soil in the prairie-to-be. The planter, squatting or kneeling on a board, took the young plants from a flat, in which bands of different species had been mixed, and put them in the ground with a trowel.

Broadcast sowing was a second method of planting. Before the seed was scattered directly onto the prepared area, it was mixed with sand and often vermiculite, for better visibility and more even distribution. Then the planted area was raked and the seed pressed into the ground with a roller.

In the beginning, Arboretum crews prepared the soil, and then Ray planted, sometimes assisted by volunteer David Kropp and others. From 1964 to 1972, three or four summer employees helped plant and weed...and weed...and weed.

Weeds are a major threat to the establishment of prairie plants. Early Arboretum experience showed that hand weeding through the first growing season and early in the second increased prairie plant survival significantly. In the first two years of a planting, while there was still space between seedlings, hoeing between plants was practical. Broadcast plantings, however, required meticulous hand weeding.

Although fire may be cause for alarm in many cases, it played a crucial role in the maintenance of the North American prairies, helping suppress the development of trees and shrubs



White wild indigo (*Baptisia leucantha*)

and selecting in favor of grassland plants. In the Schulenberg Prairie, once the young native plant community produced enough fuel, regular burning became the most effective means for sustaining the prairie plantings. Surely those volunteers, with their aching backs and sore knees, found it a welcome alternative to hand weeding.

Each year the prairie plantings expanded by a half-acre or more. Even after Ray assumed the role of Herbarium Curator and later Curator of Plant Collections, he continued to help with the prairie project until 1979. By then, about 15 acres of the former farmland had been transformed. Today, the Schulenberg Prairie is a 100-acre prairie and savanna complex.

In 1987, on the twenty-fifth anniversary of the project's beginning and on the

occasion of Ray Schulenberg's retirement, the "prairie planting," as Ray prefers to call it, was named Schulenberg Prairie.

Ray's experiment in native plant restoration has become an important model for similar projects throughout the United States and the standard by which the success of similar native plant restorations throughout the Chicago region is measured.

The Schulenberg Prairie is also one of the Arboretum's most popular visitor destinations. *Trail Worth Trying* on the back page provides information on how to access the prairie trail. We hope you'll visit, and when you do, we hope you'll appreciate not only the splendid prairie plants but Ray Schulenberg's labor of love.

## Shrubs of the Month

■ Mid-summer is the time to enjoy the pale yellow flower clusters of bush-honeysuckle (*Diervilla lonicera*). The funnel-shaped blossoms turn orange or purple-red before dropping. Its autumn fruits are long, dry, beaked capsules that persist for some months. **July's** Shrub of the Month is a hardy native of the northeastern U.S., including DuPage County. A low, mounded plant that sends its underground stems aggressively out into even the most inhospitable soils, it is perfect as a bank cover. You'll find this specimen in the Ground Cover Garden. Look nearby for a dwarf cultivar and two other closely related *Diervilla* species.

■ **August's** Shrub of the Month, buttonbush (*Cephalanthus occidentalis*) takes its name from its button-like flowers and fruit. Suspended on long stalks, the inch-wide, creamy white, spherical flower heads bloom from July into August. About the same time, green clusters of nutlets begin to form. By fall, these fruits will have ripened into reddish globes that hang onto the branches for much of the winter, giving extra interest to the landscape. Buttonbush's equally attractive glossy, lance-like, dark green leaves are often arranged in whorls. This shrub grows 3-6' tall with a loose, rambling habit. This Illinois native loves to get its feet wet. That's why you'll find it thriving alongside the seep, a rivulet of groundwater that empties into the eastern part of Meadow Lake.

## August Lily, a fragrant addition to the shade garden

What would shade gardeners do without hostas? Their foliage lends a variety of texture and color to shady places. What's more, when their sun-loving perennial counterparts are taking a break from flowering in the heat of July and August, hostas burst into bloom.

"In many cases, they are some of the very few things that can grow in deep shade," noted Plant Records Manager Ed Hedborn, who selected *Hosta plantaginea* as our Plant Pick for this issue. *Hosta plantaginea*, commonly known as the August lily or fragrant plantain lily, was the first hosta to be introduced into European gardens. Charles de Guignes, the French Consul to Macao,

sent seeds to the Jardin des Plantes in Paris sometime between 1784 and 1789. They grew into striking plants that were quickly distributed throughout the European gardening community.

August lily's scientific name honors Nicholas Host, an Austrian botanist and physician to the Austrian emperor. Its species name, *plantaginea*, refers to the shape of its broad leaves that reminded early gardeners of the leaves of the common lawn weed called plantain (*Plantago major*.) Its common name, August lily, refers to its fragrant white lily-like flowers, which begin blooming in August, often continuing into October.



Photo by Kris Bachteell

August lily is a robust plant that forms an open clump of large arching leaves on 10" stalks. The leaf blades are large, ranging from 9-11" long and 6-9" wide. The glossy, yellow-green leaves are lobed like a valentine heart with a short, pointed tip and a slightly wavy margin.

Long, white, fragrant flowers line the upper ends of stout green stalks that rise 30" above the ground. Each flower has 6 petal tips that spread wide around the end of a long tube. They can reach 5" in length and spread to 3" wide when fully open. They begin to open in late afternoon, and are most fragrant in the early evening.

Hostas do best when planted in full to partial shade and should be given adequate moisture during our hot, dry summers. They prefer rich organic soils, so you'll want to modify clay and sand soils with compost, leaf mold and other organic matter that has been well composted. Hostas also appreciate a topping of 1- 2" of organic mulch. (When applying mulch, be sure not to cover the plant's crown.)

Proper watering is also important. Water slowly and deeply. Give hostas at least 1" of water (measured in an open container) or water to a depth of 6". Water in the morning before it gets too hot, and avoid watering directly over the leaves. This will allow foliage to dry before evening,

reducing problems with leaf diseases and garden slugs.

If you'd like to see for yourself what an admirable plant August lily is, stop by the Ground Cover Garden, where a patch of these wonderful plants has been growing for 60 years! If you visit in the late afternoon or early evening, you may not even have to read the markers. You can just let your nose lead you to this star performer in the late summer garden.

### Display

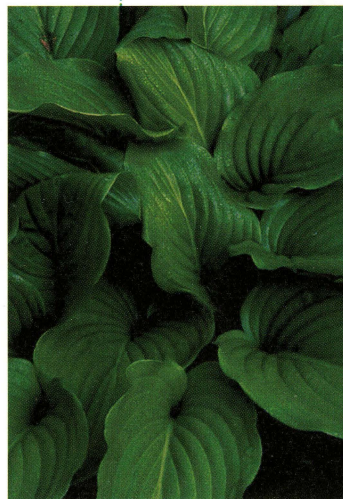
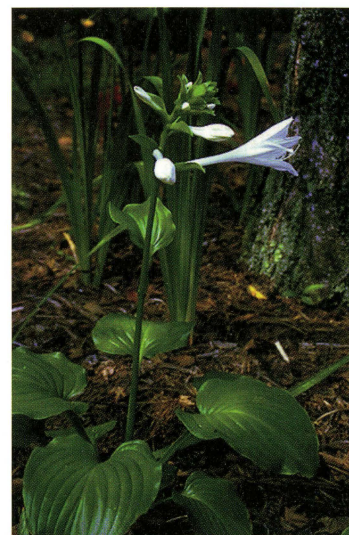
- Fragrant, white, lily-like flowers on 30" stalks
- Yellow-green foliage grows in large, open clumps about 1½ - 2½' tall
- Leaves are 9 - 11" long and 6-9" wide

### Conditions

- Prefers full to partial shade
- Grows best in rich organic soil

### Care

- Mulch with organic matter
- Water slowly to depth of 6" in morning, avoiding wetting leaves



Photos courtesy of Hortocopia 1999

The summer *Education Program* lists classes on summer flowering trees, shrubs, and perennials, including hostas. For a copy of the *Program* or further information, phone 630-719-2468.

### Dutch Elm Disease or Elm Yellows: How can you tell them apart?

Most native species of the stately elm are susceptible to two fatal diseases: Dutch Elm Disease and Elm Yellows. In fact, it is possible for the poor besieged elm, often weakened by one of these diseases, to be attacked by the second as well.

How can you tell if your elm is suffering from one of these two diseases? First, look at the crown. If the leaves are wilting, turning yellow and then brown only on individual branches in spring/early summer, that's an early symptom of Dutch Elm Disease (DED). If the canopy is sparse later in summer and the leaves turn yellow and drop prematurely from the entire crown, that's a symptom of Elm Yellows.

If you cut away the outer layer of bark later in summer, look for brown streaking in the wood. That's a sign of DED. Elm Yellows causes a uniform butterscotch discoloration of the inner bark (phloem) and gives off a wintergreen scent (photo, page 11).

For more information on identifying these diseases, you can consult "How to Differentiate Dutch Elm Disease From Elm Phloem Necrosis," pamphlet NA-FB/P-11 published by the U.S. Department of Agriculture Forest Service.

"How to Identify and Manage Dutch Elm Disease", pamphlet NA-PR-07-98 also published by the U.S. Department of Agriculture Forest Service, is also available from the USDA Forest Service's website: [http://willow.ncfes.umn.edu/ht\\_ded/ht\\_ded.htm](http://willow.ncfes.umn.edu/ht_ded/ht_ded.htm).

## Research News You Can Use

### Elm Yellows Outbreak — Who Ya Gonna Call?



*Elms suffering from Elm Yellows*

We're familiar with the role pathologists play when a person dies of mysterious causes. But did you know that something similar happens when trees die mysteriously? Then, it's often the Arboretum's Plant Pathologist, Dr. Karel Jacobs, who gets the call for help.

One such call came in the fall of 1997 when Hendricksen the Care of Trees, called Dr. Jacobs about an alarming number of elm trees that were dying in a concentrated area of Arlington Heights.

"I jumped into this because it was so devastating," Dr. Jacobs recalled. She began working with two entomologists: Dr. Rex Bastian from Hendricksen and Dr. Fredric Miller, a Research Associate at The Morton Arboretum and a member of the University of Illinois Cooperative Extension Service. Together, they confirmed that the problem was Elm Yellows, a disease that normally doesn't extend this far north.

Elm Yellows, also called Elm Phloem Necrosis, is caused by a bacterium carried by the whitebanded elm

leafhopper (and perhaps by other phloem-feeding insects). Leafhoppers feed on the elm leaves, infecting the trees with the bacterium, which moves through the inner bark, called phloem. Currently, there's no known treatment for Elm Yellows, which

usually kills the infected tree within a year or two. The only way to control the disease's spread is to immediately remove trees diagnosed with the disease.

Although Elm Yellows rarely occurs in the northern part of Illinois, Dr. Jacobs suspects that a combination of high winds and mild winters may have made it possible for the white-banded elm leafhopper to travel to the Chicago area. "It seems that a blow-in is a possibility. Leafhoppers can be carried on air currents for thousands of miles," she explained.

Once they had identified the disease, which had killed more than 300 elms in an area limited to several square blocks, Dr. Jacobs and her colleagues set up experiments to see whether they could treat the disease or prevent it from infecting healthy elms.

In the Spring of 1998, they selected trees with early disease symptoms in the heart of the infected zone to inject with an antibiotic known to be effective against the type of bacterium

(phytoplasma) infecting the trees. The antibiotic is also effective against human and animal pathogens. Since its effectiveness on trees was relatively unclear, Dr. Jacobs wanted to avoid widespread use until it could be determined whether the treatment was, indeed, effective.

On the edge of the infected area, the team selected a group of apparently healthy trees along several blocks to try one of two treatments. Both treatments involved systemic insecticides designed to keep the whitebanded elm leafhoppers from feeding on the trees.

"This year's data will be telling," Dr. Jacobs said. However, preliminary results suggest the antibiotic treatment has not been effective. "The preventative approach is somewhat more encouraging," she said. "Very few of the trees treated with insecticide have died, but there's still too little data to know for sure whether the treatment is effective."

One potential bright spot is the discovery that some elm trees in the disease zone appear to be healthy. Dr. Jacobs took cuttings from two trees to the Arboretum, where Dr. George Ware, an elm expert, has propagated them. "If we're extremely lucky we may, and I emphasize *may*, have a tolerant elm," Dr. Jacobs said. Much additional work is needed to assess this possibility.

A number of organizations have cooperated in this effort so far. "Owen Whitmire and the Arlington Heights municipal arborists have been very supportive," Dr. Jacobs noted. "In

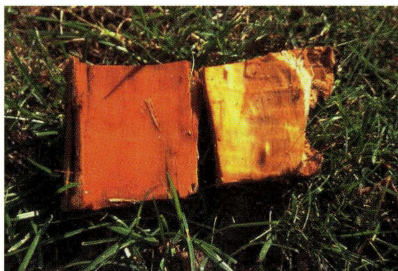


Photo by Karel Jacobs

*Uniform discoloration of inner bark (left) from Elm Yellows.*

addition, the research efforts have received some financial contributions from the Illinois Arborists Association and the Illinois Landscape Contractors Association, although we are still limited financially in fully studying the disease."

Going forward, Dr. Jacobs is also working with scientists at Cornell University to study the relationship of the Chicago area strains and those from the eastern U.S. This is important to determine the origin of the local strain.

"Ultimately, the only way to solve this mystery is to do more basic research," Dr. Jacobs explained. "We need to know if we're dealing with a new species of phytoplasma. Does it live in other hosts that don't show symptoms? Are there other insects that are also carriers?"

It is a mystery that is likely to take some time to solve, so stay tuned to *Seasons* for the next episode in this unfolding drama.



*Hendricksen the Care of Trees presented their annual donation of \$5,000 to The Morton Arboretum for continued research on construction damage to roots. Shown in the photo left to right are: Rex Bastian, Vice President Technical Services for Hendricksen; Gerard Donnelly, Executive Director of the Arboretum; Scott Jamieson, President of Hendricksen; Gary Watson, Arboretum Plant Physiologist; Larry Hall, Senior Vice President of Hendricksen; and Patrick Kelsey, Arboretum Soil Scientist.*



Photo Ideas, Inc.

Did you know that the Pinetum holds one of the most extensive collections of junipers and yews in the whole country?

We'll let the statistics tell the story.

### Juniper Family

- 372 individual plants representing 127 different kinds of plants
- 4 genera
- 28 species
- 7 subspecies or varieties
- 95 cultivars

### Yew Family

- 162 individual plants representing 49 different kinds
- 2 genera
- 7 species
- 42 cultivars

In total, the Pinetum includes more than 1200 individual plants representing 326 different kinds of plants from 24 genera.

## Sprucing up the Pinetum

Almost everything that's 70 years old can benefit from a little extra TLC. That's why last fall, the Arboretum began a 5-year project to give the Pinetum collection a little — ah — sprucing up. The Pinetum is a 25-acre collection of pines, spruces, firs and other conifers from around the world.

When the restoration is complete, it will feature a new Pinetum Entry Garden landscaped with both dwarf and large-size conifers and herbaceous perennials. "It is our hope the garden will inspire visitors to use dwarf conifers in exciting ways to enhance their own landscapes," said Tim Boland, Curator of Horticultural Collections. "The garden will also serve as a planting where nursery professionals, horticulturists, landscape architects and designers can gather ideas and evaluate conifer performance in the Chicagoland region."

The garden will include benches for visitors to rest and as well as interpretive signs to introduce visitors to many of the unique aspects of dwarf conifers. In addition, the entry garden will serve as the doorway to the Pinetum's new trail system where additional signs will provide valuable information about each of the major conifer groups.

As part of the renovation, Arboretum staff performed a health assessment of

the existing trees, looking for poor-performing, diseased and malformed specimens. About 125 plants will be removed over the next three years.

Along with removal, the staff will begin transplanting conifers to create a more logical sequence and order to the collections.

In addition, the staff will begin evaluating selections within the major plant groups. "One of the questions we'll ask ourselves is: 'Can we improve our displays by incorporating more modern introductions with better disease and insect resistance and superior ornamental qualities?'" Boland explained.

The Pinetum restoration project is part of the Arboretum's new Master Site Plan, which emphasizes the development of gardens within a 10-minute walk of the Visitor Center. Because it's a very popular visitor destination, enhancing the Pinetum is a key feature in the new master plan.

The Pinetum is south and east of the Hedge Garden. We hope you'll come enjoy our large-scale plantings of conifers. And while you're there, you can check our progress as we "spruce up."

# Visit the Photo Exhibit

Be sure to stop by the Thornhill Auditorium on Saturday, August 7, and Sunday, August 8, for the 4th annual Photo Exhibit of The Nature Study and Camera Club of The Morton Arboretum. Hours of the exhibit are noon to 5 pm.

Some 30 members of the club will display their nature photographs, many of them taken at The Morton Arboretum. In addition to enjoying the work of these fine local artists,

visitors will be able to browse through additional matted photos for sale and buy chances to win framed images taken by club members.

The Nature Study and Camera Club, established in 1965, has 90 members. "Our club is unique for its focus on the splendor and intricacies of the natural world," noted outgoing president Ray Kammer.

Admission to the exhibit is free.



Shooting Star by Al Havlicek

## Membership Services

For more information about membership benefits and gift memberships, call 630-719-2453.

## Arboretum Hours

**Grounds:** Daily, Daylight Savings Time, 7:00 am - 7:00 pm or dusk; Central Standard Time, 7:00 am to 5:00 pm or dusk

**Visitor Services, Ginkgo Gift Shop and Coffee Shop:** 9:00 am to 5:00 pm daily

**Ginkgo Restaurant:** 11:00 am to 3:00 pm daily

**Sterling Morton Library:** (Closed for construction)

## May we help you?

Administration Reception	630-968-0074
General Information & Events (24-hour recording)	630-719-2400
Visitor Services & Special Events	630-719-2465
Bloom 'n Color Hotline	630-719-7955
Education Program Registrar	630-719-2468
Membership Services	630-719-2453
Volunteer Opportunities	630-719-2443
Development/ Fundraising	630-719-2441
Ginkgo Restaurant	630-719-2457
Ginkgo Gift Shop	630-719-2454
Sterling Morton Library	630-719-2427

[www.mortonarb.org](http://www.mortonarb.org)

### Construction update

Work is underway on the new entrance to the Administration & Research Center, the Sterling Morton Library addition, and refurbishment of the library building. During the construction project, which is expected to be finished late this year, visitors can reach the Administration & Research Center by following the path from the Visitor Center through the Ground Cover Garden.

### Library closed during construction

The Sterling Morton Library's entire collection of books, periodicals and reference books, as well as its special collections, have been placed in storage until construction of the Special Collections addition to the library and the library building refurbishment are complete.

The library is offering reference service by phone, e-mail, regular mail or fax but cannot accommodate personal visits. If you need the reference librarian's help with a question, you may call the library at 630-719-2427, send a fax to 630-719-7950 or send e-mail to [mstieber@mortonarb.org](mailto:mstieber@mortonarb.org). "We're sorry for the inconvenience," Library Administrator Michael Stieber said, "but when the project is complete, the library will be an even more useful and enjoyable place to visit."

## Great Green Getaways

Looking for the perfect getaway this summer while staying close to home? Visit the Arboretum and explore gardens, natural areas and trails that the whole family will enjoy. To beat the heat, hike the trails that wind through the maple woods on the East Side, where a lush canopy of leaves keeps the woodland air cool and comfort-

able. On the West Side, experience the beauty of the Fragrance Garden and Joy Path for a refreshing respite, or visit the Schulenberg Prairie to see the tallgrass Illinois prairie in full bloom! See the Special Events & Activities calendar for more information about weekday and weekend activities.



# Weekend Activities

(Please see details in the Special Events and Activities calendar insert.)

## Prairie Heritage Days

In July, discover the Schulenberg Prairie, our 100-acre planted prairie and savanna on the far West Side of the Arboretum near Parking 25. Started in 1962, the Schulenberg Prairie, alive with color and tall grasses, is one of the three oldest planted prairies in the Midwest. Learn to identify prairie plants and see this living exhibit of the vegetation that greeted Illinois settlers. Join us on **Sundays in July** for our **Prairie Heritage Days**, when we invite you to our prairie programs, which include guided walks, historic reenactments, storytelling, games and other hands-on activities.

## Nature and the Arts

Nature inspires us to catch our breath and preserve its beauty. If this sounds like you, we invite you and all budding artists to join us on **August 15th** for our **Nature and Arts Sunday**. You'll be able to watch woodcarvers, painters, and other artists create beautiful works of art. Of course, for those who wish to design their own creations, we'll also have art projects to craft and display at home. Stop by the Research Center Patio from **1:00-3:00 p.m.** for this event.

## Capture Summer Memories at the Arboretum

There's still time to start a Summer Treasure Book. At the end of July and August, you'll have the opportunity to record your Arboretum memories in a scrapbook. All materials to make a cover for your book will be provided, along with stickers, stamps, and instant photos to make into great keepsake pages. Meet at the Research Center Patio to create or add to your

book on **Sunday, July 25th** and **Sunday, August 29th** from **2-4:30 p.m.**

## What's bugging you?

Are you curious about those critters that crawl under your feet or fly in the air? On **August 22nd** and **29th**, visit the Research Center Patio for our **Bug Bonanza**. Discover something about beetles, butterflies and other creatures, and make your own bugs out of specially designed bug paper. For those who want to cool off after a day of exploration, on **August 29th** from **1:00-2:30 p.m.** come see "Beginning of the End," a humorous science-fiction classic made in the 1950s. We'll see you in Thornhill Classrooms C & D, where we promise to supply the smiles and the popcorn. *Recommended for ages 6 and older.*

In case of inclement weather or for additional information, please call Visitor Services at **630-719-2465** to confirm times and locations.

## Dollar Discovery Days

Looking for a great deal of fun? Mark your calendars for **Dollar Discovery Days** this summer! Join us on **July 10, 27, August 12, and 21** for special programs, and receive dollar specials on our Acorn Express open-air tram tour and in the Ginkgo Gift Shop and Coffee Shop. Guided tram tours provide a 50-minute overview of both the East and West Sides of the Arboretum and are scheduled at **10:45 a.m., Noon, 1:15 p.m., and 2:30 p.m.** **Members' Plus** members may redeem their gift certificates for Acorn Express tickets. Tickets are available at Visitor Services. Admission to the Arboretum for non-members is \$1. For more information, please call **630-719-2465** and see the *Special Events and Activities* insert for specific programming information.

## A classic republished

A classic! The individuals or books that earn this title are few, but May Theilgaard Watts and her recently reprinted *Reading the Landscape of America* can both be described as classics.

Ms. Watts, founder of the Education Program at the Arboretum, was a renowned teacher, writer, naturalist, artist and also a leader in the early rails-to-trails movement. In her book, *Reading the Landscape of America*, Watts gracefully teaches us how to interpret the clues that we find in our landscape. How does a bog form? Why are prairie plants found in some Illinois cemeteries? Have you ever watched an island go by? With humor and insight, Watts invites us to explore our world. This book is available in the Arboretum Gift Shop.

## Arboretum Decals

New and renewing members indicated that the automobile decals are a valued and convenient system for entering the Arboretum and driving between the east and west sides. Because we value your comments, we decided that the usefulness of the decals to you outweighs other goals we had in discontinuing them. If you renewed earlier in 1999 and you did not receive a decal in your renewal packet, your decal(s) will be arriving in the mail during June.

**For the safety of our gatehouse attendants and to learn more about the day's activities, please come to a full stop whenever you are passing the gatehouse. Thank you!**



### Trail Worth Trying: Schulenberg Prairie

Pioneer settlers in our area were impressed by grasses taller than any they had seen before. Some of these grasses grow 5-to-7' tall, symbols of the Midwest's prairie heritage. Along with Indian grass, big blue stem, and cord grass, many other prairie plants bloom from July through September, making summer visits to the prairie especially enjoyable. Compass plant, prairie dock, rattlesnake master, coreopsis, butterfly milkweed, and the prairie clovers are just a few of the

colorful plants you can see.

To visit the Schulenberg Prairie (see article, p. 6), use Parking 25 on the West Side. Follow the signs to the prairie trail. On your way to the trail head you will see an old field in the process of reverting to prairie. You will also walk through part of a savanna under restoration, where large, wide-spreading oaks will one day provide habitat for indigenous plants less adaptable to either open

prairie or deeply shaded woodland.

Once you begin walking the prairie trail, interpretive signs will tell you the surprising story of this prairie, help you identify key plants, and provide information about how the Schulenberg Prairie is maintained. Perhaps your greatest enjoyment will be the vistas, the sound of the wind in the grasses, the distinct fragrance of prairie plants, and the sense of a vanished landscape renewed.



4100 Illinois Route 53  
Lisle, IL 60532-1293

DATED MATERIAL —  
PLEASE EXPEDITE DELIVERY

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Lisle, Illinois

# Special Events & Activities

The Morton  
Arboretum

July & August at the Arboretum



# July

## Every Sunday

### *Prairie Heritage Day*

Games and activities focusing on the prairie and the people who lived there.

All ages

Research Center Patio

1:00 - 3:00 pm

## 4 Sunday

### *Leafing Through The Arboretum*

Behind the scenes tour of the Arboretum

All ages

Meet at Visitor Center

1:00 - 1:45 pm

## 10 Saturday

### *Dollar Discovery Day*

Special programs, dollar specials in the Gift Shop, Coffee Shop, and on the Acorn Express

Admission \$1

## 11 Sunday

### *Guided Walk*

45-minute guided walk through Schulenberg Prairie.

Adults and children 6+

Meet at Parking 25

1:00 pm



Kitty Kohout

### *Arboretum History Tour*

45-minute walking tour hosted by Carol Doty, Emeritus, Exhibit and Interpretation Specialist, highlighting the rich history of the Arboretum.

All ages

Meet at Visitor Center

2:00 - 2:45 pm

### *Story Time*

Stories about people and animals who lived on the prairie.

Ages 4-10

Ginkgo Restaurant

3:30 - 4:00 pm

## 18 Sunday

### *Guided Walk*

45-minute guided walk along the Heritage Trail

Adults and children 6+

Meet at Parking 14

1:00 pm

### *The Canaller's & Co.*

What brought some of the first Europeans to Northern Illinois? Listen to a first person interpretation of the early workers and settlers along the I & M Canal, and learn how they lived, played, and worked.

Adults and children 8+

Research Center

Horticulture Lab

2:00 pm - 2:45 pm

## 25 Sunday

### *Guided Walk*

45-minute guided walk through Schulenberg Prairie.

Adults and children 6+

Meet at Parking 25

1:00 pm

### *Prairie Heritage Day/ Summer Treasure Book Series\**

Games and activities focusing on the prairie and the people who lived there.

All ages

Research Center Patio

1:00 - 3:00 pm

### *People of the Prairie*

Slide presentation by Leon Toussaint of early pioneers and Native Americans of Northern Illinois.

Adults and children 8+

Research Center

Horticulture Lab

2:00 - 2:45 pm

## 27 Tuesday

### *Dollar Discovery Day*

Dollar specials in the Gift Shop, Coffee Shop, and on the Acorn Express.

Admission \$1

### *Pruning Demonstrations*

Looking for something to do on your lunch-hour? Stop by the Arboretum for a 15-minute demonstration on how to prune your plants.

Meet at Visitor Center

12:15 & 1:15 pm

### *Summer Children's Walk*

Children sing songs, hear stories, and learn about trees and other plants.

Ages 4-10

Meet at Visitor Center

1:00 - 1:30 pm

### *Guided Walks*

Call or stop by Visitor Services for an updated schedule of weekend walks.

# August

## 1 Sunday

### *Leafing Through the Arboretum*

*Behind the scenes tour of the Arboretum.*

All ages

Meet at Visitor Center

1:00 - 1:45 pm

## 7-8 Saturday & Sunday

### *Nature Study and Camera Club Photo Exhibit*

Program will include children's activities with photography and nature.

Thornhill Education Center Auditorium

Noon - 5:00 pm

## 12 Thursday

### *Dollar Discovery Day*

*Special programs, dollar specials in the Gift Shop, Coffee Shop, and on the Acorn Express*

Admission \$1

### *Summer Children's Walk*

*Children sing songs, hear stories, and learn about trees and other plants.*

All ages

Meet at Visitor Center

1:00 - 1:30 pm

## 15 Sunday

### *Art and Nature*

*Live artist demonstrations and hands-on activities with natural history themes.*

All ages

Research Center Patio

1:00 - 3:00 pm

## 21 Saturday

### *Dollar Discovery Day*

*Dollar specials in the Gift Shop, Coffee Shop, and for the Acorn Express.*

Admission \$1

### *Greenhouse Picks*

*Meet Craig Maclean of Geneva Greenhouse as he talks about a few of his favorite plants. 15-minute plant demonstrations.*

All ages

Meet at Visitor Services

1:00, 1:30, & 2:00 pm

## 22 Sunday

### *Bug Bonanza*

*Art projects and hands-on activities.*

All ages

Research Center Patio

1:00 - 3:00 pm

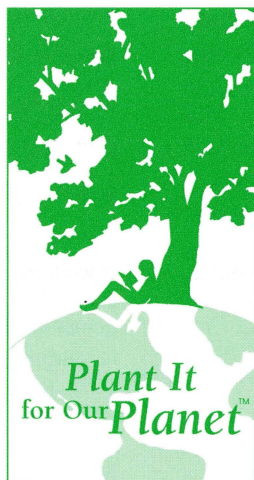
### *Story Time*

*Gene Gryniwicz will tell stories about bugs, insects and other creepy crawly critters.*

Ages 4 - 10

Ginkgo Restaurant

3:30 - 4:00 pm



Kitty Kohout

## 29 Sunday

### *Bug Bonanza Movie*

*Cool off, grab your free bag of popcorn and enjoy the science fiction classic "Beginning of the End" about giant grasshoppers destroying most of Illinois.*

Adults and children 6+

Thornhill Education Center Classroom C & D

1:00 - 2:30 pm

### *Bug Bonanza/Summer Treasure Book Series\**

*Art projects and hands-on activities.*

All ages

Thornhill Education Center Classroom C & D

2:30 - 4:30 pm

*\* Summer Treasure Book Series is an ongoing program through August. Visitors can start a scrapbook of nature memories and decorate pages for their book each month. (Beginning materials will be available if you missed our first program)*

## General Information

### Grounds Hours/Entrance Fees

Daylight Savings Time, 7:00 am to 7:00 pm  
or dusk; Central Standard Time, 7:00 am  
to 5:00 pm or dusk

Members FREE

\$7/car, discounted to \$3 on Wednesdays

\$50/bus, discounted to \$25 on Wednesdays

### Visitor Center Hours

Visitor Services, Ginkgo Gift Shop and

Coffee Shop: 9:00 am to 5:00 pm daily

Ginkgo Restaurant: 11:00 am to 3:00 pm daily

### Sterling Morton Library Hours

(Closed for construction)

### Founder's Room

*Morton family historical exhibits*

Thornhill Education Center (Parking 19)

Open weekdays, except holidays,

9:00 am to 4:30 pm

### For a safe and serene Arboretum, please:

- Observe speed limit of 20 mph
- Park in numbered lots only
- Jog on paved roads, not trails

### Please, no:

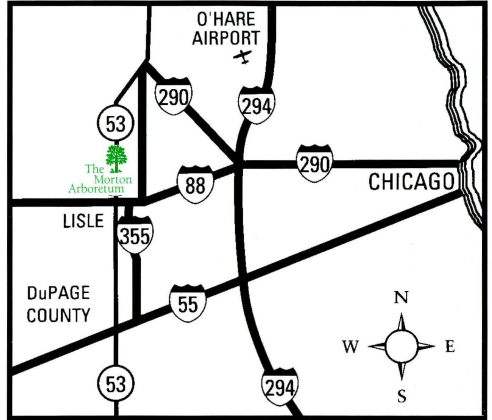
- Pets, except service animals
- Bicycling, fishing, or active sports
- Intoxicants
- Grills and fires
- Damaging of plants

The Arboretum has facilities providing  
access for visitors with physical disabilities.  
Call **630-719-2465** for more information.



4100 Illinois Route 53  
Lisle, IL 60532-1293

## How to find The Morton Arboretum



Only 25 miles west of Chicago's Loop.  
Just north of I-88 and west of I-355.  
Follow directional signs to the Arboretum.

Visit us on the web! [www.mortonarb.org](http://www.mortonarb.org)

## May we help you?

Administration Reception	630-968-0074
General Information & Events (24-hour recording)	630-719-2400
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Volunteer Opportunities	630-719-2443
Development/Fundraising	630-719-2441
Ginkgo Restaurant	630-719-2457
Ginkgo Gift Shop	630-719-2454
Sterling Morton Library	630-719-2427

*The mission of The Morton Arboretum  
is to collect and study trees, shrubs, and other  
plants from around the world, to display them  
across naturally beautiful landscapes for people  
to study and enjoy, and to learn how to grow  
them in ways that enhance our environment.  
Our goal is to encourage the planting and con-  
servation of trees and other plants for a greener,  
healthier, and more beautiful world.*