

Plant Health Care Report

Scouting Report of The Morton Arboretum

May 8 – May 14, 2009

Issue 2009.05

Our report includes up-to-date disease and insect pest reports, as well as color images, for northeastern Illinois. You'll also find a table of accumulated growing degree days throughout Illinois, precipitation, and plant phenology indicators to help predict pest emergence.

We are having a very wet spring so far. With the planting season now upon us, remember that it is not good to plant or work with soil that is too wet. Doing so can damage your soil's structure, which will affect how well your plants will grow.

Quick View

What Indicator Plants are in Bloom at the Arboretum?

Many common lilacs (*Syringa vulgaris*) are in bloom.

Accumulated Growing Degree Days (Base 50): 181.5

Insects

- Elm bark beetle
- Euonymus webworm
- Ash plant bug
- Spruce spider mite
- Spiny witch hazel gall aphid
- Alder leafminer
- Erineum gall on Linden
- Spittle bug

Diseases

- Ash anthracnose

Miscellaneous

- Squirrel damage



Andenken an Ludwig Spaeth lilac (*Syringa vulgaris* 'Andenken an Ludwig Spaeth') photo taken by, John Hagstrom

Weed Note

- Corn speedwell
- Wild violet

Degree Days and Weather Information

As of May 14, 2009 we were at 181.5 growing degree days. The historical average (1937-2008) for the same date is 265 growing degree days. Last year we were at 203 growing degree days on May 14.

| Location | Growing Degree Days through May 14 | Precipitation between May 8 to May 14 in inches |
|--|---|--|
| The Morton Arboretum (Lisle, IL) | 181.5 | 1.71 |
| Chicago Botanic Garden (Glencoe, IL)* | 143 | .86 |
| Chicago O-Hare Airport* | 165.5 | .85 |
| Aurora, IL | 160 | |
| Champaign, IL | 307 | |
| DuPage County Airport (West Chicago, IL) | 215.7 | |
| Carbondale, IL | 540.6 | |
| Decatur, IL | 340 | |
| Moline, IL | 238 | |
| Peoria, IL | 292 | |
| Quincy, IL | 356.7 | |
| Rockford, IL | 183.7 | |
| Waukegan, IL | 115 | |
| Wheeling, IL | 161.4 | |

**Thank you to Mike Brouillard, Green Living, Inc., and Chris Yooning, Chicago Botanic Garden, for supplying us with this information.*

This Week's Sightings

Elm bark beetle

We caught a few adult elm bark beetles (*Hylurgopinus rufipes* and *Scolytus multistriatus*) in our pheromone trap this week and expect many more in the next few weeks. These are the beetles that spread Dutch elm disease. The beetles are dark brown and about 1/8 inch long (smaller than a grain of rice). Everyone who sees them is amazed at their small size considering how much damage they do. The adults lay eggs in dead or dying elm trees that still have bark attached. Larvae feed under the bark of the dead or dying elm. When they emerge as adults from infected trees, the spores of the DED fungus stick to their backs. The beetles fly to the tops of healthy elms to feed and are attracted to fresh wounds. Trees are most susceptible to infection during mid-spring to early summer when they are actively growing. The beetles typically have two generations per year in the Midwest and are present continuously from late April through October.



We'll provide further updates about DED when we start seeing its symptoms, usually in early June.

Control: Begin to monitor elm canopies weekly. Rapid removal of wilting branches can save a tree. Infections from late in the season last year will begin to show soon. Stop pruning elms now to prevent attraction of elm bark beetles to wounded trees. Search out and destroy elm bark beetle breeding sites, including piles of elm logs, standing dead elm trees, and stumps with bark attached. Remove bark and chip, compost, bury, or burn the woody material to eliminate potential breeding sites.

Plant elm trees that are tolerant and disease resistant. Non-native hybrid elms, such as Accolade and Triumph (both Morton Arboretum introductions) are resistant to Dutch elm disease. A biocontrol tool, Dutch Trig™, is available in Illinois and is effective as a protectant, though, like most treatments including fungicides, it is not 100% fail safe. Valuable specimen elms can be injected with one of several fungicides that have good success rates. For further information about systemic fungicides that are probably the most reliable chemical control, refer to the University of Illinois 2007 *Commercial Landscape & Turfgrass Pest Management Handbook* (CPM) if you are a commercial applicator. There is no product available for use by homeowners.

Good websites:

http://www.umassgreeninfo.org/fact_sheets/bark_beetles/elm_bark_beetle.html

http://na.fs.fed.us/spfo/pubs/howtos/ht_save/ht_save.htm

Euonymus webworm

Euonymus webworms (*Yponomeuta cognatella*), also known as euonymus caterpillars, are feeding on running strawberry-bush (*Euonymus obovatus*). Larvae are pale yellow with black spots, and reach one inch long at maturity. These leaf-feeding insects live in colonies within thin webs at branch ends. Euonymus webworm also attacks the spindle tree (*E. europaeus*).

Control: Small populations can be managed by pruning out webs now and soaking them in soapy water. *Bacillus thuringiensis* var. *kurstaki* (Bt) will control young larvae (it is less effective on mature larvae). Spray the web thoroughly with Bt, as the insect must eat the insecticide in order for it to work.

Good web site:

<http://www.uvm.edu/extension/publications/el/el256.htm>

<http://learningstore.uwex.edu/pdf/A3633.pdf>



Ash plant bug



Ash plant bug (*Tropidosteptes sp.*) nymphs have recently hatched and are feeding on green ash (*Fraxinus pennsylvanica*). The nymphs are pale green with red eyes and a gray spot in the middle of their backs. Adult ash plant bugs range in color from pale green to nearly black and are about one fifth of an inch long and one tenth of an inch wide. Both nymphs and adults feed on the undersides of leaves causing a yellowish-white stippling on the upper leaf surface that may coalesce to form broad areas that turn brown. You also may see premature leaf drop or deformation/dwarfing of young leaves. Black specks of frass (insect excrement) can be seen on leaf undersides.

Ash plant bugs overwinter as eggs under loose bark and in crevices of host twigs. The eggs hatch shortly after buds open in the spring. Nymphs begin feeding immediately on the new shoots, petioles, and developing leaves. Within 3 to 4 weeks, the nymphs mature, mate,

and the females lay eggs in small holes they have drilled into small twigs. Eggs hatch in about 1 week and the second generation feeds from early summer until the first hard frost. Eggs laid in July and August hatch the following spring.

Control: Ash plant bugs damage individual leaves but generally do not threaten the health of mature trees. Therefore, it is best to tolerate the damage.

Good websites:

<http://www.extension.umn.edu/projects/yardandgarden/ygbriefs/e449plantbugs-ashhnylcst.html>

<http://learningstore.uwex.edu/pdf/A3126.pdf>

<http://www.entomology.umn.edu/cues/Web/066AshPlantBug.pdf>



Spruce spider mite



Feeding damage from the spruce spider mite.

Spruce spider mite (*Oligonychus ununguis*) has been found on black spruce (*Picea mariana*). Spider mites are very tiny (you need a hand lens to see them clearly) and have eight legs. Spider mites have needle-like mouth parts which they use to suck up cells. They can cause severe stippling of spruce needles. Badly infested needles appear bronze and fall off the tree. Spruce spider mites prefer cool temperatures in the 60s to low 70s F and become inactive during the hot summer months, unlike two-spotted spider mites that prefer warm weather. Damage from spruce spider mites often becomes visible later in the season after the mites are gone. Additional hosts include arborvitae (*Thuja* sp.), Juniper (*Juniperus* sp.), hemlock (*Tsuga* sp.), pine (*Pinus* sp.), Douglas fir (*Pseudotsuga menziesii*), Fraser fir (*Abies fraser*), and larch (*Larix*).

Not all spider mites are pests. Some mites are predacious mites, that is, they eat the bad spider mites. So, how can you tell the difference between the pests and the predators? It's a very scientific method. Shake a branch vigorously over a blank, white piece of paper. If the tree has mites, you will see tiny dots running around on the paper. If you smooch them with your finger, they will be either green or yellowish orange. The green ones have been eating plants, but the yellowish orange ones have been eating other spider mites. Predaceous mites also move faster and generally have longer legs. Having a lot of predaceous mites reduces your need to use chemicals.

Control: There are many predators of spruce spider mites, including ladybird beetles (AKA ladybugs). Sometimes a strong spray of water can blast spider mites off the tree. Applying insecticidal soap can be effective. Horticultural oils also kill mites, but will remove the blue color on blue spruce. Other chemicals are not warranted unless you have severe outbreaks. For information about chemicals to use for serious infestations, refer to the University of Illinois CPM, for commercial applicators, and the *Home, Yard & Garden Pest Guide* (HYG) for homeowners.

Good Websites:

http://woodypests.cas.psu.edu/FactSheets/InsectFactSheets/html/Spruce_Spider_Mite.html

<http://ohioline.osu.edu/hyg-fact/2000/2012.html>

Spiny witch-hazel gall aphid



Spiny witch-hazel gall aphids (*Hamamelistes spinosus*) are feeding on the underside of the leaves of Fox Valley™ river birch (*Betula nigra* 'Little King'). Their feeding causes leaves to appear corrugated, gradually curl, turn red, then brown, and drop prematurely. Many aphids can be found inside the corrugations.

The insect overwinters in two ways: either as an egg on witch-hazel twigs or as a hibernating female on birches. Eggs hatch in spring and become "stem mothers." The stem mothers feed on witch-hazel and cause a spiny gall to form. Each gall is hollow and contains numerous young aphids. As the aphids mature, they exit the gall and fly to their alternate host, the river birch.

Meanwhile, the overwintering aphids on river birch move to new leaves in spring and give birth to young aphids. These aphids eventually migrate to witch-hazel to feed on the flower buds and complete their life cycle.

Control: Leaf damage is primarily an aesthetic problem, and trees are not severely harmed. Aphid populations can be reduced by spraying plants with a hard stream of water.

Good websites:

<http://www.entomology.umn.edu/cues/Web/063Aphids.pdf>

<http://www.ext.vt.edu/departments/entomology/factsheets/gaphids.html>



Aphid eggs inside galls

Alder leafminer



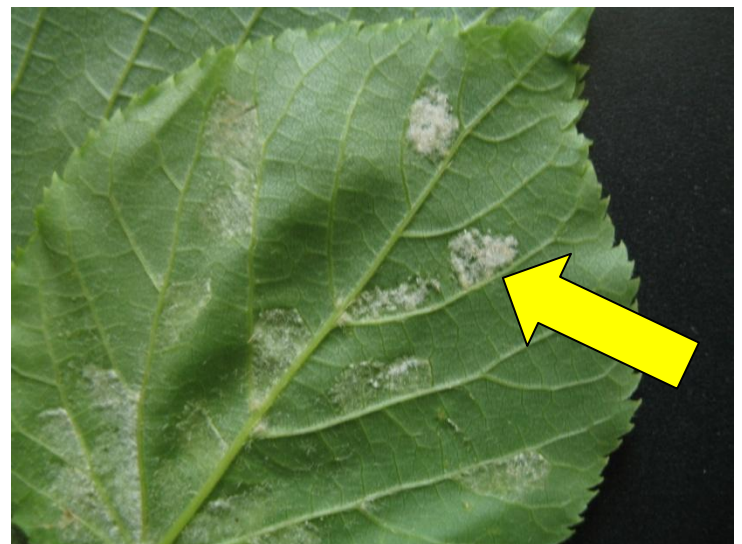
European alder sawfly leafminers (*Fenusa dohrnii*) are laying eggs on European alder (*Alnus glutinosa*). We have not seen any mines, only the adults, but in this area there are two generations.

Control: In a severe infestation, The University of Illinois recommends that a systemic insecticide be used to obtain control of the larvae within the leaves. Acephate has traditionally been the insecticide of choice although imidacloprid is becoming more popular. For optimum effectiveness against the first generation of these leafminers, you should apply it as a soil drench the previous fall.

Erineum gall on linden

A sample of Erineum gall on linden (*Tilia* sp.) was brought into the Plant Clinic this week. These galls are caused by eriophyid mites. Feeding by the mites induces formation of cream colored, velvet-like galls on the underside of leaves, with pale yellow patches developing on the upper leaf surfaces. Eriophyid mites are very host specific, meaning that each type of mite attacks only one species of plant; therefore this pest doesn't attack our native American basswood, *Tilia americana*.

Control: Despite the appearance and abundance of galls, they rarely affect the health of vigorously growing trees and shrubs. Generally galls do not cause enough damage to justify an insecticide or miticide. Also it is extremely



difficult to achieve efficacy with chemical applications, as precise timing of sprays is required. To be effective, sprays must be timed to coincide with initial insect/mite activity before gall formation begins. Once galls start to form, the causal organism is concealed within and it is too late for treatment.

Spittle bug

We found spittle bugs on dwarf Eastern white pine (*Pinus strobus* 'Nana'). You can identify them by the frothy white mass found on foliage and twigs. It looks like small areas of dish soap bubbles. The spittle, consisting of plant juices, is made by the immature bug to keep it moist and protect it from its enemies. Spittlebugs suck plant sap but inflict little damage on mature plants. There are a number of species of spittlebugs that feed on both deciduous and evergreen plants in our region.

Control: Control is rarely necessary, but according to Michigan State University, hosing the plants down forcefully with water is usually sufficient to remove most of the insects. This may need to be repeated a few times.

Good website:

http://www.oznet.ksu.edu/dp_hfrr/extensn/problems/SpittleBug.htm



Ash Anthracnose



We are receiving calls in the plant clinic that initial symptoms of ash anthracnose (*Gnomoniella fraxini*) are being seen on green ash (*Fraxinus pennsylvanica*). Ash anthracnose is a foliar disease that is common during cool, wet springs, conditions like we had in April.

Sometimes irregular necrotic patches form on leaf margins often accompanied by leaf curl and distortion. Premature leaf drop may occur on highly susceptible species. Sometimes the leaves that fall have no obvious symptoms, but the petioles may reveal a dark area. It does not affect twigs. The tree, if healthy, should re-leaf with the next flush of growth. The disease does not kill trees, although it may weaken them. No fungicides are necessary.

We studied the incidence of ash anthracnose on the eight most common ash species and cultivars at the Arboretum from 1997 through 1999. We found that ash anthracnose incidence was significantly higher on green ash (*Fraxinus pennsylvanica*) cultivars than on white ash (*Fraxinus americana*), which is contrary to what was commonly believed. Chinese ash *F. chinensis* was most susceptible and our native pumpkin ash (*F. tomentosa*) and blue ash (*F. quadrangulata*) were most resistant (none were immune). With the discovery of the Emerald Ash Borer in Illinois in 2006, we are no longer recommending ash species. One factor in ash anthracnose incidence may be how early the

particular species leaf out in the spring. Ashes that leaf out earliest tended to exhibit the most ash anthracnose. However, this wasn't always the case and there are other important determining factors to the disease. To read the entire article, see the Journal of Arboriculture, Vol. 28, No. 1. or the following web site:
<http://joa.isa-arbor.com/request.asp?JournalID=1&ArticleID=24&Type=2>

Control: Cultural controls are usually sufficient to reduce the severity of ash anthracnose in our region. Keep trees healthy by watering during dry periods and keeping properly mulched.

Good websites:

<http://www.ipm.iastate.edu/ipm/hortnews/1999/5-21-1999/ashanthra.html>
http://www.mortonarb.org/plantinfo/plantclinic/disease_anthracnose.pdf

Squirrel damage

We're finding a lot of small (three-inch long) elm (*Ulmus* sp.) leaf twigs on the ground. This is caused by squirrels chewing on the elm seeds and buds. They also chew on maples in the spring and oaks and walnuts in the fall. Prevention or control is almost impossible because, except for when crossing the street, squirrels are pretty smart animals. The harm to the tree is insignificant.



Weed Note

Corn speedwell



Corn speedwell (*Veronica arvensis*) is a broadleaf winter annual. Plants are covered with fine hairs and form branching upright stems in four inch wide patches. They have round to oblong, scalloped leaves that are in an opposite arrangement on the lower portion of the plant. The leaves on the flowering top portion of the plant are narrow and sessile (attached directly to the stem) and are in an alternate arrangement. Corn speedwell produces small purple to blue flowers in the spring. Their seed capsules are heart-shaped and contain numerous yellow seeds. They have short tap roots to fibrous roots and grow in dry areas and low maintenance turf.

Control: Remove mechanically or hand pull. For chemical control use a broadleaf herbicide before the weed flowers in early spring. For more chemical information and timing, refer to the University of Illinois CPM for commercial applicators, and the HYG for homeowners.



Wild violet

Wild violet (*Viola papilionacea*) is a cool-season perennial. Leaves are two to four inches wide, kidney-shaped to oval with toothed leaf margins. They have an alternate leaf arrangement and form a dense low growing (up to 12" tall) rosette patch. It produces white, blue or purple flowers in early spring. Wild violets reproduce by seed and by creeping rhizomes (an elongated, underground stem). They can be found growing in moist soils, in shady areas. This weed has very dense root systems which make it difficult to eradicate by hand pulling.

Control: Reduce shade and/or allow the soil to dry out. Apply a post emergence herbicide in mid-spring to early summer and/or mid to late fall. For more chemical information and timing, refer to the University of Illinois CPM for commercial applicators, and the HYG for homeowners.



What to Look for Next Week

We will be looking for honey locust plant bug, rose rosette, and cankerworms.

Quote of the week: "Every garden is unique with a multitude of choices in soils, plants and themes. Finding your garden theme is as easy as seeing what brings a smile to your face." -- Teresa Watkins



The Plant Health Care Report is prepared by Trica Barron, Plant Health Care Technician, and edited by Donna Danielson, Plant Clinic Assistant; Fredric Miller, PhD, research entomologist at The Morton Arboretum and professor at Joliet Junior College; Doris Taylor, Plant Information Specialist, and by Carol Belshaw, Plant Clinic volunteer. The information presented is believed to be accurate, but the authors provide no guarantee and will not be held liable for consequences of actions taken based on the information.

The *2007 Commercial Landscape & Turfgrass Pest Management Handbook* (CPM), for commercial applicators, and the *Home, Yard & Garden Pest Guide* (HYG) for homeowners from the University of Illinois, are available by calling (800-345-6087). You may also purchase them online at <https://pubsplus.uiuc.edu/ICLT-07.html> (commercial handbook) and <https://pubsplus.uiuc.edu/C1391.html> (homeowners' guide). One further source is your local county extension office.

This report is available on-line at The Morton Arboretum website at <http://www.mortonarb.org/tree-plant-advice/category/97/plant-health-care-reports.html>.

For pest and disease questions, please contact the Plant Clinic at (630) 719-2424 between 10:00 and 4:00 Mondays through Saturdays or email plantclinic@mortonarb.org. Inquiries or comments about the PHC reports should be directed to Trica Barron at tbarron@mortonarb.org.

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