

Plant Health Care Report

Scouting Report of The Morton Arboretum

July 5 - 10, 2009

Issue 2009.13

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.

Quick View

What Indicator Plants are in Bloom at the Arboretum?

Queen Anne's lace (*Daucus carota*) is in full bloom.

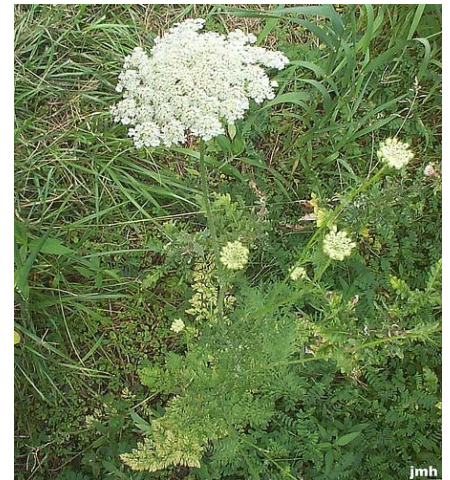


Photo by John Hagstrom

Accumulated Growing Degree Days (Base 50) through July 7: 1010.5

Insects

- Tilia lacebug
- Oblique banded leafroller
- Twig girdlers and pruners
- Ailanthus webworm
- European elm scale
- Red milkweed beetle
- Sumac leaf beetle

Diseases

- Botryosphaeria canker
- Mayapple rust

Weed Note

- Common lamb's-quarters (*Chenopodium album*)

Degree Days and Weather Information

As of July 7, 2009, we are at 1010.5 growing degree days which are ten days behind the historical average of 1937-2008 (1241.6) and about the same as last year (1011.5).

Location	Growing Degree Days through July 7	Precipitation between July 1 to 7 in inches
The Morton Arboretum (Lisle, IL)	1010.5	0.21
Chicago Botanic Garden (Glencoe, IL)*	872.0	0.16
Chicago O'Hare Airport*	1029.0	0.25
Aurora, IL**	1009.0	
Champaign, IL**	1396.7	
DuPage County Airport (West Chicago, IL)**	1148.6	
Decatur, IL**	1443.8	
Moline, IL**	1255.5	
Peoria, IL**	1350.0	
Quincy, IL**	1474.5	
Rockford, IL**	1038.6	
Waukegan, IL**	769.4	
Wheeling, IL**	943.0	

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

** We obtain most of our degree day information from the GDD Tracker from Michigan State University web site. For additional locations and daily degree days, go to <http://www.gddtracker.net/?zip=60185&model=2&state=IL>

This Week's Sightings

Tilia lacebug

Adults and young nymphs of basswood lacebug (*Gargaphia tilliae*) are feeding on American linden (*Tilia americana*). The insects live on the lower surface of leaves and feed on leaf sap causing yellow and white stippling on the upper leaf surface. The undersides of leaves are covered with brown varnish-like excrement that looks like black specks or tar spots. Heavy infestations may lead to complete stippling of the leaf and premature leaf drop.

Lacebugs overwinter as adults under loose bark of host plants and in leaf debris. Adults become active in late spring and females begin laying eggs around GDD 500–600. The eggs hatch about two weeks later. Adult lace bugs are about 1/6 inch long with very ornate lace-like wings, thus the name. The nymphs are spiny looking.

Control: Lacebugs generally do not cause serious harm. To help minimize harm, grow plants well-suited to the site and water during dry periods. There are several naturally occurring predators that help control the population, including green lacewings, mites, and assassin bugs. A forceful spray of water will dislodge newly hatched nymphs and they will often die



Stippling caused by lacebugs



before they find their way back to suitable leaves. For information about chemical control, refer to the *Commercial Landscape Turfgrass Pest and Management Handbook 2007* (CPM) if you are a commercial applicator or the *Home, Yard and Garden Pest Guide* (HYG) if you are a homeowner.

An adult lacebug – see how they got their name!

Good web sites:

<http://sites.ext.vt.edu/departments/entomology/factsheets/lacebug.html>

<http://www.ipm.ucdavis.edu/PMG/PESTNOTES/pn7428.html>

<http://ohioline.osu.edu/hyg-fact/2000/2150.html>

Oblique banded leafroller

We found oblique-banded leafroller caterpillars (*Choristoneura rosaceana*) rolling terminal leaves of meadowsweet (*Spiraea alba*). The insect primarily attacks members of the rose family such as roses, hawthorns, cotoneaster, apples, and *Prunus* species. It is a pale yellow green caterpillar with thin hairs on its body. Leaf rollers choose growing terminals and roll the leaves together, fastening the edges with strands of silk. The insect feeds within the rolled up leaves.

Control: Leaf rollers generally don't do sufficient damage to warrant control.

Good website:

<http://www.ipm.msu.edu/fruitpests/leafroller.htm>



Twig girdlers and pruners

We are seeing oak twig pruner (*Elaphidionoides villosus*) damage on white oak (*Quercus alba*). Wilted and browned branches are hanging from trees and scattered about the ground, looking very similar to cicada damage. The first sign of infestation are branch tips with fading foliage that eventually turn brown.



In spring, as oak leaves are beginning to form, adults emerge and deposit eggs near the tips of twigs. After making their entrance holes, larvae begin to feed in the center of the small branch. They chew (mine) down into the stem and in summer move to the sapwood and make concentric circular cuts, leaving only the thin bark to hold the branch in place. A gust of wind will cause the branch to break and fall to the ground. Larvae remain in the fallen branches, pupate in the fall, and emerge as adults the following spring.

The adult is a gray-brown beetle 1/2 to 3/4 inch long with antennae that are slightly longer than its body. Larvae are creamy white, legless, segmented, and reach 3/4 of an inch at maturity. Oak twig pruner larvae feed on oak, hickory, elm, walnut, and a number of fruit trees.



Homeowners checking elms for Dutch elm disease (DED) may be seeing flagging of terminal twigs and branches (leaves wilting and browning) on their American elms that are subsequently falling off the trees. The affected twigs are usually scattered throughout the canopy. This may be due to twig girdlers or pruners and not to Dutch elm disease. The adult beetles gnaw holes in twigs and lay eggs. When the larvae hatch, they feed inside the twig, killing it. Sometimes the twigs fall off the trees when the wind blows. Twigs dying from Dutch elm disease will show pronounced streaking under the bark and will not fall off the tree. Also, the wilting will continue down the branch rapidly in the case of DED.

Control: This insect will not kill or severely damage trees. To reduce populations, collect and destroy fallen branches and prune out wilted and damaged branches.

Good website: <http://muextension.missouri.edu/explore/agguides/pests/g07276.htm>

Ailanthus webworm

Ailanthus webworm caterpillars (*Atteva punctella*) were found on corkwood (*Leitneria floridana*). The caterpillars have sparse light hairs, a broad stripe down their backs that has been described as olive-green, and alternating black and white stripes along their sides. They cluster together in a loose web and feed on leaves from within the web. This insect is usually seen on tree-of-heaven (*Ailanthus altissima*), one of our least favorite trees. Yes, yes, we know it's the tree in the popular book *A Tree Grows in Brooklyn* which we read when we were 12 years old. But we have grown up and discovered what a weak-wooded, weedy, smelly tree it is. We are also sick of cleaning up the seedlings in our yard from our neighbor's ugly, misshapen, overgrown tree-of-heaven.



Control: Here at the Arboretum, we tear the nests out of the tree and stomp on the webworms, thus destroying the webworms and releasing a fair amount of aggression. *Bacillus thuringiensis var. kurstaki* (Btk) could also be used to control young larvae, but the spray needs to penetrate the nest to be effective. Btk is not as effective against older larvae. Although ailanthus webworms are capable of defoliating their host, they rarely do (darn it).



European elm scale

Adult European elm scale (*Gossyparia spuria*) were found on lacebark elm (*Ulmus parvifolia*). Like magnolia scales, they are soft scales and, since they are sap feeders, produce honeydew, which attracts sooty mold. Very heavy infestations can cause leaf and twig dieback. Severely injured leaves remain on the tree all winter. Mature females prefer feeding in the forks of twigs.

Female scales are oval, red-brown, and surrounded by white, cottony fringe. They're only about 1/8 of an inch in diameter. They produce one generation per year. They lay eggs near the end of June into July. The eggs hatch within a few hours into bright

yellow crawlers. Crawlers migrate to feeding sites along the midrib of the underside of leaves, where they will remain until the end of summer. In fall, crawlers return to limb or bark crevices to overwinter as immature females. They mature in late May, mate, and begin depositing eggs.

Control: Horticultural oil or insecticidal soap can be sprayed on crawlers. The double-sided tape, as discussed under magnolia scale (see last week's PHC Report), can be used to detect this insect, too. Insecticidal soaps, summer oils, or insecticides should be applied now to control crawlers. For further information about chemical control, refer to the CPM and HYG.

Good web site: <http://www.entomology.umn.edu/cues/Web/126EuropeanElmScale.pdf>

Red milkweed beetle

Red milkweed beetles (*Tetraopes tetraophthalmus*) were found on common milkweed (*Asclepias syriaca*). They are 1/2 to 3/4 inch long and red with black spots and long black antennae. Adults feed on milkweed leaves, while the larval stage bores into and feed on milkweed stems and roots. They usually do not cause enough damage to require control.



Sumac leaf beetle

The larval stage of sumac leaf beetles (*Blepharida rhois*) are feeding on smooth sumac (*Rhus glabra*) foliage and causing a fair amount of damage. The larva is about a quarter of an inch long and an eighth of an inch wide with a yellow segmented body, a small black head, and six black legs. Insects rarely disgust us, but these do. They disguise themselves by covering their bodies with black frass (scientific word for insect poop). The larvae are voracious feeders and are causing severe defoliation. Defoliation weakens plants, making them more susceptible to attack by other pests and pathogens. Repeated defoliation may reduce plant growth and ultimately kill the plant. The adult stage is far less destructive, only chewing tiny holes in leaves.

Control: Severe infestations can be controlled with insecticides that are used for other leaf beetles. Refer to the CPM and HYG for specific chemical recommendations.

The following web site has good photos of the adult stage:

<http://www.cedarcreek.umn.edu/insects/album/024107145001ap.html>

Botryosphaeria canker

We are seeing branch wilting symptoms of Botryosphaeria canker, caused by the fungus *Botryosphaeria ribis*, on eastern redbud (*Cercis canadensis*). This common canker disease, which clearly needs a better common name, causes branch-wilting and dieback. Sunken areas with swollen ridges (cankers) form on infected bark. These cankers cut off sap flow (girdle branches) and cause leaves to turn yellow, brown, and then wilt. Branches die beyond the point of girdling. Botryosphaeria cankers are usually cracked, dry, discolored, and covered with small black fruiting bodies that can be seen with a hand lens.





The sapwood beneath a canker dies and is discolored brown.

The disease is also common on many other trees including apple, birch, dogwood, elm, hickory, horsechestnut, linden, oak, and sycamore. *Botryosphaeria* infects both healthy and stressed trees but the disease is more severe on plants stressed by drought, heat, freezing, defoliation, and planting outside native ranges.

Botryosphaeria and *Verticillium* both attack redbud and cause similar wilt symptoms from afar. To differentiate the two, peel back the bark of a wilted branch. Streaked sapwood is a symptom indicative of *Verticillium* wilt and not the canker. The canker disease will also have sunken cankers on the bark and the black fruiting bodies present.

Don't confuse this with cicada damage. Many redbuds have cicada damage this year. Cicada damage is only on branch tips, while both *verticillium* and *Botryosphaeria* kill whole branches.

Control: Prune infected branches during dry weather to keep spores from spreading. Prune at least 6 to 8 inches below affected tissue. To prevent the spread of the disease, clean pruning tools with 70% alcohol (or similar) between cuts. Remove diseased branches from the site since the fungus can persist and sporulate in dead plant material. Keep trees healthy by watering during drought periods and mulching properly. Avoid wounding the tree since the fungus can enter through tree wounds.

Mayapple rust

This disease probably infected the plants a few weeks ago, but we just noticed the rust on mayapple (*Podophyllum peltatum*), caused by the rust fungus *Puccinia podophylli*. Yellow orange spots form on the leaves, and the leaves eventually turn brown and die. This is an autoecious rust, which means it only needs one host to complete its life cycle (many rusts are heteroecious which means they need two unrelated hosts to complete their live cycle). Mayapples grow in clumps, so the disease spreads easily to nearby mayapple plants unless infected leaves are removed.

Control: Dig up and destroy infected plants as soon as the rust becomes visible.



Weed Note



Common lamb's-quarters (*Chenopodium album*)

Common lamb's-quarters is an annual weed with bluish-green to gray-colored alternate leaves. The weed can reach three to four feet high. Lower leaves are one to three inches long and usually irregularly toothed. The upper leaves have no petioles (leaf stalks), are frequently linear, and may not be toothed. The leaves usually have a white mealy coating on them, especially on the underside of the leaf. The green flowers are in dense clusters at the terminals and in the axils. The flowers have no petals and bloom from June through September. The flowers are wind-pollinated. A single plant can produce over 500,000 seeds that are viable for up to 40 years! This is how the plant is able to form large colonies.

Control: The weeds can easily be hand-pulled if the soil is moist. If the soil is dry, the plants can be sliced at the ground level or below. A post-emergent herbicide can also be used.

What to Look for Next Week

We will be looking for cypress twig galls and goldenrod rust.

Quote of the week: "If you have a garden and a library, you have everything you need." - Cicero



The Plant Health Care Report is prepared by Donna Danielson, Plant Clinic Assistant and edited by 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 quote of the week was provided by Rita Hassert, Technical Services Librarian Extraordinaire at the Sterling Morton Library. 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/>.

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 Donna Danielson at ddanielson@mortonarb.org.

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