

Plant Health Care Report

Scouting Report of The Morton Arboretum

August 26, 2011

Issue 2011.17

Our report includes up-to-date disease and insect pest and abiotic problem information 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. The Report is published bi-weekly on Friday in April and August, and weekly May-July. The last two issues will be published August 12 and 26.

Arboretum employees and volunteers will be scouting our grounds for insects and diseases throughout the season. Information about other pest and disease problems based on samples brought into the Arboretum's Plant Clinic from homeowners and professionals will also be included.

Over the course of this year the Plant Health Care Report (PHCR) will be undergoing some format changes, but will still be offering the same content. [If you prefer a PDF version of the PHCR, please click here to download and print.](#)

Accumulated Growing Degree Days (Base₅₀): 2251

Accumulated Growing Degree Days (Base₃₀): 5160

This week cardinal flower (*Lobelia cardinalis*) was found blooming in the east woods. The photo is courtesy of John Hagstrom.

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Weather update

As of August 26, 2011, we are at 2251 base-50 growing degree days (GDD₅₀), which is 318 GDD₅₀ (about 14 calendar days) behind 2010, and behind the historical average (1937-2010) by 233 GDD₅₀ (6 calendar days). August has received 3.86" of precipitation, which brings 2011 to 31.08" total. This is 5.99" less precipitation than 2010.

| | B₅₀ Growing Degree Days through August 26, 2011 | Precipitation (inches) thru August 25 |
|---------------------------|---|--|
| Aurora, IL* | 2400 | |
| Carbondale, IL* | 3517 | |
| Chicago Midway* | 2321 | |
| Chicago Botanic Gardens** | 2238 (8/24) | 1.44 (8/17-8/24) |
| Chicago O'hare** | 2366 (8/24) | 4.71 (8/3-8/24) |
| Crystal Lake, IL* | 2352 | |
| Harvard, IL* | 2252 | |
| Kankakee, IL* | 2629 | |
| The Morton Arboretum | 2251 | 3.33 (8/5-8/25) |
| Peoria, IL* | 2896 | |
| Quincy, IL* | 3077 | |
| Rockford, IL* | 2380 | |
| Springfield, IL* | 3068 | |
| Waukegan, IL* | 2126 | |
| Champaign, IL* | 2854 | |

**Thank you to Mike Brouillard, Northbrook Park District, and Chris Henning, Chicago Botanic Gardens, 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>

Pest Update: Insects

Spider mite on *Rhus chinensis*

Spider mites have been found causing a bronzing discoloration on the leaves of *Rhus chinensis* due to their feeding. Spider mites were covered earlier this year in issue 2011.14

(<http://www.mortonarb.org/component/content/article/97-plant-health-care-reports/22445-plant-health-care-report-july-22-2011-issue-201114.html>)

Cynipid wasp gall on white oak

Galls caused by Cynipid wasps have been found on white oak. Although somewhat unsightly, they do little damage to the trees. Cynipid wasp galls were written about in Issue 2011.12

(<http://www.mortonarb.org/component/content/article/97-plant-health-care-reports/22438-plant-health-care-report-july-8-2011-issue-201112.html>)



Oak bullet gall on white oak

Oak bullet galls, caused by the wasp *Disholcaspis quercusglobulus*, have been found on white oak (*Quercus alba*). The wasp is 2.1 – 3.2 mm (1/12 - 1/8 in) long, winged and is brown or black in color. They are rarely seen.

In the spring, the tiny adult female wasps chew out of last year's galls. The female wasps deposit their eggs on the midrib of oak leaves. When these eggs hatch, the larvae feed on leaf tissue, causing small blister-like galls to appear on the mid veins of the leaves. These larvae mature inside these galls, mate, and deposit their eggs on branches and twigs of their oak tree host. When these white, legless larvae feed, they inject plant growth-regulating chemicals, which react with the tissue in the tree to produce the abnormal plant tissue that comprises these galls. The gall provides the larvae with a nutritious source of food and protects them from parasites, predators and insecticides. Like all galls, the only damage is cosmetic.



Management: Chemical control for these wasps is not effective. An Iowa State Extension website says that one control method “developed for young host trees [is to] remove and destroy the larger galls (10 mm and larger) in September, but leave the smaller galls (9 mm or less) on the host twigs. The smaller galls will have natural enemies in them and these insects will then emerge the following spring to parasitize any new galls formed on this or nearby hosts.” For more information follow the link below.

Suggested reading: <http://www.extension.iastate.edu/newsrel/2004/may04/may0414.html>

Black walnut petiole gall

Galls caused by the mite *Eriophyes caulis* have been found on the petioles of black walnut (*Juglans nigra*). These galls appear brown to burgundy in color and are hard and velvety to the touch. They may cause some leaf dieback, but they're primarily an aesthetic problem.



Pest Update: Diseases

Lily of the valley anthracnose

Anthracnose (*Ascochyta majalis*) is a common disease on lily-of-the-valley (*Convallaria majalis*). On this plant, it causes circular to oval brown spots with purplish red margins. The spots are one-half inch in diameter or larger. Diseased tissue drops out and the foliage dies prematurely. It does not kill the plants but does weaken them. As a result of infection, there may be fewer flowers next year.

Management: Destroy diseased foliage in the fall and remove diseased plants when seen.



Suggested reading: <http://www.urbanext.uiuc.edu/hortanswers/detailProblem.cfm?PathogenID=154>

Powdery mildew on 'Ann' magnolia

A white fluffy layer of powdery mildew has been reported on 'Ann' magnolias. Since this powdery mildew has formed so late in the season, as it normally does after the trees have photosynthesized most of the summer, it's not considered a big problem.



Management: Fungicides with chlorothalonil+thiophanate-methyl, or propiconazole, as active ingredients are available for treatment by commercial applicators and home owners.

Powdery mildews were covered in Issue 2011.07

(<http://www.mortonarb.org/component/content/article/97-plant-health-care-reports/22372-plant-health-care-report-june-3-2011-issue-201107.html>)

Septoria leaf spot on hydrangea

Red-brown leaf spots have been found on oak leaf hydrangeas recently. The fungus that is causing this discoloration is a *Septoria* species, which has also been reported on tomatoes and catalpas previously in the Plant Health Care Report. For more information on Septoria leaf spots see Issue 2011.14

(<http://www.mortonarb.org/component/content/article/97-plant-health-care-reports/22445-plant-health-care-report-july-22-2011-issue-201114.html>)



Flower blighting on *Silphium*

Several *Silphium* species (*Silphium laciniatum*, *S. integrifolium*, *S. terebinthinaceum*, and *S. perfoliatum*) have been found at The Arboretum, and the surrounding cities, with flower head blighting. Symptom development does not appear to be species specific, but they all appear the same. The flower heads die and turn black and form a shepherd's crook before they bloom. If the flowers bloom, they do not blight. About one-inch below the base of the flower the stem is pinched and sometimes some white fungal growth (mycelium) is present.



From all of the samples the fungi *Mycosphaerella* and *Alternaria* were found. Typically, *Alternaria* is considered a saprophyte (grows on dead or dying material), and I would suspect that *Mycosphaerella* is the primary culprit (especially since *Mycosphaerella* also causes leaf spots on other plants, such as black walnut). But after reading the first report on *Alternaria alternata* causing blighting of compass plant in Poland

http://www.apsnet.org/publications/plantdisease/2004/September/Pages/88_9_1045.4.aspx I started second guessing. I contacted the University of Illinois Plant Clinic and they said they haven't seen these symptoms on *Silphium*.



Management: For either fungus sanitation would be the best way to prevent spread or infection for next year. Clip off all symptomatic tissue and rake up fallen debris and remove it from the site. The Volunteer Scout that brought this to my attention said that the blighting doesn't seem to affect the overall health of the plant, just a loss of the flowers.

2011 Disease and Insect Review

Every year has its ups and downs, and luckily I only have to write about the insects and diseases!

To start this year's review all I'm going to say is: Spruces! Spruces! Spruces! Holy mackerel did we see a lot of spruce problems. The only spruce pest whose populations were down were the spruce spider mites. We got dozens of calls about *Rhizosphaera* needle cast, *Stigmata*, tip blights, and *Cytospora* canker.

The Plant Clinic got plenty of calls on what to do for storm damaged trees (probably due to those pesky tornadoes we saw this summer). Hopefully all of that damage is cleaned up and the trees are on their way to healing over their wounds. If you were unfortunate enough to lose a tree during the storms remember, The Arboretum has spring and fall plant sales (check the main calendar for dates).

The spread of emerald ash borers has been on everyone's minds for the last few years. The beetles are found

throughout the Chicago-land area killing untreated native ash trees (white, green, blue and black ash). If you haven't had your ash trees treated, you may want to look into doing so if you want to increase the probability of keeping your trees. For more information: <http://www.mortonarb.org/yourimpact/your-impact-emerald-borer.html>

The diseases we saw more of this year include: measles on peony, root rots, maple anthracnose, filbert blight, black knot on cherry, peach leaf curl (but not as much as 2010), and chlorosis. Although anthracnose on maples was up from previous years, anthracnose on oak, ash, and sycamore were all down. Last year in June most of the sycamores had lost all their leaves and looked like plucked chickens before they leafed back out in July. This year we didn't see that extent of defoliation. We didn't hear about as many reports of Dutch elm disease or oak wilt either. The buckeyes and horse chestnuts don't seem to have *Guignardia* leaf blotch as bad as years past, even though symptoms showed up around the same time. There weren't very many reports of sooty mold either, but that's more related to insect populations.

Speaking of insects and their honeydew (sugar insect feces), cottony maple scale and magnolia scale populations seemed to have dropped significantly since last year. We also haven't seen many hedgehog galls, honeylocust and ash plant bugs, bagworms, or European elm flea weevils. Four-lined plant bugs were still a problem, but less than last year and years past. Slug sawfly populations were up, especially on roses. And there were several accounts of viburnum borers, too.

This year overall wasn't too bad. Based on historical averages we were behind on the degree days all year. The strange freeze-thaw weather we saw this winter and the abundance of rain we got this summer is probably to blame for some of the chlorosis, scorch, and root rots that we're seeing. This abundance of water also causes root damage, which results in canopy problems. Hopefully next year will even everything out.

An Ounce of Prevention in the Autumn **By Stephanie Adams**

Autumn clean-up is probably one of the easiest ways to make the next season in your garden a lot easier. People spend a good deal of money on chemicals to inhibit or manage disease during the growing season, while merely removing the infested tissue the year before can prevent needing chemical applications. Because many plant pathogens overwinter in dead infected branches, fruit and leaves, removing infected tissue also removes the inoculum for the next growing season.

One important thing to note when discarding the infected tissue is that putting it into a compost pile will not kill the pathogens, because most compost piles do not get hot enough to kill them. The best way to dispose of the debris is to remove it from the property by bagging it, taking it to a landfill or burning it, if possible. Composting the infected plant debris will only perpetuate the disease cycle and potentially make it worse.

In gardens, diseases such as powdery mildew (caused by various fungal species), bacterial rots and early leaf blight of tomato (*Alternaria solani*) can be reduced by removing the old dead leaves and stems during the growing season. Also, remove any tissue that looks like it was bored into by insects. Removing it may reduce your insect infestations. After vegetable gardens are killed by frost, do a complete clean up of the vegetable garden. Remember to remove weeds too, because they may also harbor insects and pathogens.

Tree diseases such as apple scab (*Venturia inaequalis*), rust (*Melampsora medusa*) on poplars (*Populus* spp.),

anthracnose (fungal pathogens are host specific) on several tree species (oak, maple, ash, sycamore and others), and tar spot (*Rhytisma* spp.) on maple (*Acer* spp.) are also managed by removing the infected leaves. For some tree diseases like fire blight (*Erwinia amylovora*) and black knot (*Apiosporina morbosa*, sym. *Dibotryon morbosum*) on cherry (*Prunus*), removing the infected branches and galls is the best management practice. When removing infested rose leaves for black spot (*Diplocarpon rosae*), be sure to remove infested canes as well.

When pruning out infected branches in woody plants, the cuts should be made 8-12 inches below the symptomatic tissue during dry and calm weather. Be sure to sanitize the pruning tools between cuts to ensure that the tools aren't spreading the pathogen. To sanitize tools, either dip them in a 5% bleach solution, spray them with isopropyl alcohol, or with Lysol disinfectant spray (70% alcohol). When pruning out the infected tissue, be sure to make proper pruning cuts. Do this by not leaving a stump and by keeping the branch collar intact. For more information on pruning and other tree care information visit the www.TreesAreGood.com website (<http://www.treesaregood.com/treecare/treecareinfo.aspx>).

To make the winter landscape a little more aesthetically pleasing, don't cut back grasses, hollies or other berry-bearing plants that may be food for birds, unless they have disease problems. Autumn is also a good time to mulch planting beds and trees. Applying 6-8 inches of hardwood mulch will reduce your need to water next year. Most evergreen species continue to transpire during the winter, which is the process where water is evaporated from aerial plant parts. Giving your trees a long slow watering before the ground freezes helps prevent unsightly scald symptoms in the spring. This kind of watering is easily achieved by using a soaker hose and allowing it to run for several hours until the soil is moist 12-16 inches below the surface.

Once the vegetable garden has been cleaned up go ahead and till it and then plant a cover crop, such as clover, legumes, and grains such as rye, oats or alfalfa. The cover crops benefit your garden by adding organic matter to the soil, and they shade out weeds in the spring. Using legumes ensures that nitrogen will be added to the soils, due to their relationships with nitrogen-fixing bacteria. This will reduce the need to use high nitrogen fertilizers the following year. Doing a soil test before selecting the cover crop is a good idea to ensure that the right mix of plants is used. Having the correct mix will benefit your soil the most.

Another important reminder is that the best time to prune oak (*Quercus* spp.) and elm (*Ulmus* spp.) trees is in the winter, between November and February. Open wounds on oaks and elms attract their respective beetles, which vector Oak Wilt (*Ceratocystis fagacearum*) and Dutch elm disease (*Ophiostoma ulmi*). Pruning these trees when the beetles are not active reduces the chances of your trees being infected.

When pruning trees be sure to keep safety in mind at all times. A hard hat and safety glasses should be worn when pruning over your head. If a chainsaw is being used, be sure to wear chainsaw pants or chainsaw chaps during operation too. Also, be aware of any people or animals that enter the area where pruning is taking place, and don't take on a job that's too big. If you are unsure of what needs to be done with your landscape trees, contact an ISA Certified Arborist for a consultation.

Most people have done at least some of these relatively simple maintenance tasks already, so adding a few more tasks to your autumn 'to do' list can make your time spent in your yard more relaxing and enjoyable in the summer. When you think of your yard and gardens, try to think more hammock and lemonade rather than weeding gloves and perspiration.

(first published August 2009)

Report Contributors:

Plant Health Care Report is a team effort. It could not have been written without a whole slew of people. Donna Danielson, Plant Clinic Assistant (and lifesaver and now retiree); Doris Taylor, Plant Information Specialist (and plant guru); Sharon Yiesla (new plant clinic recruit...mwhahahaha); and Dr. Fredric Miller, associate research entomologist at The Morton Arboretum and professor at Joliet Junior College; edited the report for content. Carol Belshaw, Plant Clinic volunteer, was the main editor for punctuation and grammar (my left and right Achilles heel). Michael Brouillard, Northbrook Park District, and Chris Henning, Chicago Botanic Garden, reported degree days, precipitation, and sightings in their locations weekly. David Marin, senior grower, dependably supplied us with weather data on our grounds.

Faithful scouts included people from Horticulture, Greenhouse, and Collections: Ron Picco, Sara Koert, Mark Hoover, Merrill McNicholas, Jaime Horn, Tiffani Howell, Mark Hochsprung, Todd Jacobson, Katrina Chipman, Donna Smith, Alan Cartwright, Sarah Perry, Kunso Kim, Patrick Kelsch, Phil Riske, Katrina Lewin, Emily Sommerville, Emma Sprau, and David Marin.

The following volunteers scouted for insects and diseases: Ann Klingele, LeeAnn Cospers, Jack Leider (thanks to Jack and Fritz for checking gypsy moth traps), Mary Carter Beary, Davida Kalina, Fritz Porter, Loraine Miranda, Bill Sheahan, and Stu Vogel. John Hagstrom, Plant Clinic Volunteer, was kind enough to let us use his beautiful photos, which can be found here: <http://www.flickr.com/photos/37738527@N06/>. I am dearly indebted to the scouting volunteers, because without them many of the insects and diseases that are reported would have never been found.

We are grateful that The Arboretum continues to fund the Plant Health Care program. We continue to be very thankful to Joy Morton, founder of The Morton Arboretum, for without his foresight, this wonderful institution would not exist. Thanks to all you readers. Your feedback is always welcome and greatly appreciated. And thank you for telling others about the PHCR (Pssst...spread the word)!

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Following is an index of the various subjects in this year's report. The number after each subject is the report number. For example, using the chart below, Anthracnose, oak 6 means that it was discussed in the PHC report 2010.06 or the newsletter dated May 15 - 21, 2010.

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