

Plant Health Care Report

Scouting Report of The Morton Arboretum



August 7, 2015

Issue 2015.10

Our report includes up-to-date disease and insect pest reports for northeastern Illinois. You'll also find a table of accumulated growing degree days (GDD) throughout Illinois, precipitation, and plant phenology indicators to help predict pest emergence. Arboretum staff and volunteers will be scouting for insects and diseases throughout the season. We will also be including information about other pest and disease problems based on samples brought into The Arboretum's Plant Clinic.

New this year: We are on an every other week schedule this year. Our focus will be on pests that are more serious. Should we encounter some new major pest, we will issue an alert. If this occurs during a week when we are not publishing the newsletter, our regular readers will receive a timely email alert, and the information will be published in the next scheduled newsletter. On weeks when we do not publish a full newsletter, we will still make growing degree day information available since many of our readers use this information. Readers who receive our email blasts will receive one weekly, either to announce that the newsletter is available or that the growing degree day information is available. To be added to the email list, please contact me at syiesla@mortonarb.org

Quick View

What indicator plant is in bloom at the Arboretum?

Panicked hydrangea (*Hydrangea paniculata*) is in bloom (figure 1)

Accumulated Growing Degree Days (Base 50): 1738 (as of August 6)

Accumulated Growing Degree Days (Base 30): 4394 (as of August 6)

Insects and insect relatives

- Zimmerman pine moth
- Woolly aphids
- Head-clipping weevils
- Milkweed bugs and beetles
- Yet more galls
- Good guys

Diseases

- Head blight of *Silphium*
- *Alternaria* blight of *Helianthus*



Figure 1 Panicked hydrangea (photo: John Hagstrom)

Degree Days and Weather Information

As of Aug 6, we have accumulated 1738 base-50 growing degree days (GDD). The historical average (1937-2013) for this date is 1845 GDD₅₀.

Location	B ₅₀ Growing Degree Days Through Aug 6, 2015	Precipitation (in) July 31-Aug 6, 2015
Carbondale, IL*	2759	
Champaign, IL*	2320	
Chicago Botanic Garden**	1616	1.17ö (7/30-8/6)
Chicago O'Hare*	2012	
Kankakee, IL*	2018	
The Morton Arboretum	1738	.89ö
Northbrook, IL**	1655.5	.53 (7/29-8/4)
Quincy, IL*	2444	
Rockford, IL*	1719	
Springfield, IL*	2426	
Waukegan, IL*	1674	

**Thank you to Mike Brouillard, Northbrook Park District and Chris Beiser, 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/>

How serious is it?

This year, articles will continue to be marked to indicate the severity of the problem. Problems that can definitely compromise the health of the plant will be marked “serious”. Problems that have the potential to be serious and which may warrant chemical control measures will be marked “potentially serious”. Problems that are seldom serious enough for pesticide treatment will be marked “minor”. Articles that discuss a problem that is seen now, but would be treated with a pesticide at a later date, will be marked “treat later”. Since we will cover weeds from time to time, we’ll make some categories for them as well. “Aggressive” will be used for weeds that spread quickly and become a problem and “dangerous” for weeds that might pose a risk to humans.

Pest Updates: Insects and insect relatives

Zimmerman pine moth (serious)

The Morton Arboretum Plant Clinic has been receiving calls regarding Zimmerman pine moth (*Dioryctria zimmermani*). Larvae damage trees by tunneling just beneath the bark of the trunk and branches. The tunnels can girdle and weaken the trunk or branches so they are easily broken by wind or snow. Heavily infested trees are often deformed and are sometimes killed. Common hosts include Austrian, Scots, and ponderosa pines.

Larvae overwinter in cocoon-like structures under bark scales. They become active in the spring and tunnel into the bark and sometimes the terminals. In late spring, they migrate to the base of branches, tunneling into the whorl area where pitch masses exude from the wound site (Fig. 2). The larvae continue to feed, pupate within the pitch mass, and emerge as adults in August. After mating, female moths lay eggs, often near wounds or previous pitch masses. Eggs hatch in about a week and the larvae feed for only a brief time before preparing to overwinter.



Figure 2 Pitch flow due to Zimmerman pine moth

Management: Damaged wood should be pruned out as soon as dieback and pitch masses are seen. Larvae can be controlled by spraying bark and foliage with insecticides in mid-August; GDD 1900-2150 (this GDD derived from several universities, not “Coincide”). Trees can also be treated in spring when saucer magnolia is in pink bud to early bloom (100-200 GDD).

Good website: <http://www.mortonarb.org/trees-plants/plant-clinic/help-pests/pine-moths>

Woolly aphids (minor)

We are getting reports of woolly aphids on various trees this summer. Our scouts have found them feeding on European Beech, and Plant Clinic has received a report of them on hawthorn recently. Woolly aphids are common on many species including elm, silver maple, ash, alder, apple, pear, hawthorn, and serviceberry. These insects are similar to regular aphids, but they cover themselves with white, waxy filaments, giving them a fluffy look (Fig. 3). Like aphids, they are sap feeding insects. They feed on the sap of plants and excrete a sticky substance called honeydew.



Figure 3 Woolly aphids

Feeding by these insects can lead to distorted or curled leaves.

Management: Generally the damage is minor, and large populations of the insect don't occur every year. Beneficial insects often attack and help keep woolly aphid in check. Management with pesticides is seldom needed since the health of the tree is generally not compromised. Treatment may be warranted in cases where honeydew becomes an annoyance.

Good website: <http://www.extension.umn.edu/garden/insects/find/woolly-aphids-on-trees-and-shrubs/>

Head-clipping weevils (minor)

Where have all the flowers gone? If you are noticing flowers missing from some of your perennials, you may have the head-clipping weevil (*Haplorhynchites aeneus*) in your yard. Last year we scouted out on The Morton Arboretum's Schulenberg Prairie and found several members of the Aster family (*Helianthus*, *Silphium* and *Ratibida*) with their heads clipped. This year we are noticing the same thing happening to *Helianthus* around Meadow Lake.

The adult is a dark-colored weevil (a beetle with a snout). The insect is about ¼ inch long, and the snout is long and curved. The female uses her mouthparts, located at the end of the snout, to cut the flower stalk about 1 inch to 1 ½ inches below the flower head. The flower stalk is not cut all the way through, so the flower head dangles on a thin piece of stem tissue (Fig. 4). The dangling flower head is used by the adults for mating and egg-laying.

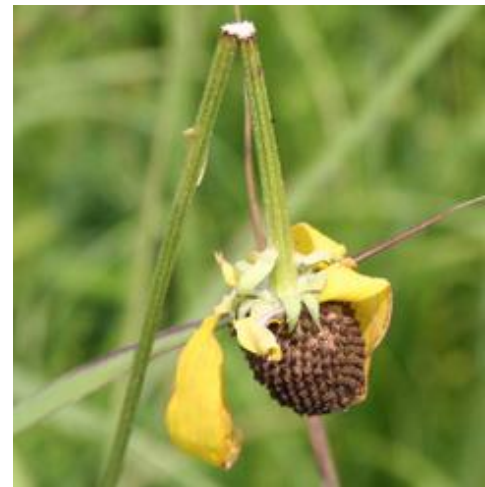


Figure 4 Flower damaged by head-clipping weevil

Once the flower head finally breaks off and falls to the ground, the larvae hatch and use the flower head for food. Mature larvae will move into the soil to overwinter, with pupation occurring in late spring.

Management: Good sanitation is the key in managing this pest. Timely removal of hanging flower heads and recently fallen flower heads will reduce the population for next year.

Good websites:

<http://bygl.osu.edu/content/sunflower-head-clipping-weevils-0>

<http://entomology.k-state.edu/extension/insect-information/crop-pests/sunflowers/sunflower-headclipping-weevil.html>

Milkweed bugs and beetles (minor)

With so many gardeners growing milkweed in their yards, we are going to see these two insects on a regular basis in late summer. Red milkweed beetles (*Tetraopes tetraophthalmus*) are 1/2 to 3/4 inch long and red with black spots and long black antennae (Fig 5). Adults feed on milkweed leaves; while in the larval stage they bore into and feed on milkweed stems and roots. Milkweed bugs also attack milkweed. There are two species of milkweed bug, the large milkweed bug (*Oncopeltus fasciatus*) and the small milkweed bug (*Lygaeus kalmia*). These two insects look very much alike, both sporting bright orange-red and black colors (Fig. 6). Young bugs (nymphs) also have these colors, but lack fully developed wings. Both the adults and the nymphs will feed on the milkweed seeds, and it is not uncommon to see groups of them huddled together on the milkweed fruits. These insects are often mistaken for boxelder bugs which are similar in color.

Management: None usually needed as very little damage is done.

Good websites:

<http://bugguide.net/node/view/504>

<http://insected.arizona.edu/milkinfo.htm>

Yet more galls (minor)

Galls continue to be abundant this year. We have three new contestants this week. We have found two galls growing on pin oak (*Quercus palustris*), vein pocket gall and oak apple gall. Vein pocket galls are hard, light green-colored elongate swellings that occur along mid- and lateral leaf veins of pin oaks (Fig. 7). Feeding by the larval (maggot) stages of very small flies called midges causes the galls to form. Oak apple galls are caused by cynipid wasps. When fully developed, the galls are globe shaped and 1-2 inches in diameter. They are filled with a spongy mass, and are usually found on the midribs of leaves. The adult cynipid wasp lays eggs in developing leaves which causes adjacent plant cells to grow and engulf the egg, thereby providing it with food and shelter.



Figure 5 Milkweed beetle



Figure 6 Milkweed bug



Figure 7 Vein pocket gall

Our third gall is now showing up on goldenrod (*Solidago* species). The goldenrod gall fly (*Eurosta solidaginis*) makes those interesting ball shapes in the goldenrod stem (Fig. 8). The gall maker lives inside that round gall and will pupate there in spring.



Figure 8 Goldenrod fly gall (photo: Vassar College)

The good guys

Every once in a while it pays to stop and think for a minute. It is human nature to see an insect and want to get rid of it. We should rethink that. There are a lot of insects that are harmless. More importantly there are some that help us. Our scouts have brought in samples of two of these helpers recently, an assassin bug and a soldier beetle (Fig.9). Both of these insects feed on other insects. Sometimes they do wander into our homes and become a nuisance, but when they are outside, they are beneficial to the gardener.



Figure 9 Soldier beetle

Recently a sample came into the Plant Clinic. At first glance it appeared to be covered with scale insects. A closer examination revealed a neat hole in each scale. The insects had been parasitized by a beneficial insect. No need to treat the problem since nature had already taken care of it.

The bottom line is to take a minute to think before you squash or spray an insect. Sometimes they are the good guys.

Pest Updates: Diseases

Head blight of *Silphium* (minor)

Head blight (Fig. 10) has been found on Compass plant (*Silphium laciniatum*) at The Arboretum. The flower heads die and turn black and form a shepherd's crook before they bloom. If the flowers open, they do not blight. About one-inch below the base of the flower the stem is pinched and sometimes white fungal growth (mycelium) is present. This disease can affect other species of *Silphium* (rosinweed, prairie dock and cup plant).



Figure 10 Head blight of *Silphium*

Management: Sanitation is the best way to prevent spread or infection for next year. Clip off all affected tissue and rake up fallen debris and remove it from the site. The blight doesn't seem to affect the overall health of the plant. It just causes a loss of the flowers.

***Alternaria* blight of *Helianthus* (minor to potentially serious)**

Blight, caused by the fungus *Alternaria*, is hitting the sunflowers (*Helianthus* species). Leaves can develop small brown spots (Fig. 11) that enlarge and coalesce. Flowers may be affected as well. Flower production may be reduced or flowers may not open. Flowers that do open are often spotted as well. In a heavy infection, the plant may die. This is generally not a serious problem in gardens, but with the consistent rains this year, heavy infection is more likely. *Alternaria* can be a serious issue where *Helianthus* is grown as a crop.



Figure 11 *Alternaria* leaf spot (Photo: University of Nebraska)

Management: Good sanitation is important. Remove all infected plant parts or entire plants if the infection is severe.



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The Plant Health Care Report is prepared by Sharon Yiesla, M.S., Plant Clinic Assistant and edited by Stephanie Adams, M.S. Research Specialist in Plant Health Care; Fredric Miller, Ph.D., Research Entomologist at The Morton Arboretum and Professor at Joliet Junior College; Doris Taylor, Plant Information Specialist, and Carol Belshaw, Arboretum 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.

Thank you...I would like to thank the volunteers who will be scouting for us this season. They find most of the insects and diseases reported here. The Scouting Volunteers include: LeeAnn Cospers, Paul Duke, Deborah Finch-Murphy, Anne Finn, Ann Klingele, Loraine Miranda, and Bill Sheahan. Your hard work is appreciated. Thanks also to Donna Danielson who also provides scouting information to us.

Literature/website recommendations:

Indicator plants are chosen because of work done by Donald A. Orton, which is published in the book

Coincide, The Orton System of Pest and Disease Management. This book may be purchased through the publisher at: <http://www.laborofloveconservatory.com/>

Additional information on growing degree days can be found at:

http://www.ipm.msu.edu/agriculture/christmas_trees/gdd_of_landscape_insects

http://extension.unh.edu/resources/files/Resource000986_Rep2328.pdf

The Commercial Landscape & Turfgrass Pest Management Handbook (CPM), for commercial applicators, and Pest Management for the Home Landscape (HYG) for homeowners from the University of Illinois, are available by calling (800-345-6087).

This report is available as a PDF at The Morton Arboretum website at

<http://www.mortonarb.org/visit-explore/news-events/arboretum-news?tid=259>

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 PHCR should be directed to Sharon Yiesla at syiesla@mortonarb.org .

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