

Plant Health Care Report

Scouting Report of The Morton Arboretum



THE
CHAMPION
of TREES

July 26, 2024

Issue 2024.9

For comments regarding PHCR, or to subscribe to email alerts regarding posting of new issues, contact me at syiesla@mortonarb.org.

Our report includes up-to-date disease and insect pest reports for northeastern Illinois. For plant questions, contact the plant clinic via email at plantclinic@mortonarb.org or by phone at 630-719-2424 (Mon thru Fri, 10 am to 4pm). Please do not send your questions directly to me.

Quick View

What indicator plant is in bloom?

Queen Anne's lace (*Daucus carota*) is in flower (fig. 1)

Accumulated Growing Degree Days (Base 50) at The Morton Arboretum: 1780 (as of July 25). (GDD updated 9/23/24)

Insects/other pests

- Magnolia scale update
- Zimmerman pine moth
- Head-clipping weevil
- Galls, galls, galls

Diseases

- Septoria on dogwood
- Guignardia on Aesculus

Miscellaneous

- Aster yellows or mites?
- Remontant flowering



Figure 1 Queen Anne's lace

Soil temperatures around Illinois (from Illinois State Water Survey)

This information will be provided all season. For data from other reporting stations, go to <https://warm.isws.illinois.edu/warm/soil/> (you will need to set up an account to access data.)

Max. Soil temps For 7/25/2024*	St. Charles reporting station (north)	Champaign reporting station (central)	Carbondale reporting station (south)
2-inch, bare soil	75.5	96.2	98.9
4-inch, bare soil	74.4	89.3	91.8
4-inch, under sod	77.1	84.5	84.7
8-inch, under sod	74.6	79.5	80.8

* This is the maximum soil temperature recorded the day prior to publication of PHCR.

Seasonal precipitation

Seasonal precipitation (rain and melted snow) in inches.			
2024 data updated on 9/20/2024	2024	2023	Historical average (1937-2023)
Jan	3.9	2.85	1.95
Feb	.56	4.88	1.81
Mar	2.64	2.29	2.53
April	4.44	2.23	3.65
May	3.73	.79	4.17
June	5.29	1.23	4.16
July	4.57 (thru 7/25)	8.92 (whole month)	3.95 (whole month)
Aug			
Sept			
Year to date	25.69 (thru 7/25)	23.19 (thru July)	22.22 (thru July)

Degree Days (current and compared to past years) and rainfall

As of July 25, we have 1780 base-50 growing degree days (GDD) at The Morton Arboretum. The historical average (1937-2023) for this date is 1571 GDD₅₀. The table below shows a comparison of GDD in different years. We are comparing the GDD₅₀ reported in this issue with the GDD reported last year, and in 2019 and 2018. These years were selected since publication dates of the issue were within a day or two of each other. Glencoe, and Waukegan (60085) were not used in 2018, so there is 'no report' from those stations.

Location	GDD as of 7/25/2024	GDD as of 7/27/2023	GDD as of 7/25/2019	GDD as of 7/26/2018
Carbondale, IL*	2663	2397	2331	2543
Champaign, IL*	2171	1996	1984	2216
Chicago Botanic Garden**	1710	No report	No report	1546.5
Glencoe*	1361	1107	1053	No report
Chicago O'Hare*	2036	1815	1638	1861
Kankakee, IL*	1953	1759	1742	1982
Lisle, IL*	2059	1839	1684	1901
The Morton Arboretum	1780***	1543.5	1512.5	1801.5
Quincy, IL*	2314	2142	2050	2420
Rockford, IL*	1829	1673	1541	1756
Springfield, IL*	2294	2042	2040	2347
Waukegan, IL* (60087)	1719	1567	1342	1520
Waukegan, IL* (60085)	1839	1661	1429	No report

*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 <https://gddtracker.msu.edu/>

**Thank you to Elizabeth Cullison, Chicago Botanic Garden, for supplying us with this information.

***Data updated 9/23/24

How serious is it?

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". "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

Magnolia scale update

We usually expect magnolia scale crawlers to begin coming out in mid-to late August. This year it looks like it could be the end of July into very early August, according to the [USA National Phenology Network forecast](#). When the crawlers are out in number, it can be very effective to manage them with insecticidal soap or horticultural oil. Both of these products must come in direct contact with the crawlers to kill them. Check the label of either product for information on reapplying the product as more crawlers emerge. Knocking down the new population this fall helps to minimize damage for next season. Adult magnolia scale will die of old age, but will remain on the tree for some time.

Zimmerman pine moth (serious)

It is also time to start thinking about Zimmerman pine moth (*Dioryctria zimmermani*). Mid-August is the time we usually treat for this pest, but the GDD are moving along briskly and we may want to be prepared early this year. 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.



Figure 2 Pitch masses caused by Zimmerman pine moth larvae

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 (fig. 2) exude from the wound site. 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.

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 around GDD 1900-2150 (this GDD derived from several universities, not “Coincide”). Michigan State indicates that adult flight may occur as early as 1700 GDD.

Head-clipping weevils (minor)

While you are out in your favorite native area, look for head-clipping weevils (*Haplorhynchites aeneus*) to be out soon. They are often found cutting the flower heads off of *Silphium* species (cup plant, rosinweed, compass plant and prairie dock). But this pest is not limited to species of *Silphium*. In past years, we have seen them on other members of the Aster family, including *Echinacea* (coneflowers) and *Helianthus* (sunflowers). A couple of years ago, our scouts captured an adult insect! So now we have a decent picture of this pest (fig. 3). 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 3 Adult 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. While the insect does not do much long-term damage to the plant, it will spoil your enjoyment of the flowers.

Good websites: <https://bygl.osu.edu/node/1087>
<http://entomology.k-state.edu/extension/insect-information/crop-pests/sunflowers/sunflower-headclipping-weevil.html>

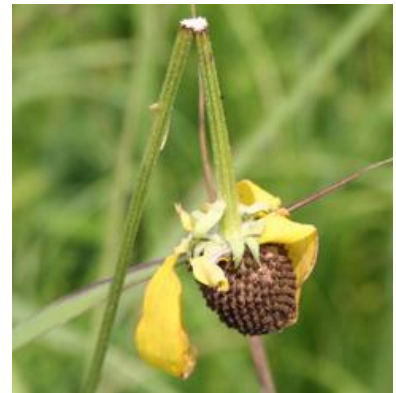


Figure 4 Flower clipped by head-clipping weevil

Galls, galls, galls (minor)

The parade of galls continues. We are still seeing some of our old favorites. We are featuring a nice selection of them for you this week. We write about these just so you know what you are looking at. Most galls are very minor and we don't need to treat for them.

Our native buttonbush (*Cephalanthus occidentalis*) is showing a weird gall that we have seen in previous years. Buttonbush galls, caused by a mite, are small, bumpy galls (fig 5). They sometimes show up in large numbers, giving the whole shrub an unattractive look, but doing very little real damage.



Figure 5 Buttonbush gall

We are seeing another type of mite-caused galls on fragrant sumac (*Rhus aromatica* 'Gro-low'). These are caused by eriophyid mites and look like small round bumps (fig. 6) in the leaves. Sometimes the population is heavy and makes the plant look odd, but they do not do any long-term harm to the shrub.



Figure 6 Galls on sumac

We also received a photo of erineum gall on maple. Erineum galls look like velvety patches, often red (fig. 7) or white, and are caused by eriophyid mites. On birch and maple, they are usually a very pretty rosy red. The galls are found on the underside of the leaves, while the upper surfaces show slight disfiguring due to feeding damage. Erineum galls are found on several plant species including maples, beech, and birch, even though the mites are host specific.



Figure 7 Erineum gall

Pest Updates: Diseases

Septoria leaf spot on dogwood (minor)

Every year, about this time, *Septoria* leaf spot shows up on dogwood. This is not a major problem, but since dogwoods are so commonly planted, the disease often gives gardeners some concern. The spots are present only on leaves. They have purple brown margins with pale centers (fig. 8), about 1/8 of an inch in diameter, and limited by veins. The spots get larger and more numerous as the growing season progresses, but the disease is actually of little consequence to the plant.



Figure 8 Septoria leaf spot

Management: Sanitary measures, such as collecting and discarding infected leaves as soon as they become apparent, should help reduce spread to new leaves and plants

***Guignardia* on buckeye (minor)**

We recently wrote about *Guignardia* on Boston ivy (caused by *Guignardia bidwellii*). Now we are seeing *Guignardia* leaf blotch (*Guignardia aesculi*) on buckeye. The disease causes reddish brown to brown lesions with a yellow border that blends into the normal green leaf tissue (fig. 9). The blotches will enlarge, coalesce, and may cover the entire leaf by the end of summer. Premature defoliation may follow on the most susceptible hosts. This disease eventually decreases a tree's ability to photosynthesize, but generally the disease doesn't become severe until the tree's annual growth has slowed or is complete.



Figure 9 *Guignardia* symptoms on buckeye

Therefore, it does not do much harm to trees in the landscape, but it does make them unsightly.

Management: Removing fallen leaves may help to destroy the overwintering inoculum. Pruning trees to improve air flow may also help, since the spores are spread and germinate under moist to wet conditions. It is too late for any fungicide treatments.

Good website: <https://extension.umaine.edu/ipm/ipddl/publications/5094e/>

Miscellaneous

Aster yellows (or eriophyid mites?) (Potentially serious)

Do your coneflowers suddenly seem deformed into weird shapes? It may be aster yellows. This disease was once thought to be caused by a virus, but the causal organism has been reclassified as a phytoplasma. It can affect a wide range of flowers and vegetables, around 300 species. It is common in members of the aster (daisy) family, like marigolds, zinnias and mums. We mostly see it on purple coneflower (*Echinacea purpurea*).



Figure 10 Aster yellow (Photo: Heather Prince)

Aster yellows causes strange, deformed growth of the flowers, foliage, and sometimes roots (seen in carrots). Purple coneflowers show floral deformities: stunted and/or green petals, completely deformed flowers poking out of the damaged originals (fig. 10). The

disease organism is transmitted by leafhoppers, which are sap feeding insects. They spread the organism when they feed on the host.

There is also an eriophyid mite that can cause similar symptoms (fig. 11). Do we care about the cause of the damage? Yes. If it is aster yellows, you may have to dig up the plant and destroy it. If you can find the mites in the flower, then removing infested flowers or cutting the plant down to the ground in the fall and getting rid of the debris may be all that is needed.



Figure 11 Eriophyid mite damage (photo: Dr. Stephanie Adams)

So how can we tell who is who? [Ohio State](#) reports that when aster yellows is the culprit, the distorted flower parts tend to be green in color, but when mites are involved, the distorted flower parts maintain their normal color. Mites will affect only the flowers while aster yellows can affect other parts of the plant.

Management: There is no cure or treatment for aster yellows. Infected plants should be removed from the garden to prevent spread to other plants by the leafhoppers. Do not compost the plants. Manage the mites by removing infested flowers. Cut down and remove plants in the fall.

Remontant flowering

Now for something pretty. This time of year, you may notice some of the magnolia trees putting out a few flowers. Since magnolias are spring-flowering trees, what's going on? Actually, it is not unusual for magnolias to do this (fig. 12). Sometimes a few flowers on magnolias get tricked into blooming at the wrong time (we call this remontant flowering). Some magnolias do it every year. Since only a few flowers on each tree are blooming, the remaining flower buds will remain dormant and should bloom at the normal time next spring. While this can be common with certain magnolias, other trees and shrubs also do it from time to time. With our strange weather, we may see it more often than we have in the past.

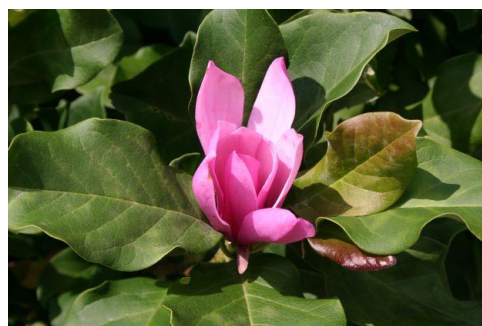


Figure 12 'Ann' magnolia flowering in August



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The Plant Health Care Report is prepared by Sharon Yiesla, M.S., Plant Knowledge Specialist and edited by Stephanie Adams, Ph.D., Plant Health Care Leader; Fredric Miller, Ph.D., Research Entomologist at The Morton Arboretum; and Juluia Lamb, 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 all the staff and volunteers that report disease and pest problems when they find them. Your hard work is appreciated. Our volunteer scouts for 2024 are Deb Link, Maureen Livingston, Loraine Miranda, Molly Neustadt and Moira Silverman.

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.

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

This report is available as a PDF at The Morton Arboretum website at <https://mortonarb.org/about-arboretum/plant-health-care-report/>

For pest and disease questions, please contact the Plant Clinic. You can contact the Plant Clinic via email at plantclinic@mortonarb.org . Emails will be answered during business hours Monday through Friday.

You can call the Plant Clinic (630-719-2424) or visit in person, Monday thru Friday 10 am to 4 pm.

Inquiries or comments about the PHCR should be directed to Sharon Yiesla at syiesla@mortonarb.org .

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2024 Plant Health Care Report Index



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, Cicadas..... 1 means that it was discussed in the PHCR 2024.01 or the newsletter dated April 5, 2024. The index is updated with the publication of each full issue and is included at the end of each full issue.

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