

Plant Health Care Report

Scouting Report of The Morton Arboretum

Aug 7, 2020

Issue 2020.10

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. Due to the current COVID-19 situation, we will not be scouting on the Arboretum grounds at this time. We will be including information about pest and disease problems based on questions emailed to The Arboretum's Plant Clinic. We are working remotely, but still able to answer questions via email at plantclinic@mortonarb.org

The newsletter season is almost over. This is the next to last full issue. There will be a growing degree day issue on Aug. 14, and the last full issue will come out on Aug. 21.

To be added to the email list, please contact me at syiesla@mortonarb.org. Comments or concerns regarding PHCR should be sent to the same email.

Quick View

What indicator plant is in bloom in DuPage County?

Rose of Sharon (*Hibiscus syriacus*) is in flower (Figure 1)

Accumulated Growing Degree Days (Base 50): 1966.5 (as of Aug 6)

Accumulated Growing Degree Days (Base 30): 4756.5 (as of Aug 6)

Insects/other pests

- Bagworm
- Mimosa webworm
- More unusual finds
- Galls, chapter 5

Diseases

- Lawn rust update
- Leaf spots on everything

Weeds

- Weeds, or not?



Figure 1 Rose of Sharon (photo: John Hagstrom)

Thank you!

Writing the Plant Health Care Report has been more challenging this year without the regular scouts in the field. As I have mentioned previously, I can glean information from the Plant Clinic email, the scouts looking around their own neighborhoods and observations I can make while driving around the area. I am also receiving help from our Plant Clinic volunteers. They live in many different communities (and counties) in the Chicago region and they are very observant. I put out the call to them to tell me what they are seeing. The response is great and has allowed me to write a fuller and more in-depth newsletter than I thought I would. Never doubt the power of a group of volunteers. Thanks to them for helping and thanks to you for reading.

Degree Days and Weather Information

We are once again offering Lisle readings right above the Arboretum readings. The spread between these two sites shows that temperatures can vary over a short distance, which means growing degree days can be quite variable as well.

As of Aug 6, we have 1966.5 base-50 growing degree days (GDD). The historical average (1937-2019) for this date is 1860 GDD₅₀. Since January 1, we have had 27.57 inches of precipitation. Historical average (1937-2019) for precipitation Jan-Aug is 29.7 inches.

Location	B ₅₀ Growing Degree Days Through Aug 6, 2020
Carbondale, IL*	2541
Champaign, IL*	2151
Glencoe*	1539
Chicago Botanic Garden**	1947
Chicago O'Hare*	2013
Kankakee, IL*	2003
Lisle, IL*	2054
The Morton Arboretum	1966.5
Quincy, IL*	2266
Rockford, IL*	1894
Springfield, IL*	2220
Waukegan, IL* (60087)	1763
Waukegan, IL* (60085)	1834

*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/>

**Thank you to Chris Henning, Chicago Botanic Garden, for supplying us with this information.

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

Bagworm (potentially serious)

We have been receiving scattered reports of bagworm (*Thyridopteryx ephemeraeformis*) recently, but not with any regularity. Bagworms overwinter as eggs inside the female bag. The bag can contain between 300 and 1,000 eggs. The eggs hatch in early summer, and the young larvae suspend from a silk string and are often “ballooned” by wind to nearby plants. When a suitable host plant is found, larvae begin to form bags over their bodies. They move to a sturdy branch, attach the bag (fig. 2) with a strong band of silk, and then pupate. By mid-August the larvae have matured and are 1 to 1-1/2 inches in length, and their completed bags are 1-1/2 to 2-1/2 inches long. About four weeks later, adults emerge and mating occurs. The sedentary female, which has no eyes, wings, legs, antennae, or functional mouthparts, lays eggs and is then mummified around the egg mass within the bag.



Figure 2 Bagworm bag hanging on stem

The tiny cone-shaped brownish bags are constructed from silk and camouflaged with bits of twigs and foliage from the host plant. Larvae stick their heads and front legs out of the top of the bags to feed and move (fig. 3). The feeding by young larvae results in holes in the foliage of deciduous plants and loss of needles on evergreens. As the larvae grow, they enlarge their bags and feed on the entire leaf, leaving only veins. Bagworm populations can build rapidly and quickly defoliate their hosts. Healthy deciduous trees can usually tolerate consecutive years of severe defoliation before they are killed. Evergreen trees, on the other hand, can be killed by just one year of



Figure 3 Bagworm caterpillar peeking out of bag

severe defoliation. Bagworm larvae feed on over 120 species of trees and shrubs. Their bags are made of the foliage they're feeding on, so a bagworm feeding on pine will have pine needles in its bag, while a bagworm feeding on a crabapple will have pieces of crabapple leaves decorating its bag.

In 2018, the Forest Health lab at the Arboretum's Center for Tree Science studied bagworm eggs' ability to survive cold temperatures. However, the research project was derailed by the 2018 Polar Vortex, which killed all bagworm eggs still in the field! While the research did not go as planned, it was found that several days of very cold temperatures can have a significant impact on bagworm survival, and reduced bagworm populations that following summer. Interestingly, of the bagworms collected before the Polar Vortex, those using bald cypress and hackberry as hosts had higher survival rates than those using crabapple, honey locust, maple, or oak (although future research is needed to confirm this).

Management: It is too late in the season to consider using insecticides. Handpicking bags from now until early spring will help control populations for next year. If they can't hatch, they can't feed, so this is more effective than people think.

Good websites:

<http://www.mortonarb.org/trees-plants/tree-and-plant-advice/help-pests/bagworms>

<http://ento.psu.edu/extension/factsheets/bagworm>

Mimosa webworm (minor)

Thanks to arborist Chris Mest for bringing this to our attention. This is not a pest that we commonly see in northern Illinois, but Chris spotted it in northern Cook County. We don't grow mimosa here, but this insect also likes Honeylocust (*Gleditsia triacanthos*), and apparently the cultivar 'Sunburst' is a big crowd pleaser for this uncommon pest. We may be seeing mimosa webworm this year since our winter was a bit on the mild side.



Figure 4 Webbing and dead leaves caused by mimosa webworm (Photo: Chris Mest)

Mimosa webworm (*Homadaula anisocentra*) adults are silvery-white to gray moths with black spots (sort of like dalmatians with wing). The adults emerge from late spring into early summer and mate and lay eggs. Further south in Illinois, there are two generations per year, but we can't verify that we had two here. The first generation is usually a smaller one and the damage may go unnoticed, scattered among the

branches of a large tree. The first- generation caterpillars will web together only 2 to 3 leaflets and feed on those leaflets inside the web. They will pupate in the web and, when the moths emerge and mate, they will use the webbing as a place to lay the eggs of the second generation.

The second generation is larger and will web together more leaflets (fig. 4), so the problem is much more obvious, with the webbing being more noticeable, especially when the leaflets inside turn brown (fig. 5). Also, the webbing is filled with frass (insect excrement). When the second generation is ready to pupate, they will do so under loose bark or on nearby buildings, under siding and around windows. Since we are seeing mimosa webworm this year, it might be a good idea to note trees with the webbed leaves and be watching for them in the same area next year.



Figure 5 Mimosa webworm damage
(Photo: Chris Mest)

Management: This is an occasional pest and at this point, not a highly damaging one in our area, so management is not needed at this point. This will be a pest to watch for the future, especially when we have milder winters.

More Unusual Finds

Usually at this time of year, most of the insects have been out and done their damage and we often find less and less to report. So, the mimosa webworm was a bit of a surprise and I thought, well I guess one new late-comer is okay. Then I went into my own yard and found weird things going on there as well.

Looking at the leaves of my tuliptree (*Liriodendron tulipifera*), I found intricate trails had been tunneled in the leaves. This appears to be damage from the aptly named tuliptree leafminer (*Phyllocnistis liriodendronella*). The larva of this little moth mines into the leaf and his trail is marked by a central red to brown line down the middle of it (fig.6). The damage appears to be minor and my tree is no worse for wear. The odd thing is that according to various internet sources, this is another insect that is not common in our area. The website



Figure 6 Mines caused by tuliptree leafminer

www.butterfliesandmoths.org does record a confirmed [observation](#) of this insect in northwestern Indiana last year. Also, the website inatualist.ca indicates a possible sighting this summer, in Erin, WI which is north of Milwaukee.



Figure 7 Tiny beetle attacking hibiscus buds

I also discovered a tiny, black beetle (fig.7) feeding on the flower buds of my perennial hibiscus (*Hibiscus* 'Midnight Marvel'). So far, I have not been able to identify them and they don't match up with pests common on hibiscus. The damage they are doing is fairly minor. Their feeding is causing brown areas on the outside of the flower sepals, but does not seem to damage the petals or open flowers. The plant continues to flower well. If I can get this little guy identified, I will give you an update.

Galls, chapter 5 (minor)

This is going to be a short chapter, as we have not had many gall reports recently. One of our Plant Clinic volunteers reports that cypress twig gall is now out on bald-cypress (*Taxodium distichum*). Cypress twig gall is also caused by a midge (*Taxodiomyia* species). These white, oval galls form along the ends of branchlets (fig. 8). The galls will fall off the tree with the deciduous branchlets in autumn.



Figure 8 Cypress twig gall

Good website: Here is a great website for a picture sheet featuring many common galls:

https://fieldguides.fieldmuseum.org/sites/default/files/rapid-color-guides-pdfs/1170_usa_common_galls_of_the_chicago_region_0.pdf

Pest Updates: Disease

Lawn rust update (minor)

In the last full issue, I wrote an article about rust on lawns even though we had not seen it. The time of year and the weather had both been right for this fungal problem to be out there. Since

I wrote that article two of the Plant Clinic volunteers have emailed me to say that they have orange shoes! So, the rust is showing up. Refer to [issue 9](#) for the full article.

Leaf spots on everything (minor)

We had a WET spring. Fungi love water. If you look around the landscape, it seems like every tree, shrub and flowering plant has some sort of fungal leaf spot. That tends to happen when we have a rainy spring. This year, the rain came at a very inopportune time, just as the new leaves were opening on many plants. Many leaf infections occurred during that rainy spell. The symptoms take a little time to develop. Luckily, the majority of leaf spots are minor, doing little to no harm to the host plant. Leaf spots that lead to defoliation of the plant, especially early in the season, are of concern because they limit the plant's ability to make food (leaves are the food factories of the plant). Most leaf spots do not lead to defoliation and do not require any treatment. No one likes to look at spotted leaves, but at least the long-term health of the tree is not in danger (and as much as I hate to say it, before we know it, the leaves will be falling because it is autumn).

Pest Updates: Weeds

Weeds, or not?

This year, we have received multiple reports on four 'weeds'. The reason I put that word in quotes is that all of the plants in question are native plants, but ones that can get very busy and take over the yard. So, let's look at who is showing up in home gardens all over the region, as well as on the Arboretum grounds.

Our first contender (fig. 9) is [stickseed](#) (*Hackelia virginiana*). We have been aware of this weed for many years. This one is tricky. Early in its growth, it resembles purple coneflower. So, most people assume that their coneflower made seedlings and they stop thinking about it. Then, before they know it, this plant has flowered and made seed pods. The seed pods are small and covered with little hooks like a bur. Once they are on your gardening gloves, they are almost impossible to remove. Get this one before it goes to seed. When I see this one in my yard, I get rid of it as soon as I can.



Figure 9 Stickseed

Our second weed (fig. 10) is [black snakeroot](#) (*Sanicula odorata*). It is native to most of Illinois, but we don't generally get inquiries about it. This year, it has been showing up in yards all season. There are other species of *Sanicula* out there, but we feel we have mostly been seeing *Sanicula odorata*. It has yellow-green flowers, while the other species have greenish-white flowers. If this plant is happy in your yard it may form colonies, especially in shady sites. Some people consider that naturalizing, some think of it as weedy. Your call.



Figure 10 Black snakeroot

Our third and fourth plants are related; they belong to the same genus. They are [butterweed](#) (*Packera glabella*) and [golden ragwort](#) (*Packera aurea*). Butterweed (fig.11) is a native of Illinois, but is far more common in the southern half of the state than it is in the Chicago region. Yet, we have had numerous reports of it this year, and I even found one in my yard. This plant does well in partial to full sun and is reported to prefer a loamy soil, with moist to wet conditions. The one in my yard is growing up against the chimney in an area so dry and hard I have not even attempted to garden there. I was so impressed by this plant's tenacity that I let it stay there. Butterweed is actually fairly attractive, with yellow daisy-like flowers, that provide nectar for pollinators. It flowers for 6 to 8 weeks. The leaves are interesting too, being deeply and irregularly cut. Those leaves contain alkaloids which prevent rabbits and deer from feeding on them.

Golden ragwort is a cousin to butterweed and has similar yellow flowers that also provide for pollinators. The basal leaves of this plant are oval to almost rounded, with rounded teeth. Leaves higher on the stem are much smaller, narrower and deeply dissected. The leaves of this plant also contain the alkaloids. I actually found this one for sale at a local garden center and bought it just to see how it would grow in my yard.

Are all these plants weeds or wildflowers? This is a decision each person has to make. They are native plants, but every native is not desirable (poison ivy is



Figure 11 Butterweed

native, too). Weigh the pros (benefits to pollinators) and cons (potential to colonize too much) of each plant. I have linked the name of each plant to a webpage, so you can gain more information to make that decision. I wanted to present these here since they are showing up so much in our area. Hopefully, this article at least answers the question “What plant is that?” for you.

Good websites: <http://illinoiswildflowers.info/>
<https://bygl.osu.edu/node/1023>
<https://farmdoc.illinois.edu/field-crop-production/weeds/what-is-that-yellow-flowered-plant.html>



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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: Maggie Burnitz, LeeAnn Cosper, Ingrid Giles, Loraine Miranda, and Emma Visee. Your hard work is appreciated. Thanks also to many of the Plant Clinic volunteers for sharing things they find in their own yards and neighborhoods.

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://www.mortonarb.org/news-publication/plant-healthcare-report?tid=259>

For pest and disease questions, please contact the Plant Clinic. At this time due to the COVID-19 situation, the Plant Clinic building is closed. You can still contact the Plant Clinic via email at

plantclinic@mortonarb.org . Emails will be answered during business hours Monday through Friday.
Inquiries or comments about the PHCR should be directed to Sharon Yiesla at syiesla@mortonarb.org .

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