

Plant Health Care Report

Scouting Report of The Morton Arboretum



THE
CHAMPION
of TREES

Aug. 4, 2023

Issue 2023.10

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. Contact us via email at plantclinic@mortonarb.org or by phone at 630-719-2424 (Monday thru Friday, 10 am to 4pm). The Plant Clinic is also open to walk-ins, but a [timed entry](#) and payment of entry fee is required for non-members.

Quick View

What indicator plant is in bloom at the Arboretum?

Chicory (*Cichorium intybus*) is in flower (fig. 1)

Accumulated Growing Degree Days (Base 50) at The Morton Arboretum: 1700.5 (as of Aug 3).

Insects/other pests

- Two marked treehopper
- Oak slug sawfly
- Tobacco budworm
- Pear leaf blister mite
- Bagworm update

Diseases

- Fire blight

Miscellaneous

- Slime mold



Figure 1 Chicory

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 8/3/2023*	St. Charles reporting station (north)	Champaign reporting station (central)	Carbondale reporting station (south)
2-inch, bare soil	97.2	91.9	87.1
4-inch, bare soil	94.7	84.2	82
4-inch, under sod	80.6	85.1	82.2
8-inch, under sod	76.7	80.7	79.4

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

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

As of Aug 3, we have 1700.5 base-50 growing degree days (GDD) at The Morton Arboretum. The historical average (1937-2022) for this date is 1789 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 in the first issue of 2022, 2017 and 2016. These years were selected since publication dates of the first issue were within a day or two of each other. Glencoe, and Waukegan (60085) were not used in 2017 and 2016, so there is 'no report' from those stations.

Location	GDD as of 8/3/2023	GDD as of 8/4/2022	No issue on 8/4/2017	GDD as of 8/4/2016
Carbondale, IL*	2592	2762		2826
Champaign, IL*	2168	2282		2379
Chicago Botanic Garden**	No report	1950		1791 (8/3)
Glencoe*	1269	1520		No report
Chicago O'Hare*	1988	2110		2167
Kankakee, IL*	1918	2027		2142
Lisle, IL*	2013	2130		2188
The Morton Arboretum	1700.5	1974		1880
Quincy, IL*	2344	2397		2599
Rockford, IL*	1833	1890		1932
Springfield, IL*	2225	2355		2504
Waukegan, IL* (60087)	1734	1825		1923
Waukegan, IL (60085)	1831	1927		No report

**Thank you to 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 <https://gddtracker.msu.edu/>

Seasonal precipitation

Seasonal precipitation (rain and melted snow) in inches.			
	2023	2022	Historical average (1937-2022)
Jan	2.85	1	1.935
Feb	4.88	2.61	1.775
Mar	2.29	3.88	2.536
April	2.23	3.88	3.667
May	.79	6.1	4.206
June	1.23	2.51	4.2
July	8.92 (whole month)	5.7 (whole month)	3.9 (whole month)
Aug	0 (thru 8/3)	.01 (thru 8/3)	3.77 (whole month)
Sept			
Year to date	23.19 (thru 8/3)	28.1 (thru Aug)	25.98 (thru Aug)

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

Examples of insects that may emerge soon in northern Illinois (based on growing degree days)			
GDD (base 50)	insect	Life stage present at this GDD	Type of damage
1950	Magnolia scale	Crawlers begin to emerge	Feeding on sap

Two-marked treehopper (minor)

A couple of weeks ago, our scouts found the nymphs of the two-marked treehopper (*Enchenopa* species). By now, it is likely that the adults are out. There are a number of species within this genus and they are all very host-specific. We often see this insect on redbud.

Adults are dusky brown with two yellow spots on their backs (fig. 2), thus the name. They have

a high, curved horn that points forward coming out of their thorax. The adults are less than ½



Figure 2 Adult two-marked treehopper

inch long. The nymphs look quite different from the adults. They're about 1/8- inch long, dark gray to brown, and have spines sticking out of their abdomens (fig. 3).

In late summer, adult females cut slits in bark to lay their eggs, then cover the area with small, white egg-plugs that can be mistaken for mealybugs or scale insects. The insect overwinters in the egg stage. The young nymphs hatch out in spring and feed on shoots of the host tree. Nymphs, and later adults, suck plant juices, but don't do much damage. The damage appears as pale-yellow stippling on the leaves. Female adults can injure twigs by laying eggs in slits made in the bark, but even this is fairly minor.



Figure 3 Two-marked treehopper nymphs

Management: Control is generally not necessary.

Good website: <https://bygl.osu.edu/node/1388>

Oak slug sawfly (minor)

One of our scouts found oak slug sawfly (*Caliroa* species) larvae feeding on bur oak (*Quercus macrocarpa*) this week. The sawflies feed on the lower layer of the leaf, leaving behind the upper epidermal layer and creating a 'window pane' effect (fig. 4). It is typical to see the larvae all lined up side by side while feeding (fig. 5). The larvae are about 1/8 inch long, pale yellow-green, and slimy; they will reach about 1/2 inch when mature. There are two to three generations per year.



Figure 4 Oak slug sawfly damage

Completely skeletonized oak leaves may drop prematurely. Common hosts include bur oak, white oak and swamp white oak. Damage is generally an aesthetic problem.

Management: This pest is kept in check by parasites, microbial disease, and other natural enemies. Even noticeable outbreaks are generally not dangerous to the health of the host oaks.



Figure 5 oak slug sawfly larvae (photo: Deb Link)

Good website: <https://bygl.osu.edu/node/1980>

Tobacco budworm (potentially serious)

Over the summer, we have had scattered reports that tobacco budworm (*Heliothis virescens*) is attacking petunias and roses. Besides petunias, this caterpillar also favors geraniums, chrysanthemums, flowering tobacco and other flowering plants.

In southern states, the pupae overwinter in the soil. Hard freezes may prevent this in more northern states. In colder climates, the moths may fly up from the south in the summer. The [moths](#) are light colored with wavy bands on their wings. Eggs are laid on flower buds and foliage. In a few days, the young caterpillars emerge and begin to feed on the buds. They may occasionally feed on leaves. The caterpillars can vary widely in color from green or red to almost black. There are often stripes or bands on the caterpillars. They will feed for about 3 weeks or so, doing a great deal of damage. Then they will drop to the soil to pupate.

This year, we started getting scattered reports of this insect doing damage fairly early in the season. Some callers to the Plant Clinic reported that they felt the insects had been present when they bought their plants. We cannot confirm that, but it is always wise to inspect plants before purchase. Pests can occasionally be transported accidentally on shipments of plants.

Management: If the pest is noticed early, the caterpillars can be handpicked. For larger populations, or for areas with a lot of host plants, an insecticide may be needed. [University of Minnesota Extension](#) reports that *Bacillus thuringiensis* may not be fully effective, since the caterpillars are often eating into the bud and the *Bt* is on the surface of the bud. The caterpillar may not be able to ingest enough to kill it.

Good websites: <https://extension.umn.edu/yard-and-garden-insects/tobacco-budworms>
<https://extension.colostate.edu/topic-areas/insects/tobacco-geranium-budworm-5-581/>

Pear leaf blister mite (minor)

The Plant Clinic at The Morton Arboretum has received a few reports of an odd leaf spot disease on pear (*Pyrus sp.*) leaves. The leaves, showing small blisters have been brought into the Plant Clinic. This looks like a fungal leaf spot, but is not (fig. 6). The blistering is caused by the pear leaf blister mite (*Phytoptus pyri*), an eriophyid mite that is a pest of pear, apple, and European mountain ash. Blisters begin as small greenish to pale yellowish bumps that eventually turn brown and reach 1/8 of an inch in diameter. Heavily infested leaves may become distorted and drop prematurely. Mites also feed on developing fruit, causing depressed brown spots surrounded



Figure 6 Pear leaf blister mite damage

by a halo of clear tissue. Often, fruit becomes deformed and misshapen. The adult mites overwinter in bud scales. They become active in spring as buds swell and migrate to emerging leaves, burrowing beneath the epidermis of the leaf underside. Their feeding induces blister formation. The eggs are laid in the fall, and the young remain in the gall until they mature. They then migrate to new leaves. There are 2 to 3 generations per year.

Management: This is often a minor problem restricted to the leaves. There are beneficial insects that can keep this pest in check. Management is often not needed on ornamental trees. For trees grown for fruit, treating the pests in late fall may reduce damage the following year.

Good web site: <http://www.ipm.ucdavis.edu/PMG/r603400511.html>

Bagworm update

We thought that this might be a low population year for bagworm. Reports of damage were few and far between. That has changed in the last two weeks and reports are on the increase. Why is that? The insects are finally large enough to notice and so is the feeding damage. Unfortunately, the feeding is coming to an end and we are seeing bags that have been closed and attached to the stem. That means that the caterpillars inside are starting to pupate and we can't reach them with insecticides.

That doesn't mean we can do something about them. Hand picking the bags can be very effective. Once the caterpillars become moths, the male moths will fly to the bags that contain females and mate with them. The female will lay her eggs in the bag and they will remain there for the winter. Physically remove as many bags as you can reach. Every bag removed reduces the population for next year.

Pest Updates: Disease

Fire blight (serious)

There are several reports of fire blight (caused by the bacterium *Erwinia amylovora*) showing up on pears (*Pyrus* species) and older crabapples this year's. Fire blight is a serious disease of plants in the rose family.

Common symptoms are blossom and shoot blight. Branches are described as looking as though they were burned, thus the name fire blight. Blossoms, leaves, and shoots wilt, turn dark brown, and look water-soaked. Leaves usually persist, and succulent shoots that become infected frequently form what looks like a "shepherd's hook" (fig. 7).



Figure 7 Shepherd's hook

Fire blight infections move rapidly from the blossoms into branches and trunks, causing cankers (fig. 8). The cankers enlarge and may girdle a tree during the growing season. Clear, or

sometimes milky, ooze often exudes from fissures on infected shoots and canker margins. The presence of ooze depends on weather conditions and is more common in wet weather. Fire blight bacteria overwinter in canker margins and buds. In spring, bacteria resume reproduction when temperatures rise above 65 degrees. Rain, heavy dews, high humidity, and vigorous tree growth favor the disease. Frequently trees that are heavily pruned and have a lot of subsequent succulent new growth become infected. The bacteria are spread in droplets of ooze carried by pollinating insects, rain, and pruning tools.



Figure 8 Fire blight canker from infection of flowering spur on pear

Management: Infected limbs should be removed to prevent further spread of the disease within the tree. Prune blighted stems 10 to 12 inches below the last canker during dry weather as soon as they are spotted. Disinfect pruning tools between cuts. Longer term management includes avoiding crowded plantings and excessive pruning. It is also wise to avoid high nitrogen fertilizers that can increase succulent growth which is more susceptible to infection. Plant resistant varieties when available. Chemical control of this disease is limited.

Good websites:

<https://mortonarb.org/plant-and-protect/tree-plant-care/plant-care-resources/fire-blight/#overview>

<https://extension.umn.edu/plant-diseases/fire-blight#pesticides-1760463>

Miscellaneous

Earlier this season, we wrote about some of the weird growths that show up in our yards and one of them is slime mold, a decay organism. Slime mold, when fresh, comes in nice colors like yellow and pink, and it looks like a puddle, the kind of puddle that makes you wonder if your dog needs to go to the veterinarian. As it dries, some of the color goes away, and the puddle becomes a dry crust (fig. 9). When it has dried, slip the blade of your shovel under it and lift it away to the garbage.



Figure 9 Dried slime mold

It is worth repeating this, because the excess rains of recent weeks have empowered slime mold to reach new heights, literally. We have received several reports, with photos, showing slime mold growing over the leaves of low-growing plants and even climbing on the bases of trees. This does not happen every year, but we are seeing quite a

bit of it this year. This will not hurt the tree. You should be able to wash it off of the tree trunk, but do so gently. If the slime mold has dried, it will have formed dusty spores on its surface and if you hit it with a blast of water, you may find yourself enveloped by a cloud of spores.

Presenting Sponsor of the Plant Clinic



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 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 all the staff and volunteers that report disease and pest problems when they find them. Your hard work is appreciated. Our volunteer scouts for 2023 are Deb Link, Maureen Livingston, Loraine Miranda, and Molly Neustadt.

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 by phone (630-719-2424) or visit in person, Monday thru Friday 10 am to 4 pm. On weekends and national holidays, Arboretum members need [a timed entry ticket](#) to enter the Arboretum and visit Plant Clinic in person. Non-members need [a timed ticket](#) every day and must pay the entry fee. Inquiries or comments about the PHCR should be directed to Sharon Yiesla at syiesla@mortonarb.org.

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2023 Plant Health Care Report Index



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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, Cicadas..... 1 means that it was discussed in the PHCR 2023.01 or the newsletter dated April 7, 2023. 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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