

Plant Health Care Report

Scouting Report of The Morton Arboretum

July 23, 2021

Issue 2021.9

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

Our report includes up-to-date disease and insect pest reports for northeastern Illinois. Plant Clinic staff and volunteers are now back to working onsite, with the Plant Clinic open to walk-in visitors. Questions can also be answered by email at plantclinic@mortonarb.org or by phone at 630-719-2424 (Monday thru Friday, 10 am to 4 pm).

Quick View

What indicator plant is in bloom at the Arboretum?

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

Accumulated Growing Degree Days (Base 50): 1578.5 (as of July 22)

Insects/other pests

- Head-clipping weevil
- Aphids on native plants
- Juniper scale
- Annual cicadas
- Chrysanthemum lace bug

Diseases

- Aster yellows or not?
- Bur oak blight
- Rust on lawns

Weeds

- Native 'weeds'



Figure 1 Queen Anne's lace

Soil temperatures around Illinois (from Illinois State Water Survey)

For more data go to <https://www.isws.illinois.edu/warm/soil/> (you will need to set up an account to access data.)

Max. Soil temps For July 22, 2021*	St. Charles reporting station (north)	Champaign reporting station (central)	Carbondale reporting station (south)
2-inch, bare soil	87.5	89.1	96
4-inch, bare soil	89.4	91.5	87.3
4-inch, under sod	80.1	84.9	85.9
8-inch, under sod	75.8	79.6	80.7

* 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 July 22, we have 1578.5 base-50 growing degree days (GDD). The historical average (1937-2020) for this date is 1502 GDD₅₀. The table below shows a comparison of GDD in different years. We are comparing the GDD reported in this issue with the GDD reported in the first issue of 2020, 2015 and 2014. These years were selected since publication dates of the first issue were within a day or two of each other. Glencoe, Lisle and Waukegan (60085) were not used in 2015 and 2014, so there is 'no report' from those stations.

Location	GDD as of 7/22/21	GDD as of 7/23/20	GDD as of 7/23/15	GDD as of 7/24/14
Carbondale, IL*	2147	2182	2345	2194
Champaign, IL*	1833	1844	1654	1883
Chicago Botanic Garden**	1679	1597	1252 (7/22)	1294.5 (7/23)
Glencoe*	1216	1220	No report	No report
Chicago O'Hare*	1757	1690	1633	1672
Kankakee, IL*	1686	1713	1673	1680
Lisle, IL*	1751	1730	No report	No report
The Morton Arboretum	1578.5	1658.5	1409	1432
Quincy, IL*	1949	1936	2064	1998
Rockford, IL*	1620	1598	1396	1432
Springfield, IL*	1903	1907	2046	1947
Waukegan, IL* (60087)	1557	1461	1329	1433
Waukegan, IL (60085)	1645	1523	No report	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 (rain and melted snow) in inches.			
	2021	2020	average
Jan	1.5	2.14	1.952
Feb	1.49	.85	1.769
Mar	1.24	4.15	2.536
April	1.39	4.37	3.692
May	3.34	8.24	4.194
June	6.57	4.91	4.190
July	1.77 (as of 7/22)	2.87	3.893
Aug		1.1	3.802
Year to date	17.3 (as of 7/22)	27.53 (as of 7/31)	22.22 (as of (7/31)
Total (Jan-Sept)		32.18 (Jan-Sept)	29.33 (Jan-Sept)

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

Head-clipping weevil (minor)

One of our volunteers has reported head-clipping weevils (*Haplorhynchites aeneus*) cutting the flower heads off of a species of *Rudbeckia* and I have seen species of *Helianthus* that has been beheaded.

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 to 2 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. 2). The dangling flower head is used by the adults for mating and egg-laying.



Figure 2 Damage from 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: <https://bygl.osu.edu/node/1087>
<http://entomology.k-state.edu/extension/insect-information/crop-pests/sunflowers/sunflower-headclipping-weevil.html>

Aphids on native plants (minor)

During this growing season we have had scattered reports about aphids on a variety of plants. Now as we get into mid-summer, we are getting reports of large populations of aphids on some of our native plants like common milkweed (*Asclepias syriaca*). There are a number of different species of aphids that vary in color: yellow, green, pink, black. Right now, we are seeing a lot of the yellow and red species. The yellow ones (*Aphis nerii*) (fig. 3) are called oleander aphids or milkweed aphids. The red ones (fig. 4) are most likely a species of *Uroleucon*, which feed on members of the Aster family (to which many of our late season natives belong). They are all tear-drop shaped and have two cornicles on the back end (looks like twin tail-pipes). Aphids are small, about 1/16".

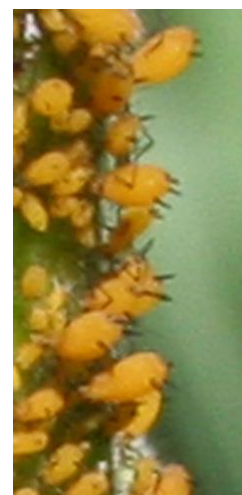


Figure 3 Yellow aphids

These insects suck out sap from the leaves. The feeding often leads to curled or distorted leaves. Uncurling the leaves exposes the insects. In many cases, we are seeing these insects lined up along the stems of their host plants. Aphids also produce honeydew, which is a sticky substance. Sticky leaves are often noticed before the insects themselves. Aphid damage is generally fairly minor, but they can be vectors for viruses.

Management: Aphids are relatively easy to manage. Aphids tend to feed in groups at the ends of branches. Clipping off those branch ends can get rid of the whole population quickly. Spraying the plant with a strong stream of water from the garden hose may also dislodge much of the population. There are also natural predators, like lady bugs, that will feed on aphids, so avoid insecticides and let the good insects do their job.



Figure 4 Red aphids

Good websites:
<https://mortonarb.org/plant-and-protect/tree-plant-care/plant-care-resources/aphids/#!>

Juniper scale (potentially serious)

We have had one report of Juniper scale (*Carulaspis juniperi*). This scale, native to Europe, prefers junipers (*Juniperus* species, including Eastern red cedar) and cypress (*Chamaecyparis* species).



Figure 5 Juniper scale adults (on stem) and crawlers (left side on table)

Adult female scales overwinter on needles. They are circular and white to tan in color. Males are more elongate, white with a yellow 'cap' near one end (fig.

5). In mid-to-late May about 40 eggs are laid beneath the female scale. Hatching occurs about 1 to 2 weeks later, and the yellow crawlers begin feeding soon after hatch. These insects, like all scales, suck the plant juices and cause the foliage to turn yellow to brown in color. Needles in the area of feeding become yellowish or straw colored and die. Severe infestations can cause plant death.

Management: Reduce the scale population by pruning out heavily infested branches now. It is too late to treat this year. The photo we saw showed adult insects, not crawlers. Luckily, beneficial insects (ladybugs and parasitic wasps) help control this pest so use insecticides sparingly and only when infestations are severe. Applications should be made when young crawlers emerge (normally in June).

Good website: <https://bygl.osu.edu/node/697>

Annual cicada (minor)

Contrary to many published reports, this was NOT the year for the periodical cicadas to attack Northern Illinois (that will happen in 2024). It is, however, time for the annual, or dog-day cicadas (*Neotibicen linnei*) to show up. These are the insects that make a lot of noise high in trees during the warm, dog-days of summer. This is the mating call of the male. They are about 1.75 inches long and are green to brown with black markings (fig. 6). A distinguishing factor between the annual and periodic cicada is the eye color.



Figure 6 Annual cicada

The periodic cicada has red eyes and the annual has black. The periodical cicada is about half the size of the annual. Periodical cicadas have orange veins in their wings, the annual does not.

Like the periodical cicadas, females lay eggs by sawing a slit in the bark of twigs and placing the eggs in the twig. Egg-laying injury can cause some minor twig dieback. After the eggs hatch, the young nymphs drop down into the ground to feed on plant roots. They have large front legs used for digging in the soil. They live on tree roots as nymphs for two to five years with some adults emerging in late summer every year. The feeding on the roots doesn't cause much damage. As the insects grow larger, they break out of their old exoskeletons or skins.

Management: Control is not necessary since they cause minimal damage to trees.

Good website:

<http://www.uky.edu/Ag/CritterFiles/casefile/insects/homoptera/cicadas/cicada.html>

Chrysanthemum lace bug (minor to potentially serious)

From time to time we see lace bugs on trees, like sycamore and oak. Recently an Arboretum volunteer brought in an aster being attacked by lace bugs. It turns out there is a species of lace bug that attacks members of the aster family. It is the chrysanthemum lace bug (*Corythuca marmorata*). Lace bugs have an interesting shape and this one is typical of the genus (see this [link](#) for photos). From above they have a lacy appearance.

Chrysanthemum lace bug overwinters as adults under rocks and in dry leaves and debris. In spring, females lay their eggs along the veins of the leaves. The nymphs that hatch out will be black and spiny. The nymphs will molt 5 times before they become adults. This may take about 30 days. There can be more than one generation per year.

These are sap-feeding insects, so the leaves that are attacked take on a stippled appearance. Lace bugs also produce tiny black specks of excrement that tend to be easy to spot (found mostly on the lower side of the leaves). These insects don't necessarily kill the plant, but can ruin their appearance.

Management: This insect may be controlled by predators and parasitic wasps. If they are not controlled in this way, they can be treated with insecticidal soap or horticultural oil. These products must come in contact with the insect to kill it, so both the upper and lower leaf surfaces need to be sprayed.

Good website: <https://blogs.k-state.edu/kansasbugs/2016/06/29/lace-bugs-nothing-to-worry-about/>

Pest Updates: Diseases

Aster yellows (or not?) (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*). Aster yellows causes strange, deformed growth of the flowers (fig. 7), foliage, and sometimes roots (seen in carrots). Purple coneflowers are showing floral deformities: stunted and/or green petals, completely deformed flower heads, or secondary deformed flower heads poking out of the damaged originals. The disease organism is transmitted by leafhoppers, which are sap feeding insects. They spread the organism when they feed on the host.



Figure 7 Aster yellows (photo: Heather Prince)

There is also an eriophyid mite that can cause similar symptoms. 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. 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 (fig. 8). Mites will affect only the flowers while aster yellows will affect other parts of the plant.



Figure 8 Eriophyid mite damage (photo: Dr. Stephanie Adams)

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.

Bur oak blight (potentially serious)

This disease is caused by the fungal pathogen *Tubakia iowensis*. There are other species of *Tubakia* that cause less serious fungal diseases. BOB infects bur oak (*Quercus macrocarpa*), and research by Iowa State shows that swamp white oak (*Quercus bicolor*) may be infected, although this is rare.

We have not had any calls about this disease yet, but this is the time to be looking for symptoms. The first symptoms are purplish spots on the veins on the lower side of the leaves (fig. 9). The spots then spread and develop into purple coloration along the veins on both the lower and upper side of the leaves. In August and September, symptoms will worsen, with veins dying and the infection moving to the end of the leaf, leading to a wedge-shaped dead area. While there may be some defoliation, some infected leaves will remain on the tree, and the fungal spores will overwinter in pustules located on the petioles (fig. 10) of these infected leaves (the main part of the leaf may fall, but the petiole often remains attached to the tree). The presence of these pustules is considered a requirement for the confirmation of BOB. New spores will be released in spring. Repeated years of defoliation may predispose the tree to other problems, such as Armillaria root rot and two-lined chestnut borer. Often, these secondary problems contribute to the death of a tree as much as BOB itself.



Figure 9 Purple discoloration of veins



Figure 10 Black pustules on leaf stalk

Management: First, confirm that the tree actually has bur oak blight. Get a sample tested at the University of Illinois Plant Clinic (<http://web.extension.illinois.edu/plantclinic/>). Keep trees vigorous through proper watering and pruning (during dormant season). Iowa State and University of Minnesota are indicating that injections of propiconazole in spring may be useful in slowing the disease. Injections must be done by a licensed professional. Raking fallen leaves does not help manage this disease because the petioles that remain on the tree are a source of infection.

Good websites:

<https://mortonarb.org/plant-and-protect/tree-plant-care/plant-care-resources/burr-oak-blight/>
<http://hyg.ipm.illinois.edu/article.php?id=752>

Rust on lawns (minor)

It is strange that we are most of the way through July and no one has reported rust on their lawn. Someone out there has orange shoes and is not telling me! This disease generally shows up in July and August when the grass slows its growth due to heat and dryness. The slow growth of the turf allows the disease to attack the grass. Lawn rust is caused by a *Puccinia* sp. All turfgrasses can be infected by many different species of rust fungi, and Kentucky bluegrass is one of the more rust-susceptible grass species.



Figure 11 Orange rust spores on shoes

Initial symptoms of rust disease include yellow lesions on grass blades that enlarge over time and rupture to release orange spores. When you walk across the lawn, your shoes pick up the orange spores and turn orange (fig. 11). The spores are wind-blown and splashed by rain to new infection sites on grass.

Management: There is no permanent shoe damage, and the orange spores can be easily wiped off. Lawn rust is usually not severe enough to warrant use of fungicides, and sound management practices will keep this disease in check. Management practices that spur a little growth will minimize rust. These practices include watering and fertilizing lightly with nitrogen. While these practices may apply to a highly managed lawn, they may not be great for the average home lawn. Watering the lawn in summer is not really a priority since the lawn can go dormant and come back when the rain and cooler temperatures return. Fertilizer may be harmful to an unwatered lawn. When the rain returns and the grass grows again, the rust usually diminishes. Some management techniques that apply to any lawn include mowing at the height recommended for the particular turf species and using rust resistant varieties or blends of turfgrass when starting new lawns. For the most part, lawn rust is a relatively minor disease that we can live with.

Good website: <http://ipm.illinois.edu/diseases/series400/rpd412/>

Weeds

Weeds, or not?

This year, we have received multiple reports on a couple of '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 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 (fig. 12). 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 12 Stickseed

Our second weed is [black snakeroot](#) (*Sanicula odorata*) (fig. 13). It is native to most of Illinois, but we don't generally get inquiries about it. For the past 2 to 3 years, 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 13 Black snakeroot

Are 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 native, too). Weigh the pros (benefits to pollinators) and cons (potential to colonize too much) of each plant. You can find more information about these plants on the link below 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/>



Bartlett Tree Experts, Plant Clinic sponsor

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 Professor at Joliet Junior College; Julie Janoski, Plant Clinic Manager; 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.

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 online at <https://mortonarb.org/about-arboretum/plant-health-care-report/>

For pest and disease questions, please contact the Plant Clinic. The Plant Clinic building is now open to walk-in customers, Monday through Friday 10 am to 4 p.m. You can still contact the Plant Clinic via email at plantclinic@mortonarb.org. Emails will be answered during business hours Monday through Friday. Plant Clinic can also be reached by phone (630-719-2424), 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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2021 Plant Health Care Report Index



THE
CHAMPION
of TREES

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, Cankers..... 1 means that it was discussed in the PHC report 2021.01 or the newsletter dated April 2, 2021. The index is updated with the publication of each full issue and is included at the end of each full issue.

2021.1	April 2	2021.8	July 9
2021.2	April 16	2021.9	July 23
2021.3	April 30	2021.10	August 6
2021.4	May 14	2021.11	August 20
2021.5	May 28	2021.12	September 10
2021.6	June 11	2021.13	September 24
2021.7	June 25		

Aphids	4	Gall, hackberry nipple.....	5
Aphids on native plants.....	9	Gall, jumping oak.....	7
Aster yellows or not?	9	Gall, maple bladder.....	6
Bishop's weed	6	Gall, oak spangles	7
Black knot.....	2	Gall, spindle	5
Black snakeroot.....	9	Gall, witch-hazel cone.....	7
Blossom-end rot.....	8	Gall, wool sower	6
Boxwood psyllid	5	Golden ragwort.....	5
Bur oak blight	9	Good guys	7
Butterweed	5	Gypsy moth.....	2, 7
Cankers.....	1	Head-clipping weevils	9
Carpenter bees.....	3	Helleborine	4
Chlorosis.....	6	Herbicide damage.....	8
Cicadas	1	Hydrangea leaftier	3
Cicadas, annual	9	Japanese beetles.....	7
Crabgrass preventer	1	Indicator plants, what they tell us	1
Creeping bellflower.....	3	Lace bugs, chrysanthemum	9
<i>Cytospora</i> canker	3	Leafminer, columbine.....	6
Dieback, cankers, stress, weather.....	8	Lichens	2
<i>Diplodia</i> tip blight.....	2	Mites on spruce	7
Eastern filbert blight	6	Mushrooms on trees	8
Eastern tent caterpillar	2, 3	Peach leaf curl	4
Egg masses and more	1	<i>Phomopsis</i> of spruce.....	5
Elm flea weevil	5	Pine bark adelgid	3
European pine sawfly.....	2, 3	Poison hemlock.....	5
Fall webworm.....	8	Powdery mildew	5
<i>Ficaria verna</i>	2	Purple deadnettle	4
Four-lined plantbug	5	<i>Rhizosphaera</i> needle cast.....	3
Fungicides, timing	1		
Gall, buttonbush	6		

Rose slug sawfly	5
Rust, cedar	3
Rust on buckthorn.....	4
Rust on lawns	9
Sawflies	5
Scale, calico	4
Scale, cottony cushion	8
Scale, cottony maple.....	7
Scale, euonymus	2
Scale, juniper.....	9
Scale, kermes	6
Scale, magnolia	1
Scale, oystershell.....	2
Slime mold and stink horns.....	8
Snow mold on lawns	1
Spittlebug	5
Spring is dry!	6
Stickseed	9
Ticks.....	4
Viburnum leaf beetle	1, 4, 6, 8
Virus X, hosta	7
Vole damage to lawns	1
Wetwood, slime flux and <i>Fusicolla</i>	3
Wild parsnip.....	7