

Plant Health Care Report

Scouting Report of The Morton Arboretum



THE
CHAMPION
of TREES

May 3, 2024

Issue 2024.3

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).

Quick View

What indicator plant is in bloom at the Arboretum?

Common lilac (*Syringa vulgaris*) is in full flower (fig. 1)

Accumulated Growing Degree Days (Base 50) at The Morton Arboretum: 140 (as of May 1). (GDD updated 9/23/24)

Insects/other pests

- Viburnum leaf beetle update
- Boxwood psyllid
- Boxwood leafminer
- Elm flea weevil
- Hydrangea leaftier
- Carpenter bees
- Maple bladder galls

Diseases

- Cedar-rust update
- Powdery mildew on ninebark
- Volutella blight on pachysandra

Weeds

- Bishop's weed



Figure 1 Lilac

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.) Root growth on trees/shrubs occurs when soil temps are above 45 degrees (use deeper depth). Cicadas should be emerging when soil temp is 64 degrees at the 8-inch level.

Max. Soil temps For 5/2/2024*	St. Charles reporting station (north)	Champaign reporting station (central)	Carbondale reporting station (south)
2-inch, bare soil	68.3	87.3	85
4-inch, bare soil	69.8	78.9	76.5
4-inch, under sod	63.3	76.4	72.4
8-inch, under sod	60	69.3	70

* 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 was 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	0 (thru May 1)	.79	4.17
June			
July			
Aug			
Sept			
Year to date	(12.1 thru 5/1)	13.04 (thru May)	14.11 (thru May)

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

As of May 1, we have 140 base-50 growing degree days (GDD) at The Morton Arboretum. The historical average (1937-2023) for this date is 55.5 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 last year, 2019 and 2018. 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 2019 and 2018, so there is 'no report' from those stations.

Location	GDD as of 5/2/2024	GDD as of 5/4/2023	GDD as of 5/2/2019	GDD as of 5/3/2018
Carbondale, IL*	619	373	371	251
Champaign, IL*	348	212	196	161
Chicago Botanic Garden**	185	No report	67 (5/1)	15 (5/1)
Glencoe*	82	60	No report	No report
Chicago O'Hare*	273	172	123	96
Kankakee, IL*	254	159	137	122
Lisle, IL*	275	165	128	99
The Morton Arboretum	140 (5/1)***	107	70	106.5
Quincy, IL*	409	251	245	213
Rockford, IL*	210	130	92	92
Springfield, IL*	406	251	227	198
Waukegan, IL* (60087)	193	136	72	62
Waukegan, IL* (60085)	226	154	No report	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 9/20/24

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

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
145-200	Spongy moth (formerly gypsy moth)	Caterpillars just hatching	Chewing leaves
100-200	Zimmerman pine moth	Larvae emerging from overwintering sites on trunk	Feeding on small branches and tunneling into their bark
300-700	Oystershell scale	Crawlers emerging	Feeding on sap
400-600	Bronze birch borer	Larvae hatching out and beginning to enter bark	Tunneling under bark
400-500	Pine needle scale	Crawlers emerging	Feeding on sap
450	Boxwood leafminer	Adults emerging	Laying eggs

Viburnum leaf beetle update

Last week, our scouts confirmed that viburnum leaf beetle ([see issue 2](#)) larvae are out and feeding.

Boxwood psyllid (minor)

Boxwood psyllids (*Cacopsylla buxi*) have been found by our scouts on the Arboretum grounds. The psyllids overwinter as tiny orange eggs in the bud scales of the boxwood. As the buds open, the psyllids hatch and begin to feed. The nymphs (fig. 2) are about 1/16th of an inch long, yellowish, and partially covered with a white secretion that protects them from parasitoids and chemical sprays. Their feeding causes cupping of the leaves. If your boxwood had this pest last year, the foliage from last year will show cupping. Newly hatched psyllids will cause cupping on new leaves.



Figure 2 Boxwood psyllid nymphs

Management: Damage is mostly aesthetic. Pruning boxwoods reduces the population as the insect or the eggs are removed in the process. This physical removal of infested tissue may be enough to keep the problem in check. We sometimes see ladybugs feeding on the psyllids.

Good website: <https://extension.psu.edu/boxwood-psyllid>

Boxwood leafminer (potentially serious)

Boxwood leafminer (*Monarthropalpus flavus*) has been a big problem for the last few years, with large populations evident on many boxwoods. They overwinter, as larvae, in the leaves on boxwood. Look for 'blisters' (fig. 3) on the leaves that turn from light green to orange or brown (as the larvae mature). The larvae are inside these blisters. Look carefully, as these blisters are sometimes mistaken for fungal leaf spots. The larva will pupate inside the leaf and emerge as an adult around GDD₅₀ 450. When the adults emerge, they will be orange and have a mosquito-like appearance.



Figure 3 Spots caused by boxwood leafminer

Management: Removing infested foliage now will reduce populations. Insecticides can be sprayed while the adults are emerging.

Good website:

<https://www.canr.msu.edu/news/boxwood-leafminer-a-serious-pest-of-a-favorite-landscape-plant>

Elm flea weevil (minor)

Our scouts have found feeding damage from elm flea weevil (*Orchestes steppensis*) on Accolade elm. The weevils (fig. 4) overwinter as adults and have now come out to feed and lay eggs. Adult-feeding results in tiny shot holes in the leaves, and heavy feeding can cause newly expanding leaves to wither and turn brown. After feeding, the female weevil cuts a cavity into the leaf mid-vein and inserts an egg. The hatching larvae create blotch-shaped mines at the leaf tips. Larvae feed for about 2-3 weeks, and then pupate within the mined leaf. Very heavy feeding can reduce photosynthetic capacity of the tree, thereby impacting overall tree vitality.



Figure 4 Adult elm flea weevil

Management: Insecticides are effective in controlling adults when they are present. Depending on the insecticide used, more than one application may be needed. Spraying a large elm may not be practical, especially for a pest whose damage is relatively minor. There are systemic products available, if management is needed.

Good website: <https://mortonarb.org/plant-and-protect/tree-plant-care/plant-care-resources/european-elm-flea-weevil/#overview>

Hydrangea leaftier (minor)

The hydrangea leaftier (*Olethreutes ferriferana*) is an unusual little weirdo that has been showing up for the last several years. We have received several reports about this pest already this year. The hydrangea leaftier (tie-er, as in “one who ties leaves together”) is showing up primarily on ‘Annabelle’ hydrangeas (*Hydrangea arborescens* ‘Annabelle’). This little caterpillar will tie leaves together to form a pouch-like structure (fig. 5) at the end of the branch. The caterpillar lives inside. In summer, the caterpillar will go to the ground to pupate. Adult moths will emerge in spring.



Figure 5 Damage done by hydrangea leaftier

Management: Hand removal and destruction of the affected leaves is usually sufficient control.

Good website: <https://bygl.osu.edu/node/1303>

Carpenter bees (minor)

Carpenter bees are out. I did not even need to scout. I just happened to see some hovering around a wood structure. Carpenter bees bore into wood trim, outdoor wooden furniture, porch ceilings, and any weathered wood. They excavate tunnels and can cause damage. They look like bumble bees, but are larger and have a shiny black abdomen. The males cannot sting. Females will only sting if they are agitated. They do not nest in living wood. Carpenter bees have strong jaws and chew ½ inch, round entrance holes on the underside of wood. They then chew horizontal tunnels up to seven inches long. The bees are not actually eating the wood. They only create tunnels for nesting sites. We don’t have any good pictures of this insect, so visit the websites listed below to see what carpenter bees look like.

Management: Insecticides can be applied to the tunnel entrances on cool evenings when bees are less active. Do not plug the tunnel entrance. All bees are pollinators, so don’t kill them unless necessary.

Good websites: <http://www.ces.ncsu.edu/depts/ent/notes/Urban/carpenterbees.htm>
<https://entomology.ca.uky.edu/ef611>

Maple bladder gall (minor)

We have our first gall report of the year! Most galls are harmless, but we report on them so you recognize them when you see them. Our first gall of the year is maple bladder gall. The maple leaves are barely out and already the galls are there. Maple bladder gall is a common problem on red maple (*Acer rubrum*), silver maple (*Acer saccharinum*) and the hybrid between the two, Freeman maple (*Acer x freemanni*). We see this gall almost every year. It starts out as a small green bead and then changes to red (fig. 6) and later in the season almost black. We are seeing it in the red stage already. They are caused by eriophyid mites that overwinter in bark crevices and around callous growth of wounds, scars, and pruned branches.



Figure 6 Maple bladder galls

Pest Updates: Diseases

Cedar-rust update

In our last full issue we wrote an article about the cedar-rust diseases ([see issue 2](#)). Since then we have several emails with photos that confirm the galls on the cedars (actually junipers) are actively producing their jelly-like spore horns.

Powdery mildew on ninebark (minor to potentially serious)

Powdery mildew has been found on the leaves of ninebark (*Physocarpus opulifolius*). The straight species of ninebark is relatively resistant to powdery mildew, but some of the cultivars can be very susceptible and can sustain quite a bit of damage. Research has been done on this. Go to this [link](#) to see the findings. Hundreds of plant species are susceptible to powdery mildew, but the disease is caused by many different species of fungi which are host specific. This means that the powdery mildew on coralberry will not infect lilacs and so forth.



Figure 7 Powdery mildew on ninebark

Powdery mildew appears as a superficial white to gray coating over leaf surfaces, stems, flowers, or fruits of affected plants. Initially, circular powdery white spots appear. These spots coalesce producing a continuous patch of “mildew.” On ninebark, the tips of branches often develop a thick coating of white powder (fig. 7), while

other parts of the same plant may show very few symptoms. Later in the season, fungal fruiting bodies that look like black pepper under a hand lens will appear. Warm days and cool nights, like we have been having lately, favor this fungal disease. The fungi that cause powdery mildew are deterred by water since spores will not germinate on wet leaves. However, the fungus still needs high humidity to infect the plant. Leaf curling and twisting result, and in severe infestations you may see premature defoliation and deformed flower buds. Although unsightly, powdery mildew is usually not fatal in the landscape.

Management: Infected plant parts should be removed as soon as symptoms appear. Dispose of fallen leaves. Water plants during periods of drought to keep them healthy. Put plants in locations where there is good soil drainage and sufficient sunlight. Provide proper plant spacing for good air circulation. In the future, plant mildew-resistant cultivars and species.

Good website: <https://mortonarb.org/plant-and-protect/tree-plant-care/plant-care-resources/powdery-mildews/>

***Volutella* blight on pachysandra (potentially serious)**

Our scouts have been out and found some *Volutella* blight on Japanese pachysandra (*Pachysandra terminalis*). In most springs, we see this disease right after snow-melt, and the plants tend to outgrow the disease quickly. In the last few years, when we had heavy rains, this disease ran rampant and did a lot of damage to large, established plantings. With the milder winter and little snow cover, we were not expecting to find much *Volutella* this season, but there is some. The infections we are seeing this year on the grounds are minor, but there may be more serious infections out there that have gone unreported.



Figure 8 *Volutella* on pachysandra

Volutella blight, caused by the fungus *Volutella pachysandricola*, will cause leaf blight and stem cankers on pachysandra. Early spring symptoms are brown to tan leaf spots. These may be confused with winter desiccation. Concentric circles (fig. 8) form within the spots and are diagnostic for this disease. This is what we are seeing at this time. The spots caused by *Volutella* will enlarge and may eventually cover the entire leaf. Leaves may eventually turn

yellow and fall off the plant. Stems turn dark and die. During extended wet periods, salmon- or peach-colored fungal spore masses may be visible. Eventually, large patches of the ground cover may become infected and die.

Volutella is an opportunistic pathogen. Damage from winter may allow this disease to get started. This year, the up and down weather we have been having could be playing a role in stressing the plants. *Volutella* can infect a plant any time during the growing season but is more common during periods of rainy weather. Infections tend to diminish as the weather becomes drier in the summer, but the high humidity created by densely planted and heavily mulched beds can promote the blight. Stress from overcrowding, too much sun, winter injury, and shearing may increase susceptibility to stem blight.

Management: Avoid piling snow on pachysandra in winter as this can promote disease development. Pachysandra prefers filtered sun or full shade, and will be stressed by too much sun, making it more susceptible to blight. Plants should be watered during dry periods by using drip irrigation and/or by watering early in the day to allow foliage to dry out. Avoid working with plants when they are wet to prevent the spread of disease. Remove and discard diseased leaves and plants as soon as symptoms are visible to limit spread to healthy plants. Clean up fallen leaves and other debris that may have accumulated on top of ground covers. Thin and divide overcrowded plants when the weather is dry to improve air circulation. Fungicides may be helpful in the early stages of the disease.

Good websites:

<https://mortonarb.org/plant-and-protect/tree-plant-care/plant-care-resources/ground-cover-diseases/>
<http://ag.umass.edu/landscape/fact-sheets/volutella-blight>

Pest Updates: Weeds

Bishop's weed (aggressive)

For many years, Bishop's weed (*Aegopodium podagraria*) was sold as a ground cover and some garden centers still sell it. It was also sold under the name goutweed and ground elder. The variegated cultivar was especially popular (fig. 9). But times change, and the biggest question that the Plant Clinic gets regarding this plant is "How do I get rid of this?"



Figure 9 Variegated Bishop's weed

Why the change? Bishop's weed is a strong grower and is very aggressive, often covering a lot more territory than is desirable. This plant spreads easily underground and can be difficult to control. At this time, Wisconsin is the only Midwestern state that legislates against this plant. That does not mean it is a problem only in that state. It may not fall into the invasive category, but it certainly is aggressive in many gardens.



Figure 10 Bishop's weed with green leaves

The leaves of Bishop's weed are compound with up to nine leaflets. The arrangement of the leaves often leads people to mistake it for poison ivy.

Leaves of the species are green (fig. 10), but the variegated cultivar has green leaves with creamy margins. The plants will produce clusters of white flowers that resemble Queen Anne's lace, followed by lots of seeds!

Management: Bishop's weed can be difficult to control. Remove flowers before they go to seed to minimize spread. Control of existing plants is difficult without herbicides because digging the plant seldom removes all the underground stolons. Glyphosate can be used to control this plant, but multiple applications may be needed. It is best to treat the plant when it is small, either at the time it is emerging from the soil or resprouting after being cut down. Glyphosate will be absorbed by the young leaves and transported down to the root system to kill out the entire plant. Glyphosate is a non-selective herbicide and can kill or damage any plant so care must be used to avoid getting it on desirable plants.



Bartlett Tree Experts, 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 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 .

Copyright © 2024 The Morton Arboretum

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.

2024.1	April 5	2024.8	July 12
2024.2	April 19	2024.9	July 26
2024.3	May 3	2024.10	August 9
2024.4	May 17	2024.11	August 23
2024.5	May 31	2024.12	September 12
2024.6	June 14	2024.13	September 26
2024.7	June 28		

Aphids on viburnum and other species	2	Fungicides, timing	1
Bark damage of oaks	2	Gall, maple bladder	3
Bishop’s weed	3	Hydrangea leaf-tier	3
Black knot	2	Indicator plants, what they tell us	1
Boxwood blight or something else	2	Juniper webworm	2
Boxwood leafminer	3	Powdery mildew on ninebark	3
Boxwood psyllid	3	Purple deadnettle	1
Carpenter bees	3	Spongy moth	2
Cedar-rust	2, 3	Spotted lanternfly.....	1
Cicadas, periodical	1, 2	Tools you can use	1
Crabgrass preventer	1	Using growing degree days.....	1
Creeping bellflower	2	Viburnum leaf beetle	2, 3
Eastern tent caterpillar	2	Volutella on pachysandra	3
Egg masses and more	1	Weather, climate and water.....	1
Elm flea weevil	3	Winter weather	1
European pine sawfly	2		
<i>Ficaria verna</i>	1		