

Plant Health Care Report

Scouting Report of The Morton Arboretum



THE
CHAMPION
of TREES

May 13, 2022

Issue 2022.4

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. This year we resume our on-grounds scouting program. Plant Clinic staff and volunteers are back working on-site this year. Contact us via email at plantclinic@mortonarb.org or by phone at 630-719-2424 (Monday thru Friday, 10 am to 4 pm). The Plant Clinic is also open to walk-ins, but a [timed entry](#) for the Arboretum is required and non-members need to pay the entry fee.

Quick View

What indicator plant is in bloom at the Arboretum?

Korean spice viburnum (*Viburnum carlesii*) is in late flower (Figure 1).

Accumulated Growing Degree Days (Base 50): 215.5 (as of May 12)

Insects

- European pine sawfly (update)
- Hydrangea leaftier
- Boxwood leafminer
- Aphids on viburnum
- Euonymus webworm

Diseases

- Cedar-rust diseases

Weeds

- Creeping bellflower



Figure 1 Korean spice viburnum in flower

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://www.isws.illinois.edu/warm/soil/> (you will need to set up an account to access data.) Crabgrass does not germinate until soil temps are above 55 degrees for 5 to 7 days (use more shallow depth for this). Root growth on trees/shrubs occurs when soil temps are above 45 degrees (use deeper depth).

Max. Soil temps For 5/12/2022*	St. Charles reporting station (north)	Champaign reporting station (central)	Carbondale reporting station (south)
2-inch, bare soil	99.3	100.6	92.8
4-inch, bare soil	93.3	93.3	83.4
4-inch, under sod	74.2	80	80.4
8-inch, under sod	66.3	72.6	73.6

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

Degree Days (current and compared to past years)

As of May 12, we have 215.5 base-50 growing degree days (GDD) at The Morton Arboretum. The historical average (1937-2021) for this date is 132 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 2021, 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 5/12/22	GDD as of 5/13/21	GDD as of 5/14/15	GDD as of 5/16/14
Carbondale, IL*	525	470	568	524
Champaign, IL*	315	287	424	374
Chicago Botanic Garden**	166 (5/11)	243	151.5 (5/12)	162 (5/14)
Glencoe*	81	84	No report	No report
Chicago O'Hare*	234	262	258	220
Kankakee, IL*	235	230	313	273
Lisle, IL*	241	263	No report	No report
The Morton Arboretum	215.5	196.5	193.5	175.5
Quincy, IL*	380	365	504	400
Rockford, IL*	184	207	203	163
Springfield, IL*	350	329	484	403
Waukegan, IL* (60087)	165	203	164	160
Waukegan, IL (60085)	189	229	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

Seasonal precipitation (rain and melted snow) in inches.			
	2022	2021	Historical average (1937-2021)
Jan	1	1.5	1.946
Feb	2.61	1.49	1.765
Mar	3.88	1.24	2.520
April	3.88	1.39	3.665
May	3.62 (as of 5/12)	3.34 (whole month)	4.18
June			
July			
Aug			
Sept			
Year to date	14.99 (as of 5/12)	8.96 (Jan thru May)	14.08 (Jan thru May)

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
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
400-600	Elm leaf beetle	First generation larvae emerging	Chewing leaves
400-600	Emerald ash borer	Adults beginning to emerge	Mating and laying eggs
400-500	Pine needle scale	Crawlers emerging	Feeding on sap
450	Boxwood leafminer	Adults emerging	Laying eggs

European pine sawfly (update)

Our scouts found very young (and very tiny) European pine sawfly out feeding last week. For a full write up of this pest, refer to [issue 2](#), April 15th. With the heat we have had this week it is likely that this pest is developing quickly. Be looking for other pests that emerge along the same timeline as this one (Eastern tent caterpillar, spongy moth and viburnum leaf beetle).

Hydrangea leaftier (minor)

The hydrangea leaftier (*Olethreutes ferriferana*) is an unusual little weirdo that has started showing up in the last few years. One of our Plant Clinic volunteers reports that they showed up in her garden this week. The hydrangea leaftier (as in “one who ties leaves together”) is showing up on ‘Annabelle’ hydrangeas (*Hydrangea arborescens* ‘Annabelle’). This little caterpillar will tie leaves together to form a pouch-like structure (fig. 2) 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 2 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>

Boxwood leafminer (potentially serious)

Boxwood leafminers (*Monarthropalpus flavus*) have been a big problem for the last few years, with large populations evident on many boxwoods. They are overwintering, as larvae, in the leaves on boxwood. Look for ‘blisters’ (fig. 3) on the leaves that turn from light green to brownish (as the larvae mature); the larvae are inside. Look carefully as these blisters are sometimes mistaken for leaf spots. The larva will pupate inside the leaf and emerge as an adult around GDD 450 base 50. 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>

Aphids on viburnum (minor)

We are starting to see aphids showing up in the landscape. This week we have had two reports of black aphids on viburnum. There are a number of different species of aphids that vary in color (yellow, green, pink, black), as well as host species. They are all tear-drop shaped (fig. 4) and have two cornicles on the back end (they look like twin tail-pipes). Aphids are small, about 1/16".

These insects suck out sap from the leaves. The feeding often leads to curled or distorted leaves. Uncurling the leaves exposes the insects. 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 spreading viruses.

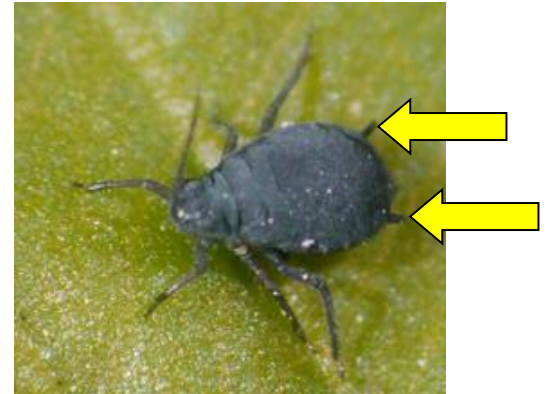


Figure 4 Aphid (arrows mark cornicles)

Management: Aphids are relatively easy to manage. Some species do not stay with a particular plant for the whole season. By the time the damage is noticed, the insects may have moved on. 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.

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

<https://extension.missouri.edu/publications/g7274>

Euonymus webworm (severity is determined by the amount of defoliation)

Euonymus caterpillars (*Yponomeuta cagnagella*), also known as euonymus webworms for the webbing they make, are feeding on running strawberry-bush euonymus (*Euonymus obovatus*). Euonymus caterpillar also attacks other species of euonymus including spindle tree (*E. europaeus*) and burning bush (*E. alatus*). Inspect your plants carefully. The sample that our scouts brought in was of very small larvae, so



Figure 5 Euonymus webworm larva

the webbing was not well developed yet and the markings on the larvae were not as distinct as those seen in our photo (fig. 5).

These caterpillars are leaf-feeding insects that live in colonies within thin webs at branch ends. The web increases with size as the larvae feed on the leaves and continue to grow. Larvae are pale yellow with black spots, eventually reaching an inch at maturity. The larvae will pupate in cocoons that hang on the branches. The adult moth emerges in June. The moth, known as an ermine moth, is white with black spots.

Management: Small populations can be managed by pruning out webs now and destroying them. *Bacillus thuringiensis* var. *kurstaki* (*Btk*) will control young larvae like we are seeing now. This is the value of scouting; find the enemy while he is small. The little guys are always easier to kill. *Btk* is less effective on mature larvae. Thoroughly spray the web and plant with *Btk*, as the insect must eat it in order for it to work.

Good website: <http://bugguide.net/node/view/70367>

Pest Updates: Diseases

Cedar rust (unattractive, but generally not life-threatening)

The rain has fallen very steadily for the last few weeks and now the sputniks have arrived. Cedar rust galls on juniper are beginning to produce their telial horns. There are three main rusts on juniper: cedar-apple, cedar-hawthorn, and cedar-quince. Cedar-apple rust and cedar-hawthorn rust both form golf ball-shaped galls on junipers. During spring rains, the gelatinous telial horns (fig. 6) expand from the golf ball-like galls (we are seeing this right now). Spores are released from the horns and are blown to a host in the rose family, e.g., apples, crabapples, and hawthorns. Orange leaf spots subsequently develop on the rose family plants during the summer.



Figure 6 Cedar-apple rust on juniper

Cedar-quince rust is a bit different. Of the three cedar rust diseases, cedar-quince rust can cause the most damage by infecting fruits and twigs on trees in the rose family, especially hawthorns and serviceberries. Although cedar-quince rust spends part of its life cycle on junipers similar to cedar-apple rust and cedar-hawthorn rust, it does not form galls on the junipers. Cedar-quince rust appears as orange ooze that seems to be leaking directly from the twigs and branches (fig. 7) of junipers (this is occurring now). It is possible for all three diseases to be present on the same host at one time



Figure 7 cedar-quince rust on juniper

Management: The disease is usually not serious on the juniper host. Once the orange jelly horns and ooze stop, the juniper will look fairly normal. No real treatment is needed.

Management is usually more focused on the hosts in the rose family. The best management is to plant resistant varieties of crabapples and hawthorns. Remember, resistance is not the same thing as immunity. Being resistant does not mean that the tree will never get rust. It only means that, in an average year, it is not likely to have much problem with the disease. In a year that is very favorable to the fungus (a rainy spring like this one), even resistant trees may show some signs of disease. When considering the purchase of a new crabapple, check with your local nursery about which rust-resistant cultivars they offer. Chemical control for rosaceous hosts, if used, needs to start as leaves are emerging and when the telial horns are expanding on junipers (now!). Although the rust diseases will cause orange spots on leaves and infect fruit, actual long-term damage is mostly minor, and may not require treatment. Cedar-quince rust can lead to stem swelling on hawthorn, and those swellings can lead to dieback on infected twig tips. Dead branch tips should be pruned out

Good web sites: <https://mortonarb.org/plant-and-protect/tree-plant-care/plant-care-resources/cedar-apple-rust/>

<https://extension.umn.edu/plant-diseases/cedar-apple-rust>

Pest Updates: Weeds

Creeping bellflower (aggressive; considered a restricted invasive plant in Wisconsin)

For the last few years, we have been receiving reports of an annoying weed making itself known in flower gardens and lawns. Those complaints often come later in the season when this

weed starts flowering, but we have already received emails about creeping bellflowers this season. There are actually two plants that are nearly identical, ladybells (*Adenophora* spp.) and creeping bellflower (*Campunula rapunculoides*). The two plants differ only by a small structure within the flower. Ladybells and creeping bellflower are closely related, but on doing a little research, it seems that the creeping bellflower may be the 'bad seed' of this family. It is the one that seems to be overly aggressive. Unfortunately, because the plants are so identical, if a friend shared some ladybells with you from her garden, you may actually have creeping bellflower.



Figure 8 Low-growing mat of leaves of creeping bellflower

Young plants have leaves that are heart-shaped to lance-shaped (fig. 8). This innocent looking plant has fleshy roots growing horizontally under the soil. These fleshy roots help to spread the plant and before you know it you have a healthy patch of them in your flower bed. If the plants are not removed, a flowering stalk with purple, nodding, bell shaped flowers will form (fig. 9).

Management: Plants can be removed manually through digging, but any roots left will continue to produce new plants. As new plants develop and are actively growing, spray them with a weed killer containing glyphosate. Glyphosate will be absorbed by the leaves and taken down to kill out the roots. Do not get the glyphosate on desirable plants as it will kill them.



Figure 9 Flowers of creeping bellflower



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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 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. Our scouts this year 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. Arboretum members need [a timed entry ticket](#) is needed to enter the Arboretum and visit Plant Clinic in person. Non-members need [a timed ticket](#) and must pay the Arboretum entry fee.

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

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2022 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 2022.01 or the newsletter dated April 1, 2022. 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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