

Plant Health Care Report

Scouting Report of The Morton Arboretum



THE
CHAMPION
of TREES

Sept 27, 2024

Issue 2024.13

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. For plant questions, contact the plant clinic via email at plantclinic@mortonarb.org or by phone at 630-719-2424 (Mon thru Fri, 10 am to 4pm). Please do not send plant questions directly to me.

**This is our last issue of the year.
Thanks for reading. See you next April.**

For most of the year, we have had a glitch in our weather station and our readings have been off a little. Corrections are being made to GDD and rainfall in all previous issues online. All corrections are expected to be completed by the end of September. Our apologies for the inconvenience.

Quick View

What indicator plant is in bloom?

Seven sons flower (*Heptacodium miconioides*) is in flower (fig. 1)

Accumulated Growing Degree Days (Base 50) at The Morton Arboretum: 3035 (as of Sept 26). (GDD updated 10/8/2024)

Insects/other pests

- Home invaders
- Brown marmorated stinkbug
- A little weirdo: cyclamen mites on pepper

Miscellaneous

- Plant health care and stress
- Next season is now



Figure 1 Seven sons 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://warm.isws.illinois.edu/warm/soil/> (you will need to set up an account to access data.)

Max. Soil temps For 9/26/2024*	St. Charles reporting station (north)	Champaign reporting station (central)	Carbondale reporting station (south)
2-inch, bare soil	79.5	81.5	78.2
4-inch, bare soil	74.2	77.6	75.4
4-inch, under sod	68	75.3	72.4
8-inch, under sod	66.8	71.7	71.4

* 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 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	3.73	.79	4.17
June	5.29	1.23	4.16
July	4.79	8.92	3.95
Aug	3.44	2.54	3.75
Sept	1.24 (thru 9/26)	4.38 (whole month)	3.31 (whole month)
Year to date	30.59 (as of 9/26)	30.11 (thru Sept)	29.29 (thru Sept)

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

As of Sept 26, we have 3035 base-50 growing degree days (GDD) at The Morton Arboretum. The historical average (1937-2023) for this date is 2813 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 last year.

Location	GDD as of 9/26/2024	GDD as of 9/22/2023
Carbondale, IL*	4246	3752
Champaign, IL*	3497	3200
Chicago Botanic Garden**	No report	No report
Glencoe*	2693	2245
Chicago O'Hare*	3435	2981
Kankakee, IL*	3216	2832
Lisle, IL*	3458	3000
The Morton Arboretum	3035***	2564
Quincy, IL*	3797	3461
Rockford, IL*	3044	2753
Springfield, IL*	3669	3277
Waukegan, IL* (60087)	2992	2674
Waukegan, IL* (60085)	3159	2798

*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 10/8/2024

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

Home invaders (minor)

When the weather finally turns cold, some pests will become home invaders. Boxelder bugs (*Boisea trivittata*) are usually the number one complaint (although the brown marmorated stink bug, see article below, is vying for the title). These insects feed on sap of seeds, flowers, and leaves of boxelders (*Acer negundo*). Their feeding causes little damage to the tree. Boxelder bugs (fig. 2) are considered to be a nuisance when large numbers of them appear in homes, especially in fall and spring. Nymphs are bright red when they first hatch, developing black wing pads over time. Adults are about ½ inch long, have three red or orange lines in back of their heads, and have black wings with red lines, and a red abdomen. Boxelder bugs overwinter as adults in protected sites. Since they consider your house to be a protected site, if you have cracks in your foundation or around your windows, they will enter your house through those cracks in fall. They do no harm indoors, but are annoying.



Figure 2 Boxelder bugs: nymph (above), adult (below)

While boxelder bugs show up like clockwork every year, some home invaders are occasional guests. These include the multi-colored Asian lady beetle, the leaf-footed beetle and squash bugs. The multi-colored Asian lady beetles are beneficial insects that eat pests like aphids. In fall, they can become an annoyance when they enter the home, sometimes in large numbers. They are not only annoying, they can bite! They can be yellow, red or orange in color and may have no spots or as many as 19. The front of the body is cream-colored with a black 'M' (perhaps a monogram for 'multi-colored'?). Go to <http://bugguide.net/index.php?q=search&keys=Harmonia&search=Search> for photos.

Leaf-footed bugs and squash bugs often enter homes one at a time and so are easy to manage. Go to <http://bugguide.net/node/view/16073/bgimage> and <http://bugguide.net/index.php?q=search&keys=squash+bug&search=Search>

Management: Do not use insecticides inside the home. Caulk around doors and windows to minimize entry by the insects. Keep screens in good repair. Insects that do enter the home can be removed with a vacuum or manually. Do not crush boxelder bugs or ladybugs as they can leave a stain. The leaf-footed bug is related to stink bugs and will make a stink when handled. Squash bugs can make a stink and a stain when crushed. If boxelder bugs are accumulating on the outside of the house, they can be doused with soapy water.

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

Brown marmorated stink bug (minor indoors, potentially serious outdoors)

Speaking of home invaders: brown marmorated stink bugs or BMSB (*Halyomorpha halys*) are showing up more often now in the Chicago area. These insects overwinter in houses and become active again in spring. BMSB will feed on a variety of hosts including many fruit, vegetable and field crops, reducing yield on those crops. They have become a serious pest on crops in some states. There are other insects that resemble the BMSB, so check the websites listed below to see more pictures of this insect. The insect is similar in shape to other stink bugs (a somewhat 'shield-shaped' body), but the edge of the body has alternating black and white bands (fig. 3). The antennae will have light-colored bands on them. Overall, the body has a mottled appearance. When the weather cools off, adults will look to overwinter in homes, much like boxelder bugs. I personally have noted a couple trying to come and join me in my office, so they are looking for a winter home already.



Figure 3 Brown marmorated stink bug adult

Management: Managing this pest in the home is similar to managing boxelder bugs in the home. Caulk cracks and keep screens in good repair. Physically remove the insects in the home with a vacuum cleaner. These are stink bugs, and they do create a stink when threatened so removal by hand could be tricky. After removal by vacuum, the vacuum cleaner may have a smell for a while. The insects can also be knocked into a bucket of soapy water and left to drown.

Good websites with photos for identification:

<https://njaes.rutgers.edu/stink-bug/identify.php>

<http://www.stopbmsb.org/stink-bug-basics/look-alike-insects/>

A little weirdo: cyclamen mites on pepper (minor)

The Plant Health Care report season is winding down, but someone has brought me something I have never seen before. This is a bell pepper that has been attacked by cyclamen mites. Just when I think I have seen everything, I am humbled. The gardener who brought this to us, said only a few of the peppers were affected. The pepper is hard to the touch and most of the skin has a russeted, rough appearance (fig. 4). Only the stem and



Figure 4 pepper damaged by cyclamen mites (side)

'shoulders' of the pepper (fig. 5) are really recognizable as being a pepper. For a little more information on this little weirdo, see this link from [Iowa State](#).

Miscellaneous

Plant health care and stress

We call our newsletter the Plant Health Care Report, so we should talk about what that really means. We spend a lot of time chasing the insects and diseases, but plant health care (PHC) is more than that. PHC should be a more holistic approach, looking at proper site selection, proper planting and good maintenance. PHC focuses on stress and stress reduction. Many disease and insect problems are related to stress. A plant that is experiencing less stress will be healthier and less likely to succumb to problems. That is why we sometimes include articles on related topics like watering and weather. When we consider the health of the tree, we must also look at the environment in which it lives and consider the care that it receives.



Figure 5 Pepper damaged by cyclamen mites (top)

Stress, environment and level of care can tree problems worse or can minimize some of them. Back in 2012, when we were having that unusually hot, dry year, entomologist Dr. Fredric Miller told me to expect increases in the populations of scale insects and wood-boring insects. He was right! In the years following that stressful year, scale populations exploded. Borers have been more prevalent since then as well. Why is that?

It turns out that stressed plants become more favorable targets for some insects, and more beneficial to some of them as well. A tree that is in drought stress has less water in its tissues. That increases the concentration of sugars and nitrogen in the tree's cells. This more concentrated food source is beneficial to scale insects, enabling them to reproduce and develop at a faster rate, leading to a larger population in a shorter time.

Many wood-boring insects are attracted to trees that are stressed. There are exceptions to this, like the emerald ash borer, which can attack very healthy trees, as well as those in decline. So why do so many borers attack stressed trees? Trees can naturally produce chemicals that help to deter attack by borers. Trees under drought stress have a decreased capacity to do this and as a result they become more susceptible to borer attack. In addition to that, drought stressed trees also produce volatile chemicals that actually attract borers. The borers can detect these chemicals and use them to find stressed trees.

When we see a tree attacked by scale or borers or bark beetles, we need to take a few minutes and think about why these insects are there and what we might be able to do to lessen their impact. Even better, let's be proactive and try to prevent some of these problems before they happen. Watering can help prevent or at least minimize some of these problems. A properly watered tree will have sap with a lower concentration of carbohydrates and nitrogen, making it less beneficial to scale. A properly watered tree will be able to produce the chemicals that help deter borer attack and will keep the tree from producing the volatile chemicals that will attract borers.

It is important to realize that an insect may not always be the only problem a tree has. Again, we want to take a more holistic look and see what else is impacting the tree. The same could be said for many diseases. There are a number of diseases that have been around for a long time that have really become more prevalent in the last few years. A couple of examples of this: *Diplodia* tip blight on Austrian pine and *Cytospora* canker on blue spruce. These diseases have become more prevalent due in part to environmental stress weakening the host trees and making them more susceptible to infection. We are seeing large numbers of blue spruce declining from *Cytospora*. Blue spruce comes from a native habitat that is cooler and that has good drainage. Our hot, humid weather and poorly drained clay soils put it into stress. The up and down weather we have been experiencing has added to this stress. A third factor adding to the situation is that we have planted a lot of blue spruces in our landscapes. Having a lot of any one plant sets the banquet table for diseases and insects (think Dutch elm disease, emerald ash borer). As part of the holistic look at PHC we need to consider selecting trees (and other plants) that are well adapted to our environment, and we need to diversify our plantings with a variety of different species.

Next season is now

Normally at this time of year we are gearing down from one growing season and planning for the next. We may need to rethink that concept. The current growing season is impacted by the ones that preceded it and will have impact on the one coming up. Plants are living and growing in a continuum. Winter is not a holiday between growing seasons. In some years, our growing seasons are getting longer. Last autumn was warm and dry and went on through November, December and even a little into January. Timing on practices like watering and pruning need to adapt to these changes. We can't really garden by the calendar anymore. So many horticultural practices revolved around 'the first frost'. Now, in some years, we have a frost and then the weather gets warm and beautiful for 6 more weeks. That 'first frost' has lost its place as a guidepost. Take some time to look at Plant Health Care as a more holistic process. We need to think about updating some of our practices.



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 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 .

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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.

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