

Plant Health Care Report

Scouting Report of The Morton Arboretum



THE
CHAMPION
of TREES

September 23, 2022

Issue 2022.13

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. 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

Accumulated Growing Degree Days (Base 50): 2967.5 (as of Sept 21)

The season is winding down. This is our last issue for 2022.

To report spotted lanternfly in Illinois, send an email (with photos, if possible) to lanternfly@illinois.edu.

Miscellaneous

- **What about the weather?**
- **Seasonal needle drop**
- **Watering into autumn**

Upcoming Education

- **Upper Midwest Invasive Species Conference (Oct 25-27, 2022)**

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.)

Trees and shrubs are best planted while soil temps are above 45 degrees F.

Max. Soil temps For 9/22/2022*	St. Charles reporting station (north)	Champaign reporting station (central)	Carbondale reporting station (south)
2-inch, bare soil	74.1	81.7	84.8
4-inch, bare soil	71.9	77.9	80.5
4-inch, under sod	70.6	75.1	80.4
8-inch, under sod	72.3	75.2	78.1

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

Degree Days (current and compared to past years)

As of Sept 22, we have 2967.5 base-50 growing degree days (GDD) at The Morton Arboretum. The historical average (1937-2021) for this date is 2764 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. We did not publish issues in September during 2014 and 2015 so there is no comparison to those years.

Location	GDD as of 9/22/22	GDD as of 9/23/21
Carbondale, IL*	3947	3755
Champaign, IL*	3332	3335
Chicago Botanic Garden**	3051 (9/21)	3257
Glencoe*	2519	2669
Chicago O'Hare*	3178	3275
Kankakee, IL*	2996	3145
Lisle, IL*	3197	3276
The Morton Arboretum	2967.5 (9/21)	2996
Quincy, IL*	3528	3520
Rockford, IL*	2817	3029
Springfield, IL*	3423	62707
Waukegan, IL* (60087)	2789	2978
Waukegan, IL (60085)	2933	3112

**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://gdctracker.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	6.10	3.34	4.18
June	2.51	6.57	4.2
July	5.7	2.04	3.87
Aug	2.42	2.12	3.78
Sept	4.77 (as of 9/21)	1 (whole month)	3.3 (whole month)
Year to date	32.87 (as of 9/21)	20.69 (Jan thru Sept)	29.23 (Jan thru 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.

Miscellaneous

What about the weather?

In the last issue of the PHCR, I wrote an article about how complex problems are becoming due to so many factors impacting our trees at one time. One of those factors is weather and our weather is far more challenging than it has been in the past. The article below was run in our last issue of 2021 and I think the information is still quite valid:

Weather does impact trees (and other plants). Often when we talk about the weather, everyone immediately thinks about current weather. We need to look back further than that. The effects of weather are cumulative on trees. Let’s look back at 2012. That year, spring temperatures rose very quickly, and many things flowered early and some flowered out of their normal sequence. That summer was very hot, and we experienced dry conditions. Trees that were not being watered were at risk for root damage. Going forward to the spring of 2013, our

area experienced flooding rains (9.78 inches in April compared to the 3.7 inches average for that month). One might be inclined to say that the heavy rainfall balanced out the dry conditions from the previous summer. But for trees that suffered root damage in summer of 2012, the floods brought additional root damage, not relief. Saturated roots cannot function properly and if they are saturated long enough root rots can begin. So, we have damage piled up on top of damage.

In the years since 2013, we have had other very wet springs and hot dry summers. We have also had two polar vortices. We have seen weirdly fluctuating weather conditions. One example is April 2019, when temperatures early in the month rose into the 80's and temperatures at the end of the month dropped to freezing. Plants struggle to deal with these temperature swings. A plant that leafed out early when the temperatures soared may have suffered some cold damage in late April when we hit the freezing mark. Another example is fall of that same year. October was a beautiful, warm month, and then it snowed on Halloween. That was followed by several days of brutally cold temps (the lows dropped into single digits for a couple of nights). The real issue for most plants was the cold temperature more than the snow. When those cold temperatures hit, many plants were not fully dormant and some may have suffered some cold damage.

Just thinking about all the extreme weather is a bit exhausting. Think about the trees and other plants that have to stand out in it all year! Inclement weather causes stress to our plants. This stress builds up and makes our plants more susceptible to disease and insect issues. As we diagnose plant problems, we have to factor in the weather and not just the current weather. Often when we see a plant in decline, it is not from what is happening now, but what has been building up for years. Anyone who works with plants should be aware of the weather of previous years.

Seasonal needle drop

A phenomenon of fall is heading our way soon: seasonal needle drop (also known as normal needle drop). In autumn, many evergreens will drop older needles. This is a normal process. Needles on an evergreen live for a limited number of years. At the end of their lives, these needles will turn yellow or brown and eventually fall off. On some evergreens, such as white pine or arborvitae, this process can be very dramatic, making the evergreen look like it is dying. To determine if your tree has a disease



Figure 1 Seasonal needle drop on white pine

or is going through normal needle drop, check the location of the yellow or brown needles. Trees going through normal needle drop will have a fairly uniform brown or yellow appearance in the interior of the tree since this is where the oldest needles are located (fig. 1). After a few weeks these needles will fall off, leaving the tree looking normal and healthy. Trees with a disease may have brown needles in various areas of the tree, depending on the disease, but the appearance will not be as uniform as that of needle drop. Diseased needles may eventually fall off, but the tree won't look healthy.

Good website: <https://mortonarb.org/plant-and-protect/tree-plant-care/plant-care-resources/seasonal-needle-drop/>

Watering into autumn

This has been another difficult year for watering. Spring came with lots of rain (at The Morton Arboretum we had 13.86 inches for the period from March through May, compared to the historical average of 10.36 inches). Summer was all over the place. We had bouts of sudden and extreme heat that left many plants sunburned or wilting during daylight hours. Rainfall for June through August was just slightly below normal for that time period, but the arrival of the rain was very sporadic, going from near drought to excessive rainfalls. As autumn comes on and the temperatures cool (we hope), there is often the assumption that the growing season is over and we can put the garden hose away. That really is not the case, even in a 'normal' year (if there is such a thing).

Should we be watering now? Because the rain has been so inconsistent, we really need to go out and observe the soil in our own yard. One good rain will not get us off the hook. If the soil is dry, we should be watering. Watering is all about what the plant needs now. The weather, not the calendar, is our guidepost.

With autumn, we will start to see plants go dormant, and perennials will even start to die back. The root systems of all plants are still quite active, and watering will help to keep them in good health. You can continue to water until the soil freezes. Pay special attention to evergreens. Since they retain their needles year-round, they can continue to lose water through those needles. Make sure that all evergreens go into winter fully hydrated. If you are planting bulbs like tulips or daffodils, they will also need to be watered. When bulbs are planted, they need to grow a root system in the fall. That can be difficult to do if the soil is too dry.

Other areas that would need special attention are newly seeded or sodded lawns and any newly planted trees, shrubs or perennials. All these plants will need a good supply of water to help them become established. Newly planted trees and shrubs do not need to be watered every day. That is good for puppies, but not for trees. Water as needed. Check the soil to see how dry it is. Remember that on a newly planted tree there will be a limited root ball. Apply the water to the root ball area.

We need to modify our watering practices based on the rainfall we get this autumn. Consider purchasing a rain gauge for your yard so you can accurately determine how much rain you are receiving. Storms can be deceiving. A heavy storm may give the impression that a lot of rain fell, but a rain gauge will let you know how much rain really fell. Ideally for most established plants we want to deliver an inch of water per week. If the rain provides half an inch, we need to provide the other half. Try to do the watering all at once so we get a nice deep watering. Sprinkling a little bit everyday does not give the plant the water it needs, and it promotes fungal diseases, not to mention what it does for your water bill.

For more information on watering properly using different watering devices, refer to articles in [issue eight](#), [issue nine](#), and [issue ten](#).

Upcoming Education

Upper Midwest Invasive Species Conference (Oct 25-27, 2022)

Hosted by: [Invasive Plants Association of Wisconsin](#), [Midwest Invasive Plant Network](#), and [Minnesota Invasive Species Advisory Council](#).

KI Convention Center in Green Bay, Wisconsin; Tuesday, Oct 25 - Thursday, Oct 27, 2022

This will be a hybrid event, so you can opt to join us in Green Bay or to access the conference virtually. An overview of the [conference agenda](#) can be found on the UMISC website. Note that over 90% of our speakers will be in person.

The goal of UMISC is to strengthen management of invasive species, especially prevention, control, and containment. This conference provides numerous opportunities to network with professionals, land managers, researchers, nonprofits, and others.

In addition to the excellent lineup of sessions we have for you this year, there are [two workshops](#) and [seven field trips](#) to choose from to enhance your conference experience. The workshops are being offered free of charge, but registration is required. The field trips must be selected and paid for at the time of registration. Space is limited, so book early. You don't want to miss out. Information on [hotel accommodations](#) at the convention center is also available at the [UMISC website](#).

REGISTER TODAY!

Members of [MIPN](#) and [IPAW](#) receive a \$30 discount on conference registration, so there's no better time to become a member. UMISC represents a strong partnership between its three hosts: [Invasive Plants Association of Wisconsin](#), [Midwest Invasive Plant Network](#), and [Minnesota Invasive Species Advisory Council](#).



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 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. I would like to thank all the staff and volunteers that report disease and pest problems when they find them. 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](#) 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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