

Plant Health Care Report

Scouting Report of The Morton Arboretum

May 29, 2020

Issue 2020.5

Our report includes up-to-date disease and insect pest reports for northeastern Illinois. You'll also find a table of accumulated growing degree days (GDD) throughout Illinois, precipitation, and plant phenology indicators to help predict pest emergence. Due to the current COVID-19 situation, we will not be scouting on the Arboretum grounds at this time. We will be including information about pest and disease problems based on questions emailed to The Arboretum's Plant Clinic. We are working remotely, but still able to answer questions via email at plantclinic@mortonarb.org

We are continuing to use last year's format: full issues alternating with growing degree day (GDD) issues; focus on more serious pests; minor pests covered in shorter articles; alerts issued for new major pests. Readers who receive our email blasts that announce the newsletter is posted online will continue to receive them this year. To be added to the email list, please contact me at syiesla@mortonarb.org. Comments or concerns regarding PHCR should be sent to the same email.

Quick View

What indicator plant is in bloom in Dupage County?

Bridalwreath spirea (*Spiraea x vanhouttei*) is in flower (Figure 1)

Accumulated Growing Degree Days (Base 50): 355 (as of May 28)

Accumulated Growing Degree Days (Base 30): 1745 (as of May 28)

Insects/other pests

- Boxwood leafminer
- Boxwood psyllid
- Woolly alder aphid
- Spittlebug
- Slugs
- Rose slug sawfly and friends
- Azalea sawfly
- Galls, part 1
- Update on pine sawfly

Diseases

- Anthracnose of shade trees
- Cedar rust questions
- More cedar rust
- Rust on buckthorn

Weeds

- Poison hemlock

Miscellaneous

- Is your ginkgo brown?
- Cautions when using pesticides



Figure 1 Bridalwreath spirea (photo: John Hagstrom)

Thank you!

Writing the Plant Health Care Report has been more challenging this year without the regular scouts in the field. As I have mentioned previously, I can glean information from the Plant Clinic email, the scouts looking around their own neighborhoods and observations I can make while driving around the area. I am also receiving help from our Plant Clinic volunteers. They live in many different communities (and counties) in the Chicago region and they are very observant. I put out the call to them to tell me what they are seeing. The response is great and has allowed me to write a fuller and more in-depth newsletter than I thought I would. Never doubt the power of a group of volunteers. Thanks to them for helping and thanks to you for reading.

Degree Days and Weather Information

We are once again offering Lisle readings right above the Arboretum readings. The spread between these two sites shows that temperatures can vary over a short distance, which means growing degree days can be quite variable as well.

As of May 28, we have 355 base-50 growing degree days (GDD). The historical average (1937-2019) for this date is 311 GDD₅₀. Since January 1, we have had 19.75 inches of precipitation. Historical average (1937-2019) for precipitation Jan-May is 16.1 inches.

Location	B ₅₀ Growing Degree Days Through May 28, 2020
Carbondale, IL*	664
Champaign, IL*	440
Glencoe*	141
Chicago Botanic Garden**	282.5
Chicago O'Hare*	353
Kankakee, IL*	383
Lisle, IL*	372
The Morton Arboretum	355
Quincy, IL*	501
Rockford, IL*	317
Springfield, IL*	485
Waukegan, IL* (60087)	251
Waukegan, IL* (60085)	280

**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 <http://www.gddtracker.net/>

How serious is it?

This year, articles will continue to be marked to indicate the severity of the problem. 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”. Articles that discuss a problem that is seen now, but would be treated with a pesticide at a later date, will be marked “treat later”. Since we will cover weeds from time to time, we’ll make some categories for them as well. “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

Boxwood leafminer (potentially serious)

Boxwood leafminers (*Monarthropalpus flavus*) have been a big problem for the last couple of years. They are overwintering, as larvae, in the leaves on boxwood. Look for ‘blisters’ (fig. 2) 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. I have a report from the field that the adults are now active. The adults are orange and have a mosquito-like appearance.



Figure 2 Spots caused by boxwood leafminer

Management: Insecticides can be sprayed now while the adults are emerging.

Good website:

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

Boxwood psyllid (minor)

Boxwood psyllid (*Cacopsylla buxi*) is another pest that has been troubling our boxwoods in recent years. 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 are about 1/16th of an inch long, yellowish (fig. 3), 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



Figure 3 Boxwood psyllid nymph

from last year will show cupping. I have a filed report of new psyllid activity for this year. We sometimes see ladybugs feeding on the psyllids.

Management: Damage is mostly aesthetic. Shearing 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.

Good website: <https://ag.umass.edu/fact-sheets/boxwood-psyllid>

Woolly alder aphid (minor)

The Plant Clinic at The Morton Arboretum has received a report (with confirming photos) of the woolly alder aphid (*Paraprociphilus tessellates*). These are sap-feeding insects. Two hosts are needed to complete their life cycle: alders and silver maples. The eggs are usually laid in fall in the bark of the maples. When the young hatch in spring, they collect on leaves and reproduce. Their offspring fly to alders and collect on the twigs where new generations develop. They are small and covered with white waxy filaments (fig. 4), which makes them easy to see. The presence of honeydew and sooty mold will also make them easy to find. In fall, they will fly back to the silver maples to lay eggs. They do little damage.



Figure 4 Woolly alder aphids

Management: Aphids can be dislodged from plants using a strong jet of water from the hose. Doing this periodically will keep the aphid populations low and allow parasite and predator populations to build up to effective control levels. Because this insect is often controlled by beneficial insects, we suggest not using insecticides which might be harmful to the beneficials.

Good websites: <http://www.ipm.iastate.edu/ipm/hortnews/2000/7-21-2000/woollyaphid.html>

Spittlebug (minor)

Just before last weekend I found spittlebug on several perennials in my own garden. They can be identified by the frothy white mass (which does look quite a bit like spittle; see fig. 5) they produce on foliage and twigs. Spittlebugs suck plant sap but inflict little damage on mature plants. There are a number of species of spittlebugs that feed on a variety of plants.



Figure 5 Spittlebug

Management: Control is rarely necessary, and hosing the plants down forcefully with water is usually sufficient to remove most of the insects. This may need to be repeated a few times.

Good website: <https://extension.umn.edu/yard-and-garden-insects/spittlebugs>

Slugs (potentially serious)

Guard your hostas; the slugs have arrived. Slugs are a common pest in wet weather or if landscapes are well mulched and watered. They are not insects. Slugs secrete a slimy substance to help them move about. They need moisture to create this slime, so they are highly dependent on soil moisture. Slugs feed at night when humidity is high, so the best time to see them feeding on our plants is to check the plants at night with a flashlight. They feed on many plants in the landscape, including annuals, perennials, bulbs and ground covers. Slug damage on leaves appears as irregularly shaped holes (fig. 6) or tattered edges. Most slugs overwinter as eggs in debris. When they hatch in spring, the young slugs begin to feed immediately.



Figure 6 Slug damage on hosta

Management: A combination of strategies is necessary to combat slugs. They can be handpicked and placed in a jar of soapy water. They are not strong swimmers and drown in the jar. Temporary traps of rolled, wet newspaper and boards placed near damaged plants provide shelter for the slugs during the day. Check the boards and papers in the morning. The slugs can then be collected and destroyed. Slug hideouts, such as excessive mulch piles and weeds, should be eliminated.

Some gardeners place shallow pans of beer (cheap beer works fine, keep the good stuff for yourself) in slug-infested areas. The slugs are attracted to the yeast and drown in the beer. Gritty substances like sand or diatomaceous earth can be sprinkled in the garden. These substances are abrasive to the slugs' skin and may deter them. Insecticides are not effective against slugs because they are not insects. Registered commercial slug baits are available.

Good website: <http://oregonstate.edu/dept/nurspest/slugs.htm>

Rose slug sawfly and friends (minor)

The weather is finally warming and you are looking forward to your roses blooming, and then there it is, a hole (or many holes) in the leaf. Someone is chewing on your rose plants. The rose slug sawfly (*Endelomyia aethiops*) is a likely culprit, but there are other species willing to damage your roses as well (thus, the “and friends” in our article title). The rose slug sawfly feeds on the upper layers of the leaf, leaving behind the lower epidermal layer and creating a "windowpane" effect. (Other species may make bigger holes, all the way through the leaf.) The larvae are greenish yellow with orange heads (fig. 7) and are about ½ inch long when fully grown. They resemble caterpillars but are not. They are covered in slime that helps protect them from predators. When larvae mature, they lose their slimy coverings. Around mid-June, larvae will drop to the ground to pupate, so this is a short-lived problem.



Figure 7 Rose slug sawfly larva and damage

Management: Minor infestations of rose slug sawfly (or friends) can be controlled by using a forceful jet of water to dislodge the sawfly larvae or by handpicking. Although this insect looks like a caterpillar, it is not, so *Bacillus thuringiensis* var. *kurstaki* (Btk) will NOT control this pest.

Good website: <http://hort.uwex.edu/articles/roseslug-sawfly>

Azalea sawfly (severity is determined by the amount of defoliation occurring)

Azalea sawflies (*Amauronematus azalae*) are fast defoliators. One day a rhododendron looks fine and two days later, all you can see are the mid-ribs of the leaves! These sawflies feed heavily on azaleas and can defoliate plants, leaving only the midribs of the leaves (fig. 8) and seriously damaging flowers. This week, one of our volunteers reported that they had already eaten her azalea's leaves down to the midrib. The sawflies are green with a tan head and just under an inch in length.



Figure 8 Azalea sawfly larvae have eaten leaf down to mid-rib

Management: Minor infestations can be controlled by using a forceful jet of water to dislodge the sawfly larvae. Handpicking is also effective. Insecticides may be needed on heavy populations and should be used on young larvae. Remember, these are sawfly larvae, not

caterpillars, so the microbial insecticide *Bacillus thuringiensis var. kurstaki* (Btk) will not control them.

Good website: <https://extension.umn.edu/yard-and-garden-insects/sawflies#azalea-sawfly-1041960>

Galls, part 1 (minor)

Galls are starting to show up on some of our favorite plants. The vast majority of galls are harmless, but they are included here so you can learn to recognize them in the landscape. No control measures are needed.

So far, we have reports on spindle galls and elm sack gall. Spindle galls occur on a variety of species, but our scout found them on linden (*Tilia* sp.). The galls are long, thin, red, and cover the upper surfaces of leaves (fig. 9). They are caused by an eriophyid mite.



Figure 9 Spindle galls on linden

Elms are showing off the elm sack gall. The elm sack gall sticks up from the upper leaf surface like a little pouch. It is caused by an aphid. (See website below for photo).

Good website: <https://bygl.osu.edu/node/1059>

Update on pine sawfly

Entomologist Frederic Miller tells me that the Illinois Department of Natural Resources has reported European pine sawfly actively feeding in Bureau County. So far, we have received no reports of it in the Chicago region. Time to be vigilant in our area.

Pest Updates: Diseases

Anthracnose (minor)

Rain has been over-abundant in the last couple of weeks. So, of course, it is no surprise that anthracnose is already showing up. Anthracnose is primarily a foliar disease affecting many deciduous trees including ash, elm, oak, and maple. So far, all the reports we have received have been on maples, but it is likely other species are showing



Figure 10 Anthracnose on ash

symptoms and we just have not heard about it. Leaves are already heavily spotted. Often, we don't see a lot of defoliation with anthracnose (except for sycamore anthracnose), but infections on maple seem to be severe enough this year to be causing some defoliation. This will not be fatal, but it will put some additional stress on trees as their "food factories", the leaves, drop off prematurely. The food that trees make for themselves is different from what fertilizers provide, so extra fertilization is not warranted.

The fungi are able to infect the young, tender leaves, especially during cool and wet springs, like we've been having this year. The disease is caused by several different fungi. The fungi are host specific, so the maple fungus doesn't infect oak trees, and so on. Symptoms vary with the plant host, weather, and time of year when infection occurs, but this disease often produces brown or black blotches (fig. 10) and curled or twisted leaves. Infection is more severe when prolonged spring rains occur after new growth is produced. Although the symptoms appear in late spring into the summer, the initial infection took place in the early spring at bud break and before the leaves hardened off. Once the symptoms show up, it is too late for any chemical applications to be effective.

Management: Cultural methods are usually sufficient to reduce the severity of anthracnose in our region. These include:

- Pruning trees to open up the canopy for better air circulation.
- Maintaining tree vigor with proper watering during times when rain is inadequate.
- In the fall, cleaning up and destroying fallen leaves to reduce the source of inoculum.

Good website:

<http://www.mortonarb.org/trees-plants/tree-and-plant-advice/help-diseases/anthracnose-shade-trees>

Cedar rust questions

The recent rains have really led to a fantastic display of cedar rust on the juniper (cedar) host, and this has led to numerous emails to the Plant Clinic. We have seen certain questions about this disease over and over again. This article will address those we have seen most often.

Should I get rid of my cedar (juniper) to keep my crabapple from getting rust? No, this is not necessary, and removal of the juniper host won't suppress the disease. Junipers are native and are found throughout the region. Getting rid of yours really doesn't help. The spores from the juniper can travel up to 1-2 miles from the host.

Will this harm my cedar (juniper)? This disease won't harm the juniper. The juniper ends up adorned with some galls that look like brown golf balls.

Will it harm my crabapple or hawthorn? For the most part, no. There are three cedar rust diseases. Cedar apple and cedar hawthorn mostly lead to orange spots on the leaves. Cedar quince rust can cause small galls on stems that may damage a few smaller stems.

Should I spray my cedar (juniper) to stop it from infecting my crabapple or hawthorn? Most fungicides are protective. They coat the plant and keep the fungus out. If you are going to spray anything, it would be wise to spray the deciduous host to prevent infection. The full life cycle of the disease lasts close to 2 years with most of that spent on the juniper host. So, you may have rust in different stages on the same juniper at the same time, making control a little more difficult.

More cedar rust

We have been answering numerous questions about cedar rust on the junipers, and now we have reports that symptoms are already showing up on the crabapples! Look for small orange spots on crabapple, apple and hawthorn. These are the major deciduous hosts. It is too late to spray. Despite it making the plants look odd, it actually does very little damage (see questions above).

Rust on buckthorn (minor, unfortunately)

More rust!! This is a disease we always enjoy reporting, because it attacks an invasive plant. Unfortunately, it doesn't really damage the plant.

Crown rust on buckthorn (*Rhamnus cathartica*) caused by the fungus *Puccinia coronata* is now showing up. In general, buckthorn is considered an invasive weed. A few years ago, the State of Illinois officially added it to the list of exotic weeds regulated by the Illinois Exotic Weed Act. The act states that "it shall be unlawful for any person . . . to buy, sell, offer for sale, distribute or plant . . . exotic weeds without a permit issued by the Department of Natural Resources". Buckthorn is an alternate host for this disease, which is also known as crown rust of oats. It can greatly reduce the yield on a crop of oats.



Figure 11 Rust on buckthorn

Symptoms of crown rust on buckthorn are bright orange swollen spots (aecia) on leaves (fig. 11) and petioles. There are many rust organisms, and this one is not the one that causes cedar apple rust. You may see rust diseases on other plants as well.

Management: None is required as buckthorn is not a desirable plant in the landscape. Removal of buckthorn is recommended since it is an exotic weed.

Good website: <http://ipm.illinois.edu/diseases/rpds/109.pdf>

Pest Updates: Weeds

Poison hemlock (dangerous)

We have not yet received any reports of poison hemlock (*Conium maculatum*), but we expect it to show up soon. For the last few years, this has not only been prevalent along roadsides, but has also been popping up in home gardens. Poison hemlock is a member of the carrot family (which contains both edible and toxic plants, so beware!!). Most members of this family have the same type of umbrella-shaped flower cluster known as an umbel. Because the flower cluster of Queen Anne's lace and the flower cluster of poison hemlock look similar, plants may be incorrectly identified. This can lead to contact with a dangerous plant.

Poison hemlock is a large (fig. 12), non-native plant (often 6 feet or more). The stem is stout and is marked with purple spots (fig. 13). It is also hollow. Leaves are large and very ferny in appearance (fig. 14). Poison hemlock is a biennial plant, which means it will form foliage in the first year and flower and set seed in the second year. Plants in their second year will have the typical white flower cluster (umbel) of the carrot family. Queen Anne's lace has one red floret in the center of its flower cluster, poison hemlock does not.

All parts of the plant are toxic and may lead to death if ingested. The plant's oil may be absorbed through the skin, so long sleeves and gloves will be needed when handling the plant.

Management: Plants can be cut down or dug out. This should be done before the plants go to seed and is most easily done when plants are small. Cover your skin during this process. Do NOT burn the plants. In spring, small, actively growing plants may be treated with an herbicide containing glyphosate.

Good websites:

<http://hyg.ipm.illinois.edu/article.php?id=380>

<https://www.extension.purdue.edu/extmedia/fnr/fnr-437-w.pdf>



Figure 12 First season growth of poison hemlock



Figure 13 Spotted stem of poison hemlock (photo S. Yiesla)



Figure 14 Foliage of poison hemlock (photo: S. Yiesla)

Is your ginkgo brown?

In the last three weeks, The Plant Clinic at The Morton Arboretum has received numerous reports of trees with brown leaves. While the majority of our emails have reported this on ginkgo trees, other species, like oak and hackberry, have been affected as well. This damage stems from the hard freeze we had on Mother's Day weekend, when night temperatures got into the mid-twenties. At that time, some trees had very small leaves just beginning to emerge and the cold temperatures killed them. Ginkgo is one of the hardest hit trees. On the dwarf ginkgo in my own yard, literally every leaf was killed. The perennial garden was not spared and some perennials just coming out of the ground got hit as well. Hostas seem to have been particularly hard hit. We have had many reports of hostas with leaves that are deformed, brown and even mushy.



Figure 15 New leaves 17 days after

While this looks devastating, all is not lost. The freeze killed leaves, but in most cases, did not kill the plant. Many trees and perennials are able to produce a new set of leaves, but the process will not happen overnight. We have to be patient. This is a watch and wait situation. Let nature take its course. We recommend against fertilizing these damaged plants. In this situation, fertilizer may add more stress. On perennial plants you can cut away the dead leaves, but that may be difficult to do on trees. Trees are probably best left alone for now.

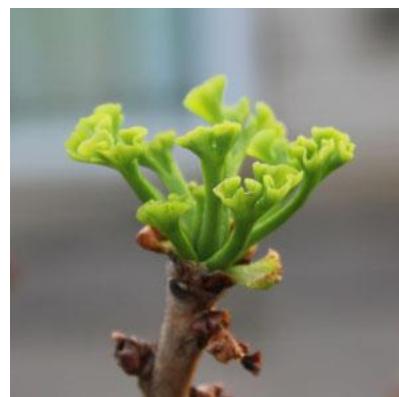


Figure 16 New leaves 17 days after freeze

I am happy to report that three weeks after the freeze, my ginkgo has begun to produce new leaves. There are not many yet, and they are scattered (figs. 15 and 16), but it is a start.

Cautions when using pesticides

Now that a new growing season is in full swing, it might be a good idea to review safe use of pesticides. These products can be useful tools when used properly. Too often, though, they are misused or overused.

Before tackling any disease or insect on our plants, we want to know exactly what the pest is and how serious it is. Properly identifying the pest allows us to choose a good course of action. The Plant Clinic at The Morton Arboretum can help with this. At this time, the Plant Clinic is closed, but staff are still accepting questions via email (plantclinic@mortonarb.org). Many problems can be diagnosed through good photos. Photos should be in focus and of high

resolution. Most smart phones do take high resolution photos, but email systems often cut the photos down when they send them. Don't let your email do this. Send them at 'original' or 'large' size. Some disease samples may need to go to a lab to be cultured. Those samples would need to be sent to the University of Illinois Plant Clinic. They do have a culture lab available. Go to <https://web.extension.illinois.edu/plantclinic/> for more information on submitting a sample.

Once you have the problem identified, you can determine a course of action. Many problems are cosmetic, rather than damaging. These may need no treatment. Examples would be tar spot on maple, most leaf spot diseases and even cedar-apple rust. These can be unattractive diseases, but really don't harm the tree. Other minor problems can be dealt with using non-chemical controls. Aphids, pine sawfly larvae and mites can often be managed with a strong stream of water from the garden hose.

When a problem is serious enough to require a pesticide, we must use it carefully. The label on the product you use is the final guide to proper use of that product. It tells you on which plants it can be used, which pests it will control, how much to use and how often. Following the label directions is vitally important.

A concern that comes up frequently with home gardeners is whether or not a particular pesticide will be harmful to bees. This is a question that can be answered by the label. A section of the label called "Environmental Hazards" will say if the product is fatal to bees. This is mandated by law. Don't spray plants that are in flower as they will be attracting pollinators. When using systemic products that will be drenched into the soil or injected into a tree, wait until after flowering to provide some safety for pollinators.

Another issue with pesticides is drift. Drift can happen when sprays are not directed properly towards the plants meant to be treated. If sprays go to 'off-target' plants or sites, they may do damage or produce contamination. If a tree is being sprayed, we want to be sure to keep the spray from going to a neighboring property, or to swimming pools or vegetable gardens. Drift of weed killers can be very damaging to 'off-target' plants. Be careful to direct sprays on to the intended plants only. Avoid spraying when winds are high (winds should generally be under 10 mph when spraying). Wind can move weed killers and other pesticides into adjacent yards. The bottom line is this, if you plan to use pesticides, do so safely for your sake, the sake of others around you and the environment.



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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 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 the volunteers who will be scouting for us this season. They find most of the insects and diseases reported here. The Scouting Volunteers include: Maggie Burnitz, LeeAnn Cosper, Ingrid Giles, Loraine Miranda, and Emma Visee. 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 as a PDF at The Morton Arboretum website at

<https://www.mortonarb.org/news-publication/plant-healthcare-report?tid=259>

For pest and disease questions, please contact the Plant Clinic. At this time due to the COVID-19 situation, the Plant Clinic building is closed. You can still contact the Plant Clinic via email at plantclinic@mortonarb.org. Emails will be answered during business hours Monday through Friday. Inquiries or comments about the PHCR should be directed to Sharon Yiesla at syiesla@mortonarb.org.

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