

Plant Health Care Report

Scouting Report of The Morton Arboretum

April 19, 2019

Issue 2019.2

My name is Sharon Yiesla. I am on staff at The Morton Arboretum Plant Clinic, and I will be responsible for compiling the newsletter again this year. Comments or concerns regarding PHCR should be sent to syiesla@mortonarb.org.

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. Arboretum staff and volunteers will be scouting for insects and diseases throughout the season. We will also be including information about other pest and disease problems based on samples brought into The Arboretum's Plant Clinic.

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, please contact me at syiesla@mortonarb.org

Quick View

What indicator plant is in bloom at the Arboretum?

Corneliancherry dogwood (*Cornus mas*) is in flower (Figure 1)

Accumulated Growing Degree Days (Base 50): 40.5 (as of April 18)

Accumulated Growing Degree Days (Base 30): 592 (as of April 18)

Insects/other pests

- Hemlock needleminer
- Boxwood leafminer
- Boxwood psyllid

Diseases

- *Volutella* blight on pachysandra.
- Black knot

Weeds

- *Ficaria verna*, a weed of many names

Miscellaneous

- A little thought about growing degree days
- Crabgrass preventer update



Figure 1 *Cornus mas* in flower

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 April 18, we have 40.5 base-50 growing degree days (GDD). The historical average (1937-2018) for this date is 5 GDD₅₀. Since January 1, we have had 9.83 inches of precipitation. Historical average (1937-2018) for precipitation Jan-April is 10.25 inches.

Location	B ₅₀ Growing Degree Days Through April 18, 2019	Precipitation (in) April 12-18, 2019
Carbondale, IL*	210	
Champaign, IL*	110	
Chicago Botanic Garden**	24.5 (4/17)	1.32”
Chicago O'Hare*	67	
Kankakee, IL*	80	
Lisle, IL*	69	
The Morton Arboretum	40.5	2.41”
Quincy, IL*	140	
Rockford, IL*	51	
Springfield, IL*	130	
Waukegan, IL*	32	

**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

Hemlock needleminer (minor)

Hemlock needleminers (*Coleotechnites macleodi*) were found on Eastern hemlock (*Tsuga canadensis*). These tiny caterpillars hatched last year in July. After hatching, they entered the needles near the base and fed on green tissue inside the needle, leaving the epidermis of the needle intact. They bound needles together with webs, so clusters of brown, mined needles will be found throughout the tree. The insect overwinters as a larva (fig. 2) and resumes feeding in the spring. This is the stage that was found last week.



Figure 2 Hemlock needleminer larva with webbing

Management: Hemlock needleminer is considered a minor pest, and control is usually not necessary.

Boxwood leafminer (potentially serious)

Boxwood leafminers (*Monarthropalpus flavus*) have been a big problem for the last couple of years, and they are overwintering in the leaves on boxwood right now. They overwinter inside the leaves as larvae. 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. The adults have a mosquito-like appearance.



Figure 3 Blister-like spots contain larvae of boxwood leaf miner

Management: Insecticides can be sprayed when the adults are emerging.

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. 4), 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 (fig. 5). Right now, we are seeing last year's damage only. No insects have emerged yet. Examine your boxwoods for this damage now, so you can be ready when the insect becomes active (around GDD 100 base 50). We sometimes see ladybugs feeding on the psyllids.



Figure 4 Boxwood psyllid nymphs close up

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>



Figure 5 Psyllid damage

Pest Updates: Diseases

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

Volutella blight is starting to show up on Japanese pachysandra (*Pachysandra terminalis*). The infection we are seeing so far seems to be relatively minor, but this can be a serious, destructive stem and leaf blight. In most springs, we see this disease right after snow-melt, and the plants tend to outgrow the disease quickly. Last year, due to heavy rains in May, this disease ran rampant and did a lot of damage to large, established plantings.

Volutella blight, caused by the fungus *Volutella pachysandricola*, will cause leaf blight and stem cankers on pachysandra. Symptoms first noticed in early spring as brown to tan leaf spots can be confused with winter desiccation. The spots will enlarge and may eventually cover the entire leaf. Concentric circles form within the spots and are diagnostic for this disease. Leaves eventually turn yellow and fall off the plant. Stems turn dark and die. During extended wet periods, salmon- or peach-colored



Figure 6 *Volutella* on pachysandra

fungus 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. It 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. Older and injured plant parts of Japanese pachysandra are more susceptible to the disease than young succulent tissue. Bottom line: consider whether the site is one in which pachysandra can thrive.

Management: Pachysandra prefers filtered sun or full shade, and will be stressed by too much sun and thus 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 in early spring, when weather is dry, to improve air circulation. Avoid over-fertilization, which causes dense foliage that encourages infection. Fungicides may be helpful in the early stages of the disease.

Good websites:

<http://www.mortonarb.org/trees-plants/plant-clinic/help-diseases/ground-cover-diseases>

<http://ag.umass.edu/landscape/fact-sheets/volutella-blight>

Black knot (potentially serious)

Black knot (*Apiosporina morbosa*) is a serious and widespread problem of trees in the genus *Prunus*, especially plum and cherry trees.

The Plant Clinic at The Morton Arboretum receives questions on this problem year-round since it is so prevalent and so easy to spot. Now is the time to look for new abnormal swellings on branches of cherry, peach, plum and related trees. The fungus overwinters in the hard, brittle, rough, black “knots” (fig. 7) on twigs and



Figure 7 Black knot (old knot on left with newest knot forming on far right)

branches of infected trees such as wild black cherries in the woods. These knots may be small

or may be several inches long and wrap around the branch. In some instances, the main trunk of the tree can become infected.

In the spring, the fungus produces spores within tiny fruiting bodies on the surface of these knots. The spores are ejected into the air after rainy periods and infect succulent green twigs of the current season's growth. The newly infected twigs and branches swell. The extensive overgrowth of bark and wood is a response to hormones and produces the smaller swellings that we will soon be seeing. Frequently these swellings are not noticed the first year. The swellings become dormant in winter. But the following spring, velvety, green fungal growth will appear, and the knot increases in size. The knots darken and elongate during summer and, by fall, turn hard, brittle, rough and black. The black knots enlarge and can girdle the twig or branch, eventually killing it.

Management: This is a difficult disease to manage. Prune and discard all infected wood during late winter or early spring before growth starts and when new swellings appear. Pruning cuts should be made at least four to eight inches below any swellings or knots. In advanced cases with many knots, pruning out branches may not be feasible as it may destroy the shape of the tree. Fungicides offer some protection against black knot, but are ineffective if pruning and sanitation are ignored. Fungicides are protective, not curative.

Good web site:

<http://www.mortonarb.org/trees-plants/plant-clinic/help-diseases/black-knot-ornamental-cherry-and-plum>

Pest Updates: Weeds

***Ficaria verna*, a weed of many names (aggressive)**

It can be hard to keep track of a plant when it has many names. One such plant is *Ficaria verna*. It was once classified as *Ranunculus ficaria*. Common names for this plant are plentiful too. It has been called fig buttercup, lesser celandine and pilewort. Some of those names almost sound friendly, but this is not a plant to invite into your yard. It is an aggressive grower and is considered invasive in a couple of states on the east coast.

Every year The Morton Arboretum Plant Clinic gets 2 or 3 reports of this plant in northern Illinois. We have not had any reports yet, but be watching for it. This low growing,



Figure 8 *Ficaria* in flower

spring-blooming, plant is very pretty (fig. 8) but can be quite a spreader. The time to manage it is often very short so we want to be ready.

Management: Manage this weed by spraying it with an herbicide containing glyphosate. This works best in early spring when the plant is in active growth. Glyphosate will kill anything green, so do not get it on any desirable plants. The foliage of this plant may die back in early summer so treat as soon as you see it growing in your yard. It may take more than one year to get rid of it since there is such a short time to treat.

Good websites:

<http://www.newinvaders.org/species/fig%20buttercup.pdf>

<https://www.invasiveplantatlas.org/subject.html?sub=3069>

Miscellaneous

A little thought about growing degree days

Growing degree days are a great tool, but we must remember that they are not perfect. The strange up and down temperatures we are having this year may shine a light on those imperfections. According to the temperatures we have recorded to date, we only have 40.5 growing degree days (base 50) at the Arboretum, which is located in Lisle. Another weather station in Lisle is recording 69 growing degree days for the same date. Why?

Over the last few weeks we have had some days where the temperatures recorded at our weather station were close enough so that we ALMOST recorded a degree day or two. Even though those temperatures don't trigger a degree day, there is some likelihood that they do have an impact on plants and insects. The temperatures at the Lisle station may have exceeded ours just enough that to get those extra GDD on several occasions. Also, temperatures can vary a bit from location to location within a given area (like a city). So growing degree days are good guidelines, but they are not as precise as we would like. Note that when we give GDD within an article those are GDD base 50.

Crabgrass preventer update

In our last issue we talked about when to apply crabgrass preventers. I mentioned a couple of different criteria to use. Crabgrass seed will not germinate until SOIL temperatures are greater than 55 degrees F for 5-7 consecutive days. That still has not happened. The warmer temps that are starting to show up push us closer, but the weather is still a bit up and down for the next couple of weeks. Iowa State gives this guideline: "Crabgrass seed germination usually begins ... when redbud trees reach full bloom" and that is often mid to late April. Looks like it will be closer to late April this year.

So, can we think about applying crabgrass preventers? The answer is yes. Despite the fact that we have not reached the two criteria mentioned above, we do want to think about applying soon. These products are preventers, so we do want to get them down before germination begins. We are close enough now to start planning. Crabgrass germination has begun in southern Illinois. Check the label of the product you purchase as not all products will be applied the same way.



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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 to the volunteers who will be scouting for us this season. The Scouting Volunteers include: Maggie Burnitz, LeeAnn Cosper, Ingrid Giles, Loraine Miranda, Mary Noe and Emma Visee. Your hard work is appreciated. Thanks also to Donna Danielson who shares her scouting findings.

Literature/website recommendations:

Indicator plants are chosen because of work done by Donald A. Orton, published in the book Coincide, The Orton System of Pest and Disease Management (<http://www.laborofloveconservatory.com/>)

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

The Commercial Landscape & Turfgrass Pest Management Handbook (CPM), for commercial applicators, and Pest Management for the Home Landscape (HYG) for homeowners from the University of Illinois, are available by calling (800-345-6087).

This report is available as a PDF at The Morton Arboretum website at

<http://www.mortonarb.org/visit-explore/news-events/arboretum-news?tid=259>

For pest and disease questions, please contact the Plant Clinic at (630) 719-2424 between 10:00 and 4:00 Mondays through Saturdays or email plantclinic@mortonarb.org. Inquiries or comments about the PHCR should be directed to Sharon Yiesla at syiesla@mortonarb.org.

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