

Plant Health Care Report



THE
CHAMPION
of TREES

Scouting Report of The Morton Arboretum

August 11, 2017

Issue 2017.10

Welcome to the Plant Health Care Report (PHCR). My name is Sharon Yiesla. I am on staff at The Morton Arboretum Plant Clinic, and I am responsible for compiling the newsletter. Comments or concerns regarding PHCR should be sent to syiesla@mortonarb.org. To be added to the email list, please contact me at that email address.

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.

The newsletter season is almost over. This is the next to last full issue. The last full issue will come out on Aug. 25.

This newsletter is available online at

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

Quick View

What indicator plant is in bloom at the Arboretum?

Seven Sons flower (*Heptacodium miconioides*) is getting ready to flower (around 2000 GDD). (fig.1)

Accumulated Growing Degree Days (Base 50): 1911.5 (as of Aug 10)

Accumulated Growing Degree Days (Base 30): 5007.5 (as of Aug 10)

Insects/insect relatives

- Bagworm
- Fall webworm
- Two-spotted spider mites
- Viburnum leaf beetle update

Diseases

- Measles on peony
- Septoria leaf spot on dogwood
- Leaf spots on everything

Miscellaneous

- 2017 Midwest Tree and Shrub Conference



Figure 1 Seven Sons 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 Aug 10, we are at 1911.5 base-50 growing degree days (GDD). The historical average (1937-2016) for this date is 1887 GDD₅₀. Since January 1, we have had 29.35 inches of precipitation. Historical average (1937-2016) for precipitation Jan-Aug is 25.72 inches.

Location	B ₅₀ Growing Degree Days Through Aug 10, 2017	Precipitation (in) Aug 4-10, 2017
Carbondale, IL*	2970	
Champaign, IL*	2498	
Chicago Botanic Garden**	1852 (8/8)	.37 inches
Chicago O'Hare*	2078	
Kankakee, IL*	2192	
Lisle, IL*	2131	
The Morton Arboretum	1911.5	.54 inches
Northbrook, IL**	No report	
Quincy, IL*	2658	
Rockford, IL*	1919	
Springfield, IL*	2604	
Waukegan, IL*	1736	

**Thank you to Mike Brouillard, Northbrook Park District and Chris Beiser, 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 and insect relatives

Bagworm (potentially serious)

Bagworms (*Thyridopteryx ephemeraeformis*) have been out for a while, but we continue to get calls as the bags become more visible in the landscape.

Bagworms overwinter as eggs inside the female bag. The bag can contain between 300 and 1,000 eggs. The eggs hatch in early summer, and the young larvae suspend from a silk string and are often “ballooned” by wind to nearby plants. When a suitable host plant is found, larvae begin to form bags over their bodies. They move to a sturdy branch, attach the bag with a strong band of silk, and then pupate. By mid-August the larvae have matured and are 1 to 1-1/2 inches in length, and their completed bags are 1-1/2 to 2-1/2 inches long (fig. 2). About four weeks later, adults emerge and mate. The sedentary female, which has no eyes, wings, legs, antennae, or functional mouthparts, lays eggs and is then mummified around the egg mass within the bag.



Figure 2 Bagworm

The tiny cone-shaped brownish bags are constructed from silk and camouflaged with bits of twigs and foliage from the host plant. Larvae stick their heads and front legs out of the top of the bags to feed and move. The feeding by young larvae results in holes in the foliage. As the larvae grow, they enlarge their bags and feed on the entire leaf, leaving only veins. Bagworm populations can build rapidly and quickly defoliate their hosts. Healthy deciduous trees can usually tolerate three consecutive years of severe defoliation before they are killed. Evergreen trees, on the other hand, are frequently killed by just one year of severe defoliation. Bagworm larvae feed on over 120 species of trees and shrubs. Their bags are made of the foliage they're feeding on, so a bagworm feeding on pine will have pine needles in its bag, while a bagworm feeding on a crabapple will have pieces of crabapple leaves decorating its bag.

Management: It is really a little late in the season to consider using insecticides. Handpicking bags from now until early spring will help control populations for next year.

Good websites:

<http://www.mortonarb.org/trees-plants/tree-and-plant-advice/help-pests/bagworms>

<http://www.uky.edu/Agriculture/Entomology/entfacts/trees/ef440.htm>

<http://ento.psu.edu/extension/factsheets/bagworm>

Fall webworm (minor)

I was recently driving through Southern Indiana and noted large webs of fall webworm (*Hyphantria cunea*). As I sat down to write about watching for this pest, one of our scouts contacted me to report that she had found it locally. This caterpillar is known to feed on more than 100 species of deciduous trees. Preferred hosts include hickory, ash, birch, black walnut, crabapple, elm, maple, oak, and pecan. The caterpillars are pale green to yellow, with black spots, and covered with long, silky white hairs (fig. 3). There are two races, black-headed and red-headed. The black-headed webworms are supposed to appear about a month earlier than the red-headed race. Full-grown caterpillars reach about one inch in length.



Figure 3 Fall webworm caterpillar

Fall webworms overwinter in the pupal stage in the ground, under loose bark, and in leaf litter. Adult moths appear from late May through August, and females deposit eggs in hair-covered masses on the underside of host leaves. In about one week, eggs hatch into caterpillars that begin to spin a messy web over the foliage on which they feed (fig. 4). The webs increase in size as caterpillars continue to feed. In about six weeks caterpillars will drop to the ground and pupate. Damage is generally aesthetic since this pest usually eats leaves late in the season, and webs are found in limited areas.



Figure 4 Fall webworm web

Some people confuse fall webworm and eastern tent caterpillar. How can you tell the difference? Eastern tent caterpillars are spring caterpillars and form thick, neat tents in the angles of branches. Fall webworm caterpillars are active much later in the season and make a messy web at the ends of the branches. Eastern tent caterpillars go outside the tent to feed and return to the tent at night. Fall webworm caterpillars feed in the nest and expands the nest to enclose more leaves to feed on.

Management: Insecticides generally are not warranted. The unsightly webs can be pruned out of small trees. Since these caterpillars stay in the web while feeding, pruning the webs at any time of day will eliminate the caterpillars. Webworms also have many natural enemies including birds, predaceous bugs, and parasitic wasps.

Good website:

<http://www.mortonarb.org/trees-plants/tree-and-plant-advice/help-pests/tent-or-web-making-caterpillars>

Two-spotted spider mites (potentially serious)

We have been seeing small populations of two-spotted spider mites this summer. Our scouts brought them in on a variety of plants this week, the worst damage being on garden phlox (*Phlox paniculata*). Two-spotted spider mites (*Tetranychus urticae*) are very small, about 1/60 of an inch long. You need a hand lens to see them clearly. Mites are not insects but insect relatives. Mites have eight legs and two body regions, while insects have six legs and three body regions. The two-spotted variety has two spots on their backs (fig. 5). Leaves attacked by spider mites show stippling or tiny, chlorotic flecks. If enough damage is done to a leaf, it begins to look bronzed and may drop prematurely.



Figure 5 Two-spotted spider mite

Management: First, you may want to determine what kind of mites are on your plant by holding a white sheet of paper under a branch and shaking the branch firmly. If you have mites, tiny specks will start crawling on the paper. Squish some of the moving specks. If the resulting streaks are green, you are seeing mites that feed on plants. If you see red or brown streaks, you probably have predatory mites that are the natural predators of spider mites (a good thing). Beneficial mites move faster than the pest mites. Pest mites don't have to move fast to catch their food; plants don't run too fast. But the beneficials have to move faster in order to catch their prey. Anyway, if you see lots of green spider mites, you may want to treat the plant.

There are several options. A forceful stream of water may knock mites off the plant. This should be repeated for three days. Predatory mites can also be purchased and released on the plants. Insecticidal soaps and other insecticides can be sprayed to control mites.

Good website: <http://www.mortonarb.org/trees-plants/plant-clinic/help-pests/mites>

Viburnum leaf beetle update (serious)

Viburnum leaf beetle adults have been out for a while now. Populations seem to vary, most likely depending on whether or not the shrubs were treated either for larvae or with a drench for the adults. At this time we are starting to see the egg-laying sites on young twigs. The egg-laying damage usually occurs in rows. The eggs are laid in holes chewed by the adult. The holes are



Figure 6 Viburnum leaf beetle egg-laying site

then covered by a cap of chewed bark. These caps are fairly easy to see as they are darker than the stem (fig. 6). Removal of these infested twigs will be key to limiting this pest next year. Clipping out the egg-infested twig tips (and removing them from the garden) will greatly reduce the population for next year. While this may seem like a daunting job for those of you who have a number of shrubs, you do have several months to get this done as the eggs will not hatch until next April.

Pest Updates: Diseases

Measles on peony (minor)

Cladosporium leaf blotch has been found on a few of our peonies. This disease is also known as measles, since the early symptom of the disease is small, red to red-purple spots. Late-season symptoms are large, circular, dark purple to purple-brown spots on the upper surface of the leaves (fig. 7) and corresponding light brown spots on the lower surface of the leaves.



Figure 7 Measles on peony

Management: Sanitation is important. Dispose of diseased plant parts at the end of the growing season to reduce inoculum. Avoid wetting the foliage during watering. Fungicides are available, but must be used early in the season as new foliage is emerging.

Good website: <https://ipm.illinois.edu/diseases/rpds/631.pdf>

Septoria leaf spot on dogwood (minor)

Every year, about this time, *Septoria* leaf spot shows up on dogwood. The spots are present only on leaves. They have purple brown margins with pale centers, are angular, about 1/8 of an inch in diameter, and limited by veins (fig. 8). The spots get larger and more numerous as the growing season progresses, but the disease is actually of little consequence to the plant.



Figure 8 Septoria leaf spot

Management: Sanitary measures, such as collecting and discarding infected leaves as soon as they become apparent, should help reduce spread to new leaves and plants

Leaf spots on everything (minor)

Septoria is not the only leaf spot in town. If you look around the landscape, it seems like every tree, shrub and flowering plant has some sort of leaf spot. That tends to happen in late summer, especially when we have a rainy spring. Many leaf infections actually occurred during the rainy weather of spring, but often, the symptoms don't show up until later in the season. Luckily, the majority of leaf spots are minor, doing little to no harm to the host plant. Leaf spots that lead to defoliation of the plant, especially early in the season, are of concern because they limit the plant's ability to make food (leaves are the food factories of the plant). Most leaf spots do not lead to defoliation and do not require any treatment.

Miscellaneous

2017 Midwest Tree and Shrub Conference

Which trees and shrubs will thrive in a changing climate? How can we plan gardens that stand the test of time? Find the answers at the Midwest Tree and Shrub Conference: Landscape for a Changing Future at the Chicago Botanic Garden on **Thursday, September 7, 2017**. Everyone from avid home gardeners to landowners to green industry professionals will get the latest on the selection and care of hardy, versatile trees and shrubs from the best speakers and plant experts in the business. The Chicago Botanic Garden presents this symposium in partnership with The Morton Arboretum.

Presenters include:

- Julie Moir Messervy, landscape architect, "Creating Gardens of Beauty and Meaning: The Art of Plant Placement"
- Andrew Bunting, Chicago Botanic Garden, "Magnolias for the Midwest"
- Dr. Michael J. Raupp, University of Maryland, "Future Impacts of Invasive Species and Climate Change on Pest Management in Landscapes"
- Guy Sternberg, Starhill Forest Arboretum, "Tough Trees for Our Evolving Climate"
- Paul W. Meyer, Morris Arboretum "Plant Exploration: Lessons from the Field"

For more information and registration:

[Click here](#) or call [\(847\) 835-8261](tel:8478358261)

2017 Midwest Tree and Shrub Conference

Thursday, September 7, 9 a.m. to 3:30 p.m.

Cost is \$120; members of Chicago Botanic Garden or The Morton Arboretum pay \$96.

Registration fee includes lunch, breaks, and free parking at the Chicago Botanic Garden.



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 Professor at Joliet Junior College; Doris Taylor, Plant Clinic Manager, and Carol Belshaw, Arboretum Volunteer. Frank Balestri M.S., Plant Health Care Technician/Research Assistant is responsible for coordinating the scouts. 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, Emily Hansen, Ann Klingele, Pat Miller, Loraine Miranda, Julie Moore, Mary Noe and Wendy Vichick. 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. This book may be purchased through the publisher at: <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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