

Plant Health Care Report

Scouting Report of The Morton Arboretum



July 24, 2015

Issue 2015.9

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.

New this year: We are on an every other week schedule this year. Our focus will be on pests that are more serious. Should we encounter some new major pest, we will issue an alert. If this occurs during a week when we are not publishing the newsletter, our regular readers will receive a timely email alert, and the information will be published in the next scheduled newsletter. On weeks when we do not publish a full newsletter, we will still make growing degree day information available since many of our readers use this information. Readers who receive our email blasts will receive one weekly, either to announce that the newsletter is available or that the growing degree day information is available. To be added to the email list, please contact me at syiesla@mortonarb.org

Quick View

What indicator plant is in bloom at the Arboretum?

Rose of Sharon (*Hibiscus syriacus*) is in early bloom (fig.1)

Accumulated Growing Degree Days (Base 50): 1409 (as of July 23)

Accumulated Growing Degree Days (Base 30): 3785 (as of July 23)

Insects and insect relatives

- Viburnum leaf beetle update
- Fall webworm
- Two-spotted spider mite
- One more gall

Diseases

- Tar spot of maple
- Aster yellows (or maybe mites??)
- Diplodia tip blight

Miscellaneous

- What is THAT??
- Remontant flowering



Figure 1 Rose of Sharon (photo: John Hagstrom)

Degree Days and Weather Information

As of July 23, we have accumulated 1409 base-50 growing degree days (GDD). The historical average (1937-2013) for this date is 1510 GDD₅₀.

Location	B ₅₀ Growing Degree Days Through July 23, 2015	Precipitation (in) July 17-23, 2015
Carbondale, IL*	2345	
Champaign, IL*	1654	
Chicago Botanic Garden**	1252 (as of 7/22)	2.16 (7/15-21)
Chicago O'Hare*	1633	
Kankakee, IL*	1673	
The Morton Arboretum	1409	1.29ö
Northbrook, IL**	1301 (as of 7/22)	1.56 (7/15-21)
Quincy, IL*	2064	
Rockford, IL*	1396	
Springfield, IL*	2046	
Waukegan, IL*	1329	

**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

Viburnum leaf beetle update (potentially serious)

The adults of the viburnums leaf beetle are out now, so start checking your viburnums for damage. This beetle will eat for the rest of the season, so it can do a lot of damage. The beetles are about ¼ inch long and generally brown in color (fig. 2). On close inspection golden hairs can be seen on the wing covers of the adult beetle. They are not very showy, so look closely. You will most likely notice their damage before you see the actual beetles. Their feeding damage forms irregular round holes in the leaves (fig. 3). The adult beetles will be mating and laying eggs from summer into fall. There is one generation of the beetle each year.



Figure 2 Viburnum leaf beetle adult (photo: U of I)

Management: Insecticides can be used on the adult beetles when they are feeding. Some university websites are suggesting these insecticides: spinosad, acephate, carbaryl, cyfluthrin or malathion. From October through April, twigs with eggs in them can be pruned out and destroyed. This could be a very effective method to reduce the population for next season.



Figure 3 Viburnum leaf beetle damage

Fall webworm (minor)

We have not found any fall webworm (*Hyphantria cunea*) caterpillars yet this season, but University of Illinois is reporting them in southern and central Illinois, so we might as well start looking for them here soon. 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. 4). When full-grown, the caterpillars will be about one inch long.



Figure 4 Fall webworm

Fall webworm overwinters 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. Eggs hatch into caterpillars in about one week and begin to spin a messy web over the foliage on which they feed (fig. 5). 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 typically concentrated to limited areas.

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 are 'commuters', going outside the tent to feed, then returning to the tent at night. Fall webworms are 'couch potatoes', staying at home and feeding in the nest. As they need more food, they expand the nest to enclose more leaves.



Figure 5 Web of fall webworm

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 web site:

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

Two-spotted spider mite (potentially serious)

The two-spotted spider mites are finally here. Our scouts have found them feeding on *Abies koreana*. 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. 6). 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 6 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>

One more gall (minor)

This week's contestant in the gall parade is found on fragrant sumac (*Rhus aromatica* 'Gro-low'). These galls are caused by eriophyid mites. They present as small bumps on the leaves (fig. 7). As with most galls, interesting to look at but not harmful.



Figure 7 Gall on fragrant sumac (photo: S. Yiesla)

Pest Updates: Diseases

Tar spot of maple (minor)

Tar spot of maple is already starting to show up on Norway maple (*Acer platanoides*). Right now the disease is in the early stage, and the spots are yellowish with black specks in them (fig. 8). As the disease develops, the spots will look just like shiny black spots of tar flung about on the upper surface of maple leaves (fig. 9). Several different fungi in



Figure 8 Early symptoms of tar spot (Photo: Mary A. Wilson, MSUE)

the genus *Rhytisma* infect the leaves of maples and cause the spots. The spots range from 1/5 to 4/5 inch in diameter. *Rhytisma* spp. most commonly infects leaves of silver and Norway maples, although big leaf, mountain red, Rocky Mountain, and sugar maples are also susceptible. It does little harm to the trees, but is unsightly.

Management: Fungicides generally are not necessary. To reduce inoculum, rake up and discard the leaves in fall.



Figure 9 Late symptoms of tar spot

Good website:

<http://plantclinic.cornell.edu/factsheets/tarspotofmaple.pdf>

Aster yellows (or maybe mites??) (Potentially serious)

Do your coneflowers suddenly seem deformed into weird shapes? It may be aster yellows. This disease was once thought to be caused by a virus, but the causal organism has been reclassified as a phytoplasma. It can affect a wide range of flowers and vegetables, around 300 species. It is common in members of the aster (daisy) family, like marigolds, zinnias and mums. We mostly see it on purple coneflower (*Echinacea purpurea*). Aster yellows causes strange, deformed growth of the flowers, foliage, and sometimes roots (seen in carrots). Purple coneflowers are showing deformed flower heads in the form of stunted petals, completely deformed flower heads, green petals or deformed flower heads poking out of other flower heads. The disease organism is transmitted by leafhoppers, which are sap feeding insects. They spread the organism when they feed on the host.



Figure 10 Aster yellows (photo: Heather Prince)

There is also an eriophyid mite that can cause similar symptoms. Do we care about the cause of the damage? Yes. If it is aster yellows, you may have to dig up the plant and destroy it. If you can find the mites in the flower, then removing infested flowers or cutting the plant down to the ground in the fall and getting rid of the debris may be all that is needed. So how can we tell who is who? Ohio State reports that when aster yellows is the culprit, the distorted flower parts tend to be green in color (fig. 10), when mites are involved, the distorted



Figure 11 Eriophyid mite damage (photo: Sharon Yiesla)

flower parts maintain their normal color (fig. 11). Mites will affect only the flowers while aster yellows will affect other parts of the plant.

Management: There is no cure or treatment for aster yellows. Infected plants should be removed from the garden to prevent spread to other plants by the leafhoppers. Do not compost the plants. Manage the mites by removing infested flowers. Cut down and remove plants in the fall.

Diplodia tip blight (serious)

We have found symptoms of *Diplodia* tip blight (*Diplodia pinea*) on current year needles of mugo pine (*Pinus mugo.*). This disease was *Diplodia*, then became *Sphaeropsis* and now is called *Diplodia* once again. It is a common disease of two- and three-needle pines in our region. Austrian, mugo, red and Scots pines seem to be a magnet for this disease, especially if they are stressed. The fungus infects needles as they are expanding, thus causing stunting and turning the needles straw-colored or brown (fig. 12). Some “bleeding” or resin may appear dripping from infected needles. The disease frequently starts on lower branches and moves upward as spores are spread by splashing rain and wind. The fungus can also invade woody tissue and cause branches to die. Dead shoot tips and needles from previous years are often found throughout the canopy of larger trees. Black pepper-like fruiting bodies form at the base of the needles (look underneath the needle sheath) soon after the needles die.



Figure 12 Diplodia tip blight

Management: Most of the pines that get this disease are no longer recommended for use in the landscape. Managing the disease on existing trees is possible through sanitation, cultural, and chemical control practices. Rake up and discard infected cones and needles to remove immediate inoculum sources. The spores are moved on air currents, so sanitation will never be the complete answer. Also, keep trees mulched (do not use diseased pine needles as mulch) and watered during dry periods. Avoid overhead irrigation which helps spread spores, and do not prune susceptible trees in wet weather. As soon as tip blight is noticed, prune out and destroy diseased tissue. Sterilize tools between pruning cuts. Fungicides are effective if applied when needles are first emerging.

Good website: <http://www.mortonarb.org/trees-plants/plant-clinic/help-diseases/diplodia-tip-blight>

Miscellaneous

What is THAT??

Whenever we have a really wet year, this becomes a popular question. Excess rain leads to a variety of strange looking growths in the garden. Wet weather promotes the growth of a variety of mushrooms and there are any number of different-looking mushrooms. Wet soils leads to decay of organic matter and these mushrooms are the reproductive structures of the fungi that cause organic matter to decay. Mushrooms can be easily dug up and discarded.



Figure 13 Slime mold

Another weird growth that shows up in the wet is slime mold (fig. 13), another decay organism. Slime mold, when fresh, comes in nice colors like yellow and pink and it looks like a puddle; the kind of puddle that makes you wonder if your dog needs to go to the veterinarian. As it dries, some of the color goes away and the puddle becomes a dry crust. When it has dried, slip the blade of your shovel under it and lift it away to the garbage.

A third candidate in the “what is that” category is the stink horn. Stink horns are a type of mushroom, but they merit a mention because they really capture our attention. They come in an interesting array of colors and, guess what, they stink. The one that people have been bringing into the Plant Clinic this year is reddish orange and sort of looks like carrots growing upside down in the mulch (fig. 14). But they do come in many weird and even vulgar shapes. One thing that intrigues people is that the stink horn grows out of a structure that looks like an egg. Just as with slime mold, we can slip our shovel blade in and lift them away to the garbage.



Figure 14 Stink horn

Remontant flowering

Now for something pretty. This time of year, you may notice some of the magnolia trees putting out a few flowers. Since magnolias are spring-flowering trees, what’s going on? Actually, it is not unusual for magnolias to do this. Sometimes a few flowers on magnolias get tricked into blooming at the wrong time (we call this remontant flowering). Since only a few flowers on each tree are blooming, the remaining flower buds will remain dormant and should bloom at the normal time next spring.



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The Plant Health Care Report is prepared by Sharon Yiesla, M.S., Plant Clinic Assistant and edited by Stephanie Adams, M.S. Research Specialist in Plant Health Care; Fredric Miller, Ph.D., Research Entomologist at The Morton Arboretum and Professor at Joliet Junior College; Doris Taylor, Plant Information Specialist, 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: LeeAnn Cosper, Paul Duke, Deborah Finch-Murphy, Anne Finn, Ann Klingele, Loraine Miranda, and Bill Sheahan . Your hard work is appreciated. Thanks also to Donna Danielson who also provides scouting information to us.

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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