Plant Health Care Report
Scouting Report of The Morton Arboretum

June 13, 2014

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 throughout Illinois, precipitation, and plant phenology indicators to help predict pest emergence. The report is published bi-weekly on Fridays in April and August, and weekly May-July (no issue on July 4).

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 from homeowners and professionals.

If you have any comments or concerns regarding the Plant Health Care Report, please send them to Sharon Yiesla at syiesla@mortonarb.org.

Quick View

What indicator plant is in bloom at the Arboretum?
Mockorange (Philadelphus coronarius) is in full bloom (Figure 1)

Accumulated Growing Degree Days at The Morton Arboretum
Accumulated Growing Degree Days (Base 50): 571 (as of June 12)
Accumulated Growing Degree Days (Base 30): 1969 (as of June 12)

Insects
- Rose pests
- Spittlebug
- Viburnum crown borer revisited
- Galls again
- EAB update

Diseases
- Oak leaf blister
- Powdery mildew

Miscellaneous
- Blossom-end rot

Figure 1 Mockorange
Degree Days and Weather Information
As of June 12, we are at 571 base-50 growing degree days (GDD). The historical average for this date is 573 GDD$_{50}$. From June 6-12 we have had 2.06 inches of precipitation.

<table>
<thead>
<tr>
<th>Location</th>
<th>B$_{50}$ Growing Degree Days Through June 12, 2014</th>
<th>Precipitation (in) June 6-12, 2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbondale, IL*</td>
<td>1120</td>
<td></td>
</tr>
<tr>
<td>Champaign, IL*</td>
<td>919</td>
<td></td>
</tr>
<tr>
<td>Chicago Botanic Garden**</td>
<td>488.5 (by 6/11)</td>
<td>2.90 (6/3-11)</td>
</tr>
<tr>
<td>Chicago O'Hare*</td>
<td>709</td>
<td></td>
</tr>
<tr>
<td>Dupage Airport</td>
<td>602</td>
<td></td>
</tr>
<tr>
<td>Kankakee, IL*</td>
<td>762</td>
<td></td>
</tr>
<tr>
<td>The Morton Arboretum</td>
<td>571</td>
<td>2.06</td>
</tr>
<tr>
<td>Northbrook, IL**</td>
<td>567</td>
<td>2.40 (6/5-11)</td>
</tr>
<tr>
<td>Quincy, IL*</td>
<td>960</td>
<td></td>
</tr>
<tr>
<td>Rockford, IL*</td>
<td>599</td>
<td></td>
</tr>
<tr>
<td>Springfield, IL*</td>
<td>953</td>
<td></td>
</tr>
<tr>
<td>Waukegan, IL*</td>
<td>560</td>
<td></td>
</tr>
</tbody>
</table>

**Thank you to Mike Brouillard, Northbrook Park District and Mike Annes, 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/](http://www.gddtracker.net/)

**How serious is it?**

Each pest/disease article will be marked parenthetically 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, “annoying” for those that are and “dangerous” for weeds that might pose a risk to humans.
Pest Updates: Insects

Rose pests (minor)

Now that the roses are starting to recover from winter, the insects are moving in. There are two pests working on roses now, the rose slug sawfly and the rose plume moth. Rose slug sawfly (*Endelomyia aethiops*) larvae feed on the upper layers of the leaf, leaving behind the lower epidermal layer and creating a "window pane" effect. The larvae are greenish yellow with orange heads and are about ½ inch long when fully grown (figure 2). 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.

The larvae of the rose plume moth is also at work on roses. This larva is a caterpillar and is approximately ½ inch long (figure 3). It is light green with a reddish stripe running from its head to the middle of its body at one point in its life cycle. The adults (figure 4) are present June through August. New larvae are produced in fall and overwinter inside the stems of the rose. They resume feeding in spring (May).

Plume moth larva has been most commonly found near the tips of rose bushes, damaging the buds and leaves and sometimes creating some webbing. The caterpillar’s color blends with the color of new rose growth nearly perfectly, so they may be difficult to find. A lot of frass (insect feces) is also found in these areas.

**Management:** Minor infestations of rose slug sawfly can be controlled by using a forceful jet of water to dislodge the sawfly larvae or by handpicking. There may be no need of management at all as the larvae will be pupating soon and the damage will end.

For rose plume moth larvae, pruning off infested tips may be the best management advice that can be offered at this time. Since this is a caterpillar, *Bacillus thurengiensis kurstaki* (*Btk*) should be effective, but is best used when the caterpillars are small, and we are getting past that stage.

Good website:  
[http://hort.uwex.edu/articles/roseslug-sawfly](http://hort.uwex.edu/articles/roseslug-sawfly)
**Spittlebug (minor)**

We’re starting to see spittle bugs on a number of plants (especially perennials). They can be identified by the frothy white mass they produce on foliage and twigs (figure 5). The spittle, consisting of plant juices, is made by the immature bug to keep it moist and protect it from its enemies. 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 in our region.

**Management:** Control is rarely necessary, but 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: [http://urbanext.illinois.edu/focus/spittlebug.cfm](http://urbanext.illinois.edu/focus/spittlebug.cfm)

**Viburnum crown borer revisited (serious)**

Back in mid-May (issue 5, May 16) we encouraged inspection of viburnums to look for the stems damaged by viburnum crown borer (figure 6). Adults should start flying and mating between 500 and 600 GDD (base 50). If you plan to treat with an insecticide, the time is now since the insecticide is meant to keep the new hatched larvae from entering the wood. Permethrin should be applied to trunks from 12 inches above soil level down to the base of the plant.

Good web sites:
- [http://hort.uwex.edu/articles/viburnum-borer](http://hort.uwex.edu/articles/viburnum-borer)

**Gall again (minor)**

The parade of galls continues. Remember that most galls really don’t harm the plant, and there is generally no cause for alarm. We put this information in the newsletter so that when you come across one of these you can say “Oh, that’s just another gall.”

This week a light infestation of galls was found on fragrant sumac (*Rhus aromatica* ‘Gro-low’). These are caused by
eriophyid mites. They present as small bumps on the leaves (figure 7). Hackberry nipple gall is showing up on the leaves of hackberry (*Celtis occidentalis*). The galls look like small round bumps at this point but they will grow and elongate (figure 8). The adult female psyllids lays eggs on the underside of the leaves early in the season. When the eggs hatch about a week later, the plant grows tissue around the nymphs in response to the feeding of the insect. Inside the gall resides a tiny yellow to orange psyllid nymph. Hackberry is the only known host of this psyllid. The psyllids are also called jumping plant lice because of their ability to jump. Hackberries frequently get nipple galls. As a matter of fact, they are so common that many people think they are a normal part of the plant.

**EAB update**

Reports from the field indicate that EAB adults are definitely out and about. Arborists report them flying around even as they remove infested trees.

**Pest Updates: Disease**

**Oak leaf blister (minor)**

Oak leaf blister, caused by the fungus *Taphrina caerulescens*, has been found on bur oak. Leaves develop wrinkled, raised, pale whitish-yellow blisters on their upper surface (figure 9) and corresponding gray depressions on the lower leaf surface in spring and early summer. Blisters range from 1/10th of an inch to an inch in diameter. As they age and merge, the blisters turn reddish brown with pale yellow margins, and the leaf may become distorted. Red oak (*Quercus rubra*) is the most susceptible species. Oak leaf blister, like other *Taphrina* diseases, usually develops only during cool, wet springs and is mostly a cosmetic problem. Infected leaves become distorted and may prematurely drop. The disease usually slows during the summer.

**Management:** The fungus survives the winter on twigs and bud scales. On oak, leaf blister is more unsightly than harmful, so control is not a high priority.

Good web site:
http://www.ag.uiuc.edu/~vista/abstracts/a663.html
Powdery Mildew (Minor)

Powdery mildew has been found by our scouts on the leaves of ninebark (*Physocarpus opulifolius*) (figure 10), but it may start showing up on other plants soon. Hundreds of plant species are susceptible to powdery mildew, but the disease is caused by many different species of fungi which are host specific. This means that the powdery mildew on coralberry will not infect lilacs and so forth.

Powdery mildew appears as a superficial white to gray coating over leaf surfaces, stems, flowers, or fruits of affected plants. Initially, circular powdery white spots appear. These spots coalesce producing a continuous patch of “mildew.” Later in the season, cleistothecia (fungal fruiting bodies that look like black pepper under a hand lens) will appear. Warm days and cool nights favor this fungal disease, and we are currently seeing this weather pattern. The fungi that cause powdery mildew are deterred by free water since spores will not germinate in free water on leaves. However, the fungus still needs high humidity to infect the plant. Leaf curling and twisting result, and in severe infestations you may see premature defoliation and deformed flower buds. Although unsightly, powdery mildew is usually not fatal in the landscape.

**Management:** Infected plant parts should be removed as soon as symptoms appear. Dispose of fallen leaves and do not handle plants when foliage is wet. Water plants during periods of drought to keep them healthy. High humidity can increase disease severity so avoid overhead watering in late afternoon or evening. Put plants in locations where there is good soil drainage and sufficient sunlight. Provide proper plant spacing for good air circulation. Powdery mildew on some plants can result in significant damage, and fungicides may be needed. To obtain optimum results, spray programs should begin as soon as mildew is detected. In the future, plant mildew-resistant cultivars and species.

Good websites:

http://ohioline.osu.edu/hyg-fact/3000/3047.html

Miscellaneous

Blossom-end Rot

The tomato-growing season has begun and it is time to be proactive and prevent blossom-end rot. Blossom-end rot is common on tomatoes, peppers, and eggplant. It is not a disease, but a symptom of calcium deficiency. Generally, we do have enough calcium in the soil, but it needs to be transported up
to the developing tomato in the water taken up by the roots of the plant. In times when rainfall is inadequate or the gardener is not supplying enough water, the calcium does not make it all the way to the developing tomato. If the calcium does not make it to the tomato, the blossom end (the bottom of the tomato) starts to break down. This often starts as a small blacked area (figure 11). In some cases the spot will enlarge, sometimes covering the entire lower end of the tomato. The affected area may become sunken and leathery.

**Management:** One of the most important management techniques is to avoid fluctuations in water supply. Keep soil consistently moist, providing about one inch of water per week. In very hot weather that may need to be increased to one inch every five days. Use mulch to conserve water. Avoid cultivating too close to the plant as this may damage roots. Remove affected fruit to allow water and calcium to go to developing fruit that have not been affected. When fertilizing use the nitrate form of nitrogen rather than the ammonia form. Excess ammonia can reduce the uptake of calcium. Although lime is a calcium source, it is not recommended in the high pH soils of northern Illinois.

Good websites:

http://ohioline.osu.edu/hyg-fact/3000/3117.html

http://vegetablemdonline.ppath.cornell.edu/factsheets/Tomato_BlossRt.htm

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**Bartlett Tree Experts, Presenting Sponsor of the Plant Clinic.**

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 Heath 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: Bill Coates, LeeAnn Cosper, Anne Finn, Ann Klingele, Loraine Miranda, and Bill Sheahan. Your hard work is appreciated. Thanks also to Donna Danielson who teaches at the Arboretum. She scouts as she prepares for her classes and shares her findings with 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 and other indicator plants can be found at: http://ccesuffolk.org/assets/Horticulture-Leaflets/Using-Growing-Degree-Days-for-Insect-Pest-Management.pdf

http://www.ipm.msu.edu/agriculture/christmas_trees/gdd_of_landscape_insects


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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