

# Plant Health Care Report

Scouting Report of The Morton Arboretum

May 20, 2011

Issue 2011.05

Our report includes up-to-date disease and insect pest and abiotic problem information 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 Friday in April and August, and weekly May-July.

Arboretum employees and volunteers will be scouting our grounds for insects and diseases throughout the season. Information about other pest and disease problems based on samples brought into the Arboretum's Plant Clinic from homeowners and professionals will also be included.

Over the course of the next year the Plant Health Care Report (PHCR) will be undergoing some format changes, but will still be offering the same content. [If you prefer a PDF version of the PHCR please click here to download and print.](#)

In order to give our audience the information they want and in the format that works best for them, we're polling our readers to find out our reader's demographics, interests, and how they access the PHCR. Please take a few minutes to take this eight question survey through Survey Monkey (no sign-up required): <http://www.surveymonkey.com/s/BD72GMQ>

**Accumulated Growing Degree Days (Base<sub>50</sub>):** 198.5

**Accumulated Growing Degree Days (Base<sub>30</sub>):** 1211

**This week's Indicator Plant:** Wayfaring tree viburnum (*Viburnum lantana*)

## Index

### Weather update

**Insect update:** Emerald ash borer

### Pest Update:

#### Insects

- Aphids

#### Diseases

- Sycamore anthracnose
- Apple scab
- Peachleaf curl
- Black knot
- Rose rosette



Wayfaring tree viburnum (*Viburnum lantana*) (Photo courtesy of John Hagstrom)

## Weather update

As of May 18, 2011, we are at 198.5 base-50 growing degree days (GDD<sub>50</sub>), which is 94 GDD<sub>50</sub> (20 calendar days) behind 2010, and behind the historical average (1937-2010) by 107.2 GDD<sub>50</sub> (11 calendar days). May has seen 0.70" precipitation, which brings us to 10.97" of precipitation for the year, which is 0.28" more than 2010.

	<b>B<sub>50</sub> Growing Degree Days through May 18, 2011</b>	<b>Precipitation (inches) May 13-18</b>
Aurora, IL*	197	
Carbondale, IL*	678	
Chicago Botanical Gardens**		
Chicago Midway*	164	
Chicago O'hare**	181.5	1.06
Crystal Lake, IL*	185	
Harvard, IL*	167	
Kankakee, IL*	278	
The Morton Arboretum	198.5	0.51
Peoria, IL*	378	
Quincy, IL*	448	
Rockford, IL*	201	
Springfield, IL*	465	
Waukegan, IL*	114	
Champaign, IL*	373	

\*\*Thank you to Mike Brouillard, Northbrook Park District, and 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/?zip=60185&model=2&state=IL>

## Insect Update

The spring update for emerald ash borer information is now available:

[http://www.agr.state.il.us/eab/PDFs\\_for\\_web/Newsletters/NLSpring11.pdf](http://www.agr.state.il.us/eab/PDFs_for_web/Newsletters/NLSpring11.pdf)

## Pest Update - Insects

### Aphids

Aphids have been found on several plant species. Aphids can be green, black, brown, red, pink or another color depending on the color of the sap of the host plant. They have pear-shaped bodies from 1/16 to 1/8 inches long. Aphids have tubes coming out of the back of their abdomen. These tubes are called cornicles. Pheromones are released from the cornicles. Aphids are sucking insects and can eat a large quantity of sap. They excrete honeydew (liquid sugary insect excrement), which makes the plant sticky. Later, sooty mold may grow on the honeydew that makes the foliage and stems black.



**Management:** Healthy plants can withstand low to medium numbers of aphids. Natural enemies such as lady beetles, green lacewings, hover flies, and parasitic wasps often do a good job of controlling aphids. Sometimes we check a plant that has been attacked by aphids several days after the infestation and they're all gone. Substantial numbers of any of these natural enemies can mean that the aphid population may be reduced rapidly without the need for treatment. Aphids can be dislodged from plants using a strong jet of water from the hose (syringing). Periodic syringing will keep the aphid populations low and allow the parasites and predators to build up to effective control levels. In severe infestations, chemical control may be warranted. Use horticultural oils and insecticidal soaps, because these materials provide good control and tend to cause less harm to the beneficials. Contact and systemic insecticides are also effective in controlling aphids. For specific chemical recommendations, refer to the *Commercial Landscape and Turfgrass Pest Management Handbook 2010*(CPM) if you are a commercial applicator or the *Home, Yard and Garden Pest Guide 2008*(HYG) if you are a homeowner.

**Suggested reading:**<http://www.ipm.ucdavis.edu/PMG/PESTNOTES/pn7404.html>  
<http://www.urbanext.uiuc.edu/bugreview/aphids.html>

## Pest Update - Diseases

### Sycamore anthracnose



American sycamores (*Platanus occidentalis*) are showing symptoms of anthracnose, caused by the fungus *Apiognomonia veneta*. Leaf blight symptoms are brown foliar lesions that extend along the veins, often in V-shaped patterns. The leaves turn brown and may drop prematurely. Sycamore anthracnose is enhanced by cool, wet weather during leaf development and dissipates during hot weather. Considerable defoliation may occur in late spring, but trees normally bounce back and produce a second set of leaves that remain disease free.

There are two other stages of this anthracnose: shoot and leaf blight and canker formation. Shoot and leaf blight results when the pathogen enters succulent shoots. It causes the rapid death of expanding shoots and leaves. The pathogen overwinters in twigs and is active whenever temperatures are high enough in the fall, winter, and spring. During winter, cankers form on infected shoots and kill the buds.

Repeated infection results in deformed shoots and witches brooms (dense clusters of twigs). Although this disease can weaken trees and increase their susceptibility to attack by other pathogens and pests, it is not lethal.

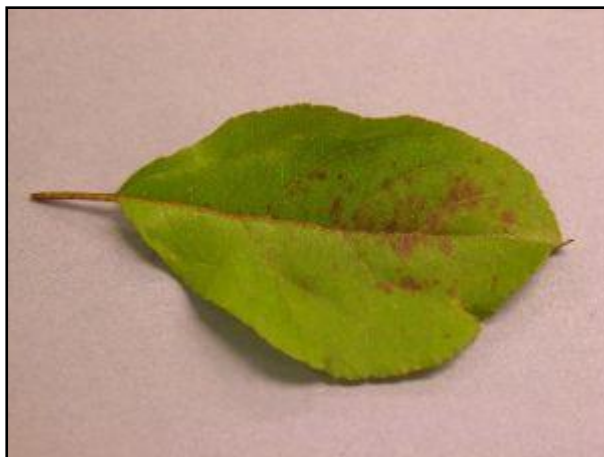
**Management:** Dead twigs should be pruned as they develop throughout the growing season. Fertilize trees that are defoliated to increase their vigor. In the fall, rake and discard fallen leaves to reduce the source of inoculum. It is impractical to spray fungicides on large trees, but for smaller, specimen trees, the disease can be controlled with fungicides applied in four intervals: 1) just before bud break, 2) during bud break, 3) when leaves are fully expanded, and 4) 10 to 20 days later. Systemic fungicide injections are also used in spring and fall. For specific chemical recommendations, refer to the CPM or HYG.

In the future, plant resistant varieties. Oriental plane tree (*Platanus orientalis*) and London plane tree (*Platanus x acerifolia*) are less susceptible than American sycamore. Unfortunately, they are less cold hardy so they must be sited carefully.

**Suggested reading:** [http://www.na.fs.fed.us/spfo/pubs/fidls/anthracnose\\_east/fidl-ae.htm](http://www.na.fs.fed.us/spfo/pubs/fidls/anthracnose_east/fidl-ae.htm)  
<http://www.ext.colostate.edu/pubs/garden/02930.html>

### Apple scab

Japanese flowering crabapple (*Malus floribunda*) are showing initial symptoms of apple scab. The lesions look like velvety, olive-green leaf spots and will continue to develop into larger, irregular dark spots. Sunken spots may also appear later on fruits. Often lesions develop along the mid-veins of the leaves. Infected leaves eventually turn yellow and drop prematurely on susceptible hosts. The scab fungus (*Venturia inaequalis*) overwinters on fallen leaves and on lesions on twigs. Sunken spots may appear later on fruits, and susceptible crabapples can be defoliated in severe disease years.



Scab severity is directly related to hours of leaf wetness, temperature, and host susceptibility. In years, such as 2009, when the spring was cool and wet for a long period of time, apple scab was severe. In 1995 and 1998 apple scab was also severe, because of the wet and mild March, April and May. Scab severity is much less during dry springs.

**Management:** The best way to avoid apple scab is to plant resistant varieties (see below). The Morton Arboretum brochure "Crabapples for the Home Landscape" lists recommended crabapples and discusses their resistance to several diseases. It is available at [http://www.mortonarb.org/index.php?option=com\\_content&view=article&id=858&Itemid=6](http://www.mortonarb.org/index.php?option=com_content&view=article&id=858&Itemid=6). Remember, resistant does not mean immune. Resistance just means that in the typical year, a resistant plant won't suffer as

much from the disease as a susceptible plant. However, it may exhibit symptoms in severe scab years.

Caring for your trees, such as watering during summer droughts, may moderate effects of defoliation and reduced photosynthesis in affected trees. As the fungus overwinters on fallen leaves and blighted twigs, collecting and destroying these infected tissues may help reduce the source of inoculum next year. For information about chemicals to use for serious infections, refer to the CPM if you are a commercial applicator or HYG if you are a homeowner.

Some crabapple cultivars resistant to apple scab:

*Malus* 'Adirondack'\*\*

*Malus* 'Makamik'\*

*Malus baccata* var. *jackii*\*

*Malus* Molton Lava 'Molazam'\*\*\*

*Malus* 'Beverly'\*

*Malus* 'Prairifire'\*\*

*Malus* Camelot 'Camzam'\*\*

*Malus* 'Professor Sprenger'\*\*

*Malus* 'Centennial'\*\*

*Malus sargentii\*\**

*Malus* 'Dolgo'\*\*

*Malus* 'Tina'\*\*

*Malus* Harvest Gold 'Hargozam'\*

*Malus* 'Sinai Fire'\*\*

*Malus hupehensis*\*

*Malus* 'Strawberry Parfait'

*Malus* 'Luwick'\*\*

*Malus* Sugar Tyme 'Sutyzam'

\*show good resistance to cedar-apple rust

\*\* show good resistance to cedar-apple rust and fire blight

\*\*\* show good resistance to fire blight

**Suggested reading:**<http://learningstore.uwex.edu/pdf/A2173.pdf> and  
<http://urbanext.illinois.edu/focus/applescab.cfm>

### Peach leaf curl

Peach leaf curl (*Taphrina deformans*) was diagnosed on peach (*Prunus persica*). This fungal disease is most severe when cool, wet weather is prevalent when the leaves are first emerging, as we had in April. Young, succulent leaves become puckered and deformed as they develop. The puckers almost look like popcorn. The puckered areas turn yellow and then red. A white bloom appears on the deformed part of the leaf. Shortly after, the leaves turn yellow and fall off. Diseased twigs become swollen and stunted. Diseased fruits also become distorted and swollen





with discolored areas on the skin. Peach leaf curl generally does not kill the tree, but annual infections may weaken the tree and predispose it to other problems.

**Management:** The fungus overwinters in buds. Fungicides are only effective when applied in fall after leaf drop or in spring before buds swell. Once the leaves have emerged, fungicides are no longer effective. For specific chemical recommendations, refer to the CPM and HYG.

**Suggested reading:** <http://www.ipm.ucdavis.edu/PMG/PESTNOTES/pn7426.html>  
[http://www.umassgreeninfo.org/fact\\_sheets/diseases/peach\\_leaf\\_curl.pdf](http://www.umassgreeninfo.org/fact_sheets/diseases/peach_leaf_curl.pdf)

### Black knot

Black knot (*Dibotryon morbosum*) has been found on last year's growth on black cherry (*Prunus serotina*) at The Arboretum. This is a serious and widespread problem of trees in the genus *Prunus*, especially plums and cherry trees.

*Dibotryon morbosum* is a fungus that overwinters in the hard, brittle, rough, black "knots" on twigs and branches of infected trees such as wild black cherries in the woods or abandoned cherry orchards. These knots look like burnt marshmallows wrapped around branches and twigs. 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 hypertrophied growth (the plant's overgrowth) of bark and wood is a response to hormones and produces the swellings that we are now 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 on the swelling. The swellings 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 control. Prune and discard, burn, or chip and compost 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. Some recommend painting wounds greater than two inches in diameter with shellac and covering with wound dressing. This may prevent infections but may also impede wound healing. It is better to prevent larger limbs from developing knots. Chemical recommendations include a dormant fungicide spray. Perhaps consider this next year if you can't get the disease under control through sanitation. For chemical recommendations, refer to the CPM or HYG.



#### Suggested

**reading:** [http://plantclinic.cornell.edu/Fact\\_Sheets/black\\_knot/blacknot.htm](http://plantclinic.cornell.edu/Fact_Sheets/black_knot/blacknot.htm)  
<http://www.mobot.org/gardeninghelp/plantfinder/ipm.asp?code=12>

## Rose rosette

Rose rosette disease has been found causing tiny, stunted leaves on several various rose cultivars (*Rosa* sp.). Rose rosette is believed to be caused by a virus or virus-like organism and is vectored by a small eriophyid mite. It can also be spread through grafts. *Rosa* sp. are the only known hosts, and all types of roses are infected, though multiflora is the most common host. Plants often die within one to two years after infection.

It is not always easy to diagnose this disease as symptoms vary depending on the species or cultivar infected. When all of the symptoms listed below are present, diagnosis is relatively straightforward. However, a diseased plant usually exhibits just a few of these symptoms, especially in the early stages of the disease. Symptoms include rapid elongation of new stems, followed by development of witches' brooms that appear as numerous red side shoots growing in different directions. Tiny and distorted leaves often, though not consistently, have a red coloration or a mosaic of green, yellow, and red. Thorns are much more abundant than normal, often giving a somewhat hairy appearance to the cane. Canes are thicker than the parent cane from which they emerged. Short, deformed shoots, often with red blotches, and distorted flowers with fewer petals than normal and abnormal coloration appear. Aborted buds, deformed buds, or buds are converted to leaf-like tissue.



**Management:** Infected plants cannot be cured and should be dug up and destroyed (including roots) when symptoms first appear.

**Suggested reading:** <http://hyg.ipm.illinois.edu/article.php?id=101>  
<http://ipm.illinois.edu/diseases/series600/rpd666/index.html>

**What to look for in the next week:** Spittle bug, spruce needleminer, honeylocust plant bug adults, ash plant bug, gypsy moth larvae

Thank you...I would like to thank the volunteers that scouted this past week and found most of the insects and diseases that are in this report. The Scouting Volunteers for this Report include: Mary Carter Beary, Davida Kalina, Fritz Porter, LeeAnn Cosper. Your hard work is appreciated.

The Plant Health Care Report is prepared by Stephanie Adams, M.S., Plant Health Care Technician, and edited by Donna Danielson, M.S., Plant Clinic Assistant; Fredric Miller, Ph.D., research entomologist at The Morton Arboretum and professor at Joliet Junior College; Doris Taylor, Plant Information Specialist, and Carol Belshaw, an 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.

**Literature recommendation:**

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/>

The *2010 Commercial Landscape & Turfgrass Pest Management Handbook* (CPM), for commercial applicators, and the *Home, Yard & Garden Pest Guide* (HYG) for homeowners from the University of Illinois, are available by calling (800-345-6087).

This report is available on-line at The Morton Arboretum website at <http://www.mortonarb.org/tree-plant-advice.html>

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](mailto:plantclinic@mortonarb.org) . Inquiries or comments about the PHC reports should be directed to Stephanie Adams at [sadams@mortonarb.org](mailto:sadams@mortonarb.org) .

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