

Plant Health Care Report

Scouting Report of The Morton Arboretum

July 29, 2011

Issue 2011.15

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. The last two issues will be published August 12 and 26.

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 this 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.](#)

If you would like to receive a notification email when the PHC Report is available on-line, send me an email (sadams@mortonarb.org) with 'subscribe to PHCR notification' in the subject. The emails on the notification list are only used for the notification and nothing else.

Accumulated Growing Degree Days (Base₅₀): 3906

Accumulated Growing Degree Days (Base₃₀): 1577

I've run out of Orton's Indicator Plants for the year. I took a walk in the Schulenburg Prairie and saw all the beautiful Bee balm (*Monarda fistulosa*) blooming and thought it would make a nice "indicator" plant.

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Weather update

As of July 29, 2011, we are at 1577 base-50 growing degree days (GDD₅₀), which is 313 GDD₅₀ (about 12 calendar days) behind 2010, and behind the historical average (1937-2010) by 197 GDD₅₀ (8 calendar days). July has received 4.42" of precipitation, which brings 2011 to 25.26" total, which is 6.01" less than 2010.

	B₅₀ Growing Degree Days through July 29, 2011	Precipitation (inches) July 22-July 27
Aurora, IL*	1767	
Carbondale, IL*	2719	
Chicago Midway*	1681	
Chicago Botanic Gardens**	1564 (7/27)	5.87
Chicago O'hare**	1673 (7/27)	8.61 (7/20-7/26)
Crystal Lake, IL*	1728	
Harvard, IL*	1646	
Kankakee, IL*	1976	
The Morton Arboretum	1577.5 (7/27)	3.58
Peoria, IL*	2178	
Quincy, IL*	2312	
Rockford, IL*	1763	
Springfield, IL*	2324	
Waukegan, IL*	1514	
Champaign, IL*	2163	

**Thank you to Mike Brouillard, Northbrook Park District, and Chris Henning, Chicago Botanic Gardens, 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>

Pest Update: Insects

Gypsy moths



Pheromone traps at The Morton Arboretum have been up for four weeks and several male gypsy moths have been collected. The first moths were seen on July 14 and then 305 were collected from the traps on July 22. Since 2009 the numbers of males caught have been going down here at The Arboretum. In 2009, a total of 1480 males were caught. In 2010, 652 total (593 on July 20, 2010).

Adult males are brown with black markings, feathered antennae, and

have a wingspan of one and a half inches. Female moths are white to cream-colored with black markings on their wings and have a wingspan of about two inches. Although winged, the females are too heavy to take flight.

Females lay egg masses in July and August on branches and trunks of trees. They are also found in sheltered locations such as under loose bark, in woodpiles, on outdoor furniture, or the undersides of vehicles. The egg masses are buff colored, covered with hairs, and about one and a half inches long. It is easiest to wait until the leaves are fallen off the tree in autumn to look for egg masses.

Management: Gypsy moth control was mentioned in issue 2010.01

http://www.mortonarb.org/images/stories/pdf/plant_healthcare_reports/PHCR_April_2_2010.pdf

Suggested reading: <http://www.agr.state.il.us/Environment/Pest/gypsymoth.html>

Mourning cloak butterfly

The second of two generations of mourning cloak butterflies, have recently been found at The Arboretum. The larval stage, spiny elm caterpillar (*Nymphalis antiopa*), were feeding on the leaves of hackberry (*Celtis occidentalis*), elm (*Ulmus*), and birch (*Betula*) a few weeks ago.



Mourning cloak butterflies spend the winter as adults and are frequently seen out flying on the first sunny days of early spring. The caterpillars are purplish-black with white specks and a row of orange to red spots along the back with branched spines circling the body. They ultimately grow to 5.1 cm (2 in) long at maturity. They often feed in large groups. It is common for these caterpillars to defoliate one branch first before moving to the next one.

Management: Although common, these caterpillars usually do not develop in high enough numbers to cause much damage. Numerous parasites and predators, including parasitic wasps and some birds, help keep spiny elm caterpillar populations under control. *Bacillus thuringiensis* var. *kurstaki* (Btk) is effective against young larvae, but is not as effective against older larvae.

Pest Update: Diseases

Phomopsis tip blight

A *Phomopsis* species has been found causing tip blight on Douglas fir (*Pseudotsuga menziesii*). *Phomopsis* tip blight damages new growth and succulent branch tips of several conifer species (Family Cupressaceae: eastern red-cedar (*Juniperus virginiana*), Rocky Mountain (*J. scopulorum*), and creeping junipers (*J. horizontalis*), also on cypress, false cypress, fir, larch, and white-cedar).

Infection symptoms include foliage turning yellow, then brown and eventually gray as the fungus girdles branches and causes blighting of foliage beyond the infection point. In the advanced stage, pinhead-sized black pycnidia, the reproductive structures of the fungus, can be found on blighted twigs, particularly the gray colored areas. Old, mature foliage is resistant to infection. Note that similar branch tip dieback symptoms may result from winter injury, frost damage, and drought; however, injury from abiotic sources will be more uniformly dispersed on a plant and may not result in black fungal fruiting bodies.



Management: Spores of *Phomopsis* are produced on the blighted twigs throughout the summer so infection can occur whenever succulent foliage and twigs are available and moisture or humidity is high. Eliminate the source of the spores, which are found on blighted twigs, by pruning dead and dying tips now. Remove tissue four to six inches below the symptoms and restrict pruning to dry weather.

Avoid excessive shearing and high nitrogen fertilizers that encourage succulent growth. Space plants to provide good air circulation and avoid heavily shaded areas. Water plants in early morning so the foliage dries before nightfall. If you've had severe problems in the past, chemical sprays should be applied when new flushes of growth appear later this spring. Fungicides containing chlorothalonil + thiophanate-methyl can be used to protect new growth. Be sure to read the chemical label and apply according to the labeled rate, timing, and intervals. Refer to the *2010 Commercial Landscape & Turfgrass Pest Management Handbook* (CPM), for commercial applicators, and the *2008 Home, Yard & Garden Pest Guide* (HYG), for homeowners, for specific and up-to-date chemical recommendations.

Suggested reading: <http://plantclinic.cornell.edu/FactSheets/junipertipblight/juniper.htm>
<http://ohioline.osu.edu/hyg-fact/3000/3056.html>

Pythium tip blight

A monkshood (*Aconitum* species) with discolored, flaccid, and withered foliage was recently found with a *Pythium* infection. *Pythium* species are closely related to *Phytophthora*, which are known to cause root, crown, and canopy blights. *Pythium* is known as one of the pathogens that causes 'damping off' (when seeds germinate and the seedling suddenly keels over) of seedlings (the other being *Rhizoctonia*). There are a variety of *Pythium* species that cause disease on many herbaceous hosts. The best way to prevent disease is to buy healthy-looking nursery plants, to not overwater, to not water the leaves of a plant, and to encourage good drainage. If you find blighted plants in the landscape, do not replant with the same plant species. Fungicides are available to commercially licensed applicators.



Volutella on boxwood

Volutella blight, caused by *Volutella buxi* (asexual stage of *Pseudonectria rousseliana*), was diagnosed on boxwood (*Buxus*) on our grounds. Volutella is an opportunistic pathogen. 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 are more susceptible to the disease than young succulent tissue.



Symptoms first noticed in late mid- to late-summer are brown to tan leaf margins, discolored new growth, and blighting. During extended wet periods, orangish-pink fungal spore masses may be visible on the underside of leaves and on branches. Eventually, large patches of the shrub may become infected and die.

Management: Purchase healthy plants that are free of disease. 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, prune, 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. Copper sulfate and mancozeb fungicides can be used to help treat infestations. Be sure to read the chemical label before applying any pesticides and only apply them as directed. For up-to-date chemical recommendations, refer to the CPM or HYG from the University of Illinois if you are a homeowner.

Suggested reading: http://www.umassgreeninfo.org/fact_sheets/diseases/vollutella_blight.pdf

What to look for in the next week: tussock moth larvae, fall webworm, lacebugs, tar spot on maple, soldier beetles, ash virus

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: Fritz Porter, Ann Klinge, Loraine Miranda, Bill Sheahan, and Jack Leider. Your hard work is appreciated.

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Fredric Miller, Ph.D., research entomologist at The Morton Arboretum and professor at Joliet Junior College; Sharon Yiesla, Plant Clinic Assistant; 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:

Cranshaw, Whitney. 2004. *Garden insects of North America, the ultimate guide to backyard bugs*. Princeton University Press.

Johnson, Warren T. and Howard H. Lyon. 1991. *Insects that feed on trees and shrubs*. 2nd edition. Comstock Publishing Associates.

Orton, Donald A. *Coincide, The Orton System of Pest and Disease Management*.
<http://www.laborofloveconservatory.com/>

Sinclair, Wayne A. and Howard H. Lyon. 2005. *Diseases of trees and shrubs*. 2nd edition. Comstock Publishing Associates.

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).

Wagner, David L. 2005. *Caterpillars of North America*. Princeton University Press.

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 . Inquiries or comments about the PHC reports should be directed to Stephanie Adams at sadams@mortonarb.org .