

Plant Health Care Report

Scouting Report of The Morton Arboretum

May 15 – May 21, 2009

Issue 2009.06

Our report includes up-to-date disease and insect pest reports, as well as color images, 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.

Quick View

What Indicator Plants are in Bloom at the Arboretum?

Don Orton's favorite indicator plant, bridalwreath spirea (*Spiraea x vanhouttei*), is in full bloom.

Accumulated Growing Degree Days (Base 50):
237.5

Insects

- Aphids
- Honey locust plant bug
- Azalea sawfly
- Cankerworm
- Euonymus scale
- Pine needle scale
- Slugs
- Columbine leafminer
- Oak apple gall
- Maple bladder gall
- Eriophyid mite gall on prunus
- Leafroller on hawthorn



Diseases

- Fire blight
- Rose rosette
- Maple anthracnose
- Oak anthracnose
- Hosta virus X
- Crown rust on buckthorn

Weed Note

- Garlic mustard
- Bull thistle

Degree Days and Weather Information

As of May 21, 2009 we were at 237.5 growing degree days. As of May 21 we are 8 days behind the historical average (1937-2006) and 4 days ahead of last year.

Location	Growing Degree Days through May 21	Precipitation between May 15 to May 21 in inches
The Morton Arboretum (Lisle, IL)	237.5	.73
Chicago Botanic Garden (Glencoe, IL)*	187	.63
Chicago O-Hare Airport*	217	.84
Aurora, IL	202	
Champaign, IL	366.6	
DuPage County Airport (West Chicago, IL)	273.6	
Decatur, IL	404.4	
Moline, IL	300.9	
Peoria, IL	354.0	
Quincy, IL	425.3	
Rockford, IL	229.7	
Waukegan, IL	166.9	
Wheeling, IL	220.5	

*Thank you to Mike Brouillard, Green Living, Inc., and Chris Yooning, Chicago Botanic Garden, for supplying us with this information.

This Week's Sightings

Aphids



Black aphids were found on the leaves of Autumn Joy stonecrop (*Sedum* 'Herbstfreude'). 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" (just like frass, it is insect excrement) which makes the plant sticky. Later, sooty mold may grow on the honeydew that makes the foliage and stems black.

Control: 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 2007*(CPM) if you are a commercial applicator or the *Home, Yard and Garden Pest Guide* (HYG) if you are a homeowner.

Good web sites:

<http://www.ipm.ucdavis.edu/PMG/PESTNOTES/pn7404.html>

<http://www.urbanext.uiuc.edu/bugreview/aphids.html>

Honey locust plant bug

Honey locust plant bug nymphs are now feeding on newly-emerging honey-locust leaves (*Gleditsia triacanthos*). The easiest way to find these and other plant bugs is to shake a branch over a white piece of paper. When you see a tiny green insect crawling on the paper, look at it through your hand lens. Honey-locust plant bugs have a pair of four-segmented antennae, although the antennae are probably too small at this stage to see without a microscope. Older nymphs also have yellow spots on their backs. This plant bug overwinters as an egg under the bark of two- and three-year-old twigs. The eggs hatch soon after bud break and the nymphs crawl to unfolding leaves to feed. In late May to early June, the plant bugs will become adults. Both nymphs and adults feed on foliage until early summer and can cause severe leaf distortion, dwarfed leaflets, chlorosis, and yellow-brown leaf spots. A heavy plant bug infestation may cause a failure to leaf out or premature leaf drop. In the past, our heavily infested trees were able to leaf out again.



Control: Young nymphs can be knocked off leaves of small trees by spraying them with a strong stream of water. In severe infestations, insecticidal soaps, summer oils, and insecticides may be warranted. For chemical recommendations, refer to the CPM for commercial applicators, or the HYG for homeowners. Resistant cultivars can be planted such as 'Skyline' and 'Shademaster'. In general, yellow-leaved cultivars are more susceptible to this pest.

Good web site:

<http://woodypests.cas.psu.edu/FactSheets/InsectFactSheets/html/Honeylocust.html>



Azalea sawfly

This insect causes immediate damage. One day a rhododendron looks fine and two days later, holy cow! All you can see are the mid-ribs of the leaves and half the flowers are missing! This week we found them defoliating primrose azalea (*Rhododendron* 'Primrose'). These sawflies feed heavily on azaleas and can defoliate plants, leaving only the midribs of the leaves. The sawflies were about a third of an inch long and insatiable. The sawflies that fed on leaves were green while the larvae feeding on the red flowers were dark brown. Deciduous flame azaleas are said

to be their favorite hosts, but we haven't found much difference in host preference in the landscape.

Control: Minor infestations can be controlled by using a forceful jet of water to dislodge the sawfly larvae or by handpicking. Insecticidal soap can be used on young larvae. More severe infestations can be controlled with Neem oil or insecticidal sprays. Remember, these are sawfly larvae, not caterpillars, so the microbial insecticide *Bacillus thuringiensis* var. *kurstaki* (*Bt*) will not control them. For chemical recommendations, refer to the CPM if you are a commercial applicator or HYG from the University of Illinois if you are a homeowner.

Good website:

http://www.entomology.wisc.edu/diaglab/02hilite/5_29.html

Cankerworm

We are finding spring cankerworms (*Alsophila pometaria*) on honeylocust (*Gleditsia*). Commonly known as the "inchworm", cankerworms are in the same family as loopers (*Geometridae*) and have a characteristic "looping" form of movement (making it quite difficult to take a clear picture of them). The fall cankerworm caterpillar eggs are laid in late fall and winter. The spring cankerworm caterpillar eggs are laid in early spring. Both fall and spring cankerworm eggs hatch at budbreak. Full-grown cankerworms are about one inch in length and range in color from yellow-green to black. Cankerworms feed on the buds and new leaves of host trees in spring, eventually devouring all but the midrib of a leaf and often defoliating an entire tree. Trees suffering from a heavy defoliation will usually produce a second crop of leaves, but their overall vitality may be diminished. Large caterpillars often spin down on silk threads from large trees and feed on dogwood flowers, rose buds and other landscape ornamentals. Cankerworms infest many deciduous trees and shrubs, but prefer elms and apples.

Control: Light infestations are not harmful to tree health and natural enemies such as flies, wasps, and birds help to control the cankerworm population. Heavy infestations can be controlled with *Bacillus thuringiensis* var. *kurstaki* (*Bt*) or insecticides. To obtain good results, *Bt* or insecticides should be applied now when larvae or feeding damage is first noticed in the spring. Refer to the CPM if you are a commercial landscaper or HYG if you are a homeowner for specific chemical control recommendations.

Good websites:

http://www.oznet.ksu.edu/dp_hfrr/extensn/problems/cnkrworm.htm

<http://ohioline.osu.edu/hyg-fact/2000/2558.html>

<http://www.fs.fed.us/r8/foresthealth/idotis/insects/fallcank.html>



Euonymus scale

Euonymus scale (*Unaspis euonymi*) is one of the most common insects that we see in the Plant Clinic, especially on ground cover euonymus like the purple-leaved wintercreeper (*Euonymus fortunei* 'Coloratus'). Scale insects have piercing/sucking mouthparts (like a soda straw). Feeding by euonymus scale causes small yellow or white spots on the upper leaf surfaces. Moderately to heavily infested plants grow very slowly, if at all. Heavy infestations can cause branch dieback and may even kill some plants. Euonymus (*Euonymus* spp.), pachysandra (*Pachysandra* spp.), and bittersweet (*Celastrus* spp.) are the principle hosts. Stressed plants are



most susceptible to attack. Plants growing adjacent to foundations with poor air circulation are more severely damaged. We don't see this insect on burning-bush euonymus (*Euonymus alatus*).

Male adult scales are white, while the females are dark brown and oystershell-shaped. Euonymus scales are armored scales, meaning they have a protective covering over their bodies. The crawlers are tiny and yellow; you definitely need a magnifier or hand lens to see them. Euonymus scales can be found on leaves as well as stems. Euonymus scale overwinters as mated females on plant stems. Eggs develop beneath the scale and hatch during late spring. The tiny yellow crawlers move to new succulent leaves to feed. As they mature, they secrete a waxy protective coating or "armor." There are usually two generations per year in our area. We'll expect to see the second generation in late July and early August.

Control: Pruning out heavily infested branches can help to reduce the number of scales. The crawler stage is vulnerable to insecticides. Insecticidal soaps, summer oils, or insecticides should be applied now to control crawlers. Additional applications are typically recommended. For information about chemicals to use for serious infections, refer to the CPM if you are a commercial landscaper or the HYG if you are a homeowner.

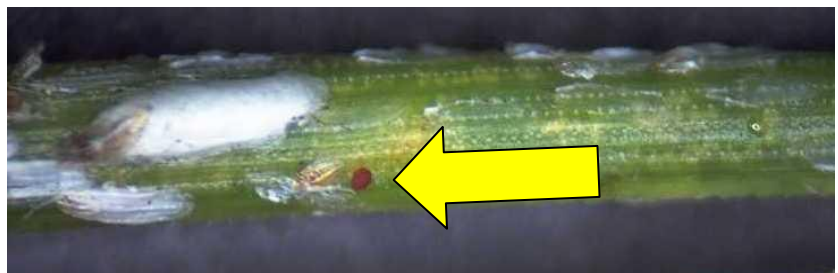
Good web sites:

<http://www.entomology.umn.edu/cues/Web/124EuonymusScale.pdf>

<http://bugs.osu.edu/~bugdoc/Shetlar/factsheet/ornamental/FSscaleeuonymus.htm>

Pine needle scale

The first generation of pine needle scale (*Chionaspis pinifoliae*) hatched from eggs on Austrian pine (*Pinus nigra*) brought into the Plant Clinic. The scales overwinter as eggs beneath a waxy, white female scale cover that looks like a white, tear-drop shaped fleck on a needle. The tiny red crawlers move to a new site on the host plant to feed. They suck juice from needles. As the crawlers develop, they secrete a white, waxy covering over their bodies. By late June or early July, they reach maturity and second generation eggs are laid. Second generation crawlers begin to appear in late July to early August. A heavy infestation will cause needles to turn yellowish brown.



Newly hatched crawler

One easy way to find scale crawlers is to put double-sided tape on each side of colonies of adult scales before egg hatch. When the crawlers hatch, you can see them stuck on the tape.

Heavy infestations can give trees a flocked appearance. After multiple years of severe infestation, branches, and sometimes trees can be killed. Pine needle scale prefers Scots (*Pinus sylvestris*) and mugo pines (*P. mugo*) and occasionally infests Austrian (*P. nigra*), white (*P. strobus*), and red pines (*P. resinosa*).

Control: Several species of ladybird beetles and parasitic wasps are important natural predators of this scale. Insecticidal sprays and soaps are effective only when crawlers are active. Use insecticidal soap instead of a chemical spray as the latter will more readily kill natural predators and beneficial insects. For chemical control, refer to the CPM if you are a commercial applicator or HYG from the University of Illinois if you are a homeowner.

Good websites:

<http://ohioline.osu.edu/hyg-fact/2000/2553.html>

http://woodypests.cas.psu.edu/FactSheets/InsectFactSheets/html/Pine_Needle_Scale.html

Slugs

It's early but no surprise, we have holes in our hosta leaves in our groundcover garden, caused by slugs. Slugs are a common pest in wet weather or if landscapes are watered too often. They are mollusks, not insects, and are related to oysters, octopi, and clams. Slugs secrete a slimy substance to help them move about. They need moisture to create this "slime", so they are highly dependent on soil moisture. Slugs feed at night when humidity is high, so the best time to see them feeding on our plants is to check the plants at night with a flashlight. They feed on many plants in the landscape, including annuals, perennials, bulbs, ground covers, trees and shrubs, preferring succulent foliage and fruit lying on the ground. Slug damage on leaves appears as irregularly shaped holes or tattered edges. Insects also eat leaf margins, but large holes in leaves are more indicative of slug feeding.

The gray garden slug is the most common slug in our area. They average about three quarters of an inch long, but may reach up to one and a half inches. They have two pairs of tentacles on the front end of their body. Most slugs overwinter as eggs in debris. When they hatch in spring, the young slugs begin to feed immediately.



Control: Hostas with thick leaves are much less likely to suffer from slug damage. A combination of strategies is necessary to combat slugs. They can be handpicked and placed in a jar of soapy water. They are not strong swimmers and drown in the jar. Temporary traps of rolled, wet newspaper and boards placed near damaged plants provide shelter for the slugs during the day. Check the boards and papers in the morning. The slugs can then be collected and destroyed. The key to this is to collect and destroy – if you skip this step, you are aiding and abetting the slugs. Slug hideouts, such as excessive mulch piles and weeds, should be eliminated. Watering late in the day should be avoided because the moist conditions make slug movement easier. Some gardeners place shallow pans of beer (cheap beer works fine, save the good stuff for yourself) in slug-infested areas. The slugs are attracted to the yeast and drown in the beer. Thin strips of copper bands placed around the bases of shrubs and trees repel slugs by giving them an electric shock when their bodies touch the copper. Make sure the slugs are not inside the copper bands when setting them out. Insecticides are not effective against slugs because they are not insects. Registered commercial slug baits are available. For more information, refer to the CPM if you are a commercial applicator or the HYG if you are a homeowner.

Good web site:

<http://www.ext.colostate.edu/PUBS/INSECT/05515.html>

Columbine leaf miner

We had a sample of mines in columbine leaves created by the columbine leaf miner (*Phytomyza aquilegivor*) brought into the Plant Clinic this week. Damage is serpentine or snake-like white mines in leaves, usually after the plants flower. The adults are small flies that deposit eggs on the underside of leaves. After hatching, the maggots burrow into the leaves, creating the mines. They drop down into the soil to pupate, emerging as adults to lay the next generation's eggs.

Control: Removing and destroying infested leaves early in the season before they emerge from the leaves. This will help reduce later infestations, because there are several generations.



Good web site:

http://www.urbanext.uiuc.edu/focus/per_aquilegia.html

Oak apple gall



There are numerous types and forms of oak leaf galls. We are now seeing leaf stem and base galls, also referred to as spring galls because they develop while leaves are expanding. Fall galls will begin to appear on oaks in mid-summer when leaves are fully expanded.

Oak apple galls, caused by cynipid wasps, were found on pin oak (*Quercus palustris*). The galls are globe shaped, one to two inches in diameter, and filled with a spongy mass, and they are usually found on the midribs of leaves. The adult cynipid wasp lays eggs in developing leaves and this causes adjacent plant cells to grow and engulf the egg, thereby providing it with food and shelter.

Control: Leaf galls rarely affect tree health, so control is not required.

Good web sites:

<http://www.jmu.edu/biology/k12/galls/oakapp.htm>

<http://www.fs.fed.us/r8/foresthealth/pubs/oakpests/p34.html>

Maple bladder gall

We're starting to see maple bladder galls on the upper leaf surface of silver maple (*Acer saccharinum*). The galls look like small round red beads. They are caused by eriophyid mites (*Vasates quadripedes*) that overwinter in bark crevices. The mites become active in spring and migrate to feed on expanding leaf buds. The feeding induces formation of galls on leaves.

Control: Although the leaves may seem unsightly and there may be some early leaf drop, these galls do not cause much injury to the trees and, therefore, control measures are not needed.

Good web sites:

<http://ohioline.osu.edu/hyg-fact/2000/2004.html>

<http://learningstore.uwex.edu/pdf/A2691.pdf>



Eriophyid mite galls on wild plum

We found galls formed by eriophyid mites on leaves of wild plum (*Prunus americana*). The long, bright pink galls are on the upper side of the leaves and are caused by eriophyid mites (*Vasates quadripedes*). No harm is done by these growths and no control is necessary.



Leafroller



We're finding leafroller larvae on frosted hawthorn (*Crataegus pruinosa*). There are about 200 species of leafrollers that attack ornamental plants. These pale yellow caterpillars roll up leaves and feed from within the shelter of the rolled-up leaf, skeletonizing and tattering the leaves.

Control: None required as leafrollers usually cause minimal damage.

Fire blight

Fire blight has infected pear (*Pyrus communis*) on our grounds. Fire blight is a serious disease of all plants in the rose family, is caused by the bacterium *Erwinia amylovora*. Common symptoms are blossom and shoot blight. Branches are described as looking as though they were burned, thus the name fire blight. Blossoms, leaves, and shoots wilt, turn dark brown, and look water-soaked. Leaves usually persist and succulent shoots that become infected frequently form what looks like a "shepherd's crook." Fire blight infections move rapidly from the blossoms into branches and trunks, causing cankers. The cankers enlarge and may girdle a tree during the growing season. Clear, or sometimes milky, ooze often exudes from fissures on infected shoots and canker margins. The presence of ooze seems to depend on weather conditions. Fire blight bacteria overwinter in canker margins and buds. In spring, bacteria resume division when temperatures rise above 65 degrees. Rain, heavy dews, high humidity, and vigorous tree growth favor the disease. Frequently trees that are heavily pruned and have a lot of subsequent succulent new growth become infested. The bacteria are spread in droplets of ooze carried by pollinating insects, rain, and pruning tools.



Control: It is critical to respond quickly to this disease by removing infected limbs or the entire tree as the disease rapidly spreads. Prune blighted stems during dry weather as soon as they are spotted. You may have to remove the entire tree. Make pruning cuts at least six inches below infected areas and sterilize pruning tools with 70% alcohol, or a similar disinfectant, between cuts. Longer term management requires avoiding crowded plantings, heavy pruning, and high nitrogen fertilizers that can increase succulent growth. Copper-containing chemicals are effective protectants against fire blight. There are other systemic options. For more information, refer to the CPM if you are a commercial applicator or the HYG if you are a homeowner. Trees planted in soils with poor drainage have greater susceptibility to fire blight. Choose well-drained planting sites and plant resistant varieties of Rosaceous plants. According to Pennsylvania State University and Cornell University, the following trees are resistant:

Plant resistant varieties such as:

Plant	Resistant species and cultivars
Crabapple	<i>Malus</i> 'Adams'* , 'David', 'Dolgo', 'Donald Wyman'* 'Harvest Gold', 'Indian Summer'* , 'Jewelberry', 'Liset' * , 'Red Baron', 'Selkirk', and 'Sentinel'
Firethorn	<i>Pyracantha coccinea</i> 'Mojave', 'Navaho', 'Teton', and 'Shawnee'
Cotoneaster	<i>Cotoneaster anoenus</i> , <i>C. adpressus</i> , <i>C. canadensis</i> , <i>C. dammeri</i> var. <i>radicans</i> , <i>C. microphyllus</i> , <i>C. praecox</i> , and <i>C. zabelii</i>
Hawthorn	<i>Crataegus crus-galli</i> , <i>C. phaenopyrum</i> , <i>C. punctata</i> 'Ohio Pioneer', <i>C. viridis</i> 'Winter King'

*Also shows resistance to apple scab.

Good web sites:

<http://www.nysipm.cornell.edu/factsheets/treefruit/diseases/fb/fb.asp>

<http://www.extension.umn.edu/yardandgarden/ygbriefs/p223fireblight.html>

Rose rosette



Rose rosette disease has been found on some of our roses, including scraggle rose (*Rosa dumalis*). Rose rosette disease is also known as witches' broom of rose. Rose is the only known host, but all types of roses are infected. Multiflora rose (*Rosa multiflora*), considered an invasive species, is very commonly infected. Symptoms will vary depending on the kind of rose. For example, on garden roses, early symptoms include rapid stem elongation. Infected canes are much thicker and thorns are much more abundant than normal. Many short, deformed shoots form, often with red blotches on them. There are an increased number of buds and leaves are tiny and distorted. Flowers are also deformed. Early symptoms include a red mosaic pattern that forms on new leaves. Then witches' brooms (numerous red side shoots growing in different directions) begin to form. Leaves are wrinkled, stunted, and reddish green.

The cause of rose rosette disease remains unsolved. The organism is virus-like. A small eriophyid mite is a vector of the disease, although it can also be spread through grafts.

Control: Rose rosette is fatal and there is no practical control. Use healthy plants from the start. Treat the disease like a virus disease and remove and destroy infected plants, including the roots, as soon as symptoms emerge.

Good websites:

<http://www.ext.vt.edu/pubs/plantdiseasefs/450-620/450-620.html>

<http://www.mobot.org/GARDENINGHELP/PLANTFINDER/IPM.asp?code=104&group=67&level=s>

Oak anthracnose

We discovered oak anthracnose, caused by *Discula quercina*, on chinquapin oak (*Quercus muhlenbergii*). Symptoms on trees in the white oak subgenus follow one of three patterns, depending on weather and stage of leaf development during spring. Symptoms of the first pattern occur when the oak is infected early: young leaves turn brown and shrivel during leaf expansion. The second pattern occurs when a later infection produces large, irregular dead areas on sometimes distorted leaves. This is what we're seeing now. After drying, the lesions become papery and turn tan to almost white. A third pattern shows small, necrotic spots on leaves, indicating infection occurred after leaves matured. All three of these patterns start at the bottom of the tree because of high moisture and rainfall flow and can spread upwards.



Control: Although unsightly, oak anthracnose is a minor problem on well-established, vigorously growing trees. Cultural practices such as watering during dry spells, mulching, and removal of fallen leaves will help maintain tree vigor. Rake leaves in the fall and prune dead branches to help reduce the overwintering population of the pathogen. In severe cases where anthracnose has defoliated the tree for three or more years, chemical control may be warranted. It is too late to apply fungicides this year. Fungicides should be applied just before buds open, when leaves are half-grown, and 10 to 14 days later if rainy conditions exist. Refer to the CPM or HYG for information on chemical control.

Good web site:

<http://www.extension.umn.edu/yardandgarden/ygbriefs/P432oakanthracnose.html>

Maple Anthracnose



Maple anthracnose has been found on big-toothed maple (*Acer grandidentatum*). There are three types of foliar symptoms that are caused by two or more different fungi: (1) elongate lesions that form initially along the vein and extend into interveinal areas; (2) irregularly shaped necrotic spots that are often centered on veins; and (3) necrotic blotches that cover large areas of the leaf. The disease is typically more severe during cool, wet weather (like we have had this spring), sometimes even causing defoliation.

Anthracnose necrotic spots can be mistaken for early leaf spots caused by *Phyllosticta minima*, a fungus that causes leaf spots on several species of maples. *Phyllosticta* lesions are initially brown; however, as they age, they develop tan centers and usually form distinct red to purple borders.

Unlike anthracnose, black pycnidia (fruiting bodies) are produced in the *Phyllosticta* lesions.

Control: Maple anthracnose is primarily an aesthetic problem. Proper fertilization and irrigation of trees that have considerable disease may help trees re-leaf and maintain their vigor. Remove fallen leaves to reduce the source of overwintering inoculum.

Good web sites:

http://www.entomology.umn.edu/cues/dx/CB/m_anth.htm

<http://ohioline.osu.edu/hyg-fact/3000/3048.html>

Hosta virus X

'Sum and Substance' with Hosta Virus X – note the mottling and puckering



We are seeing what is very likely to be Hosta virus X on *Hosta* 'Sum and Substance'. Hosta virus X was first identified in 1996 and has now reached epidemic proportions on hostas. Since symptoms vary by cultivar, it is important to know what the cultivar normally looks like. The most dramatic symptoms include line patterns, especially along veins, mottling or mosaic patterns, puckering, blotches, or ringspots. Sometimes only small brown dead spots are seen. It can take a year or more for symptoms to appear.

Before the virus was identified as a problem, some Hosta sports with unusual mottling and coloration were propagated and put on the market. Scientists later found the cause of the unusual look was Hosta virus X. The varieties 'Breakdance', 'Eternal Father', and 'Leopard Frog' are reported to be of the infected varieties. The cultivars 'Blue Angel,' 'Color Glory,' 'Frances Williams,'

'Bressingham Blue,' 'Frosted Jade' and 'Love Pat' are reported to be resistant, while others such as 'Gold Edger', 'Golden Tiara', 'Gold Standard', 'Striptease', and 'Sum and Substance' are reportedly susceptible.

Hosta virus X is not spread by insects, but can be spread on hands, pruning tools, and by propagation. Tools should be sterilized when pruning or dividing hostas. There is no control, so infected hostas should be dug up and destroyed.

Good web site:

<http://www.hostalibrary.org/firstlook/HVX.htm>

Crown Rust on Buckthorn

A sample of crown rust on buckthorn (*Rhamnus cathartica*) caused by the fungus *Puccinia coronate* was brought into the Plant Clinic. Symptoms are bright orange swollen spots (aecia) on leaves and petioles. A number of susceptible grasses, including oats and rye, are the alternate hosts for this rust. We've seen the disease on seedlings in a field with a lot of tall grasses, as well as on shrubs in the woods. Buckthorn is an invasive weed in our woodlands, so this is one time that we're cheering for the disease instead of the plant. Plants should be removed.



Good web site:

<http://www.extension.umn.edu/yardandgarden/ygbriefs/p418buckthornrust.html>

Weed Note

Garlic mustard



Garlic mustard (*Alliaria petiolata*) is a very invasive cool season biennial weed that can grow from 12"-36" tall. During the first year of growth, plants form a rosette of three to four round, scallop edged leaves that reaches from two to four inches tall. A mature plant has leaves that are triangle shaped, toothed and two to three inches across. They are arranged in an alternate pattern on the stem. Plants bloom in their second year of growth in May. Each plant produces one to two flowering stems that contain multiple white flowers that have four separate petals. It reproduces by seed. Seed capsules are slender, one to two and a half inches long, and contain oblong

black seeds.

Control: In minor infestations, you can remove garlic mustard by hand pulling at or before the onset of flowering. If you mechanically remove them by cutting, cut the flower stalk down as close to the soil surface as possible just as flowering begins. Any cutting done prior to this growing stage may promote resprouting. Apply a spot treatment of an herbicide like glyphosate (Roundup®) to the foliage of individual plants during the fall or early spring. Use caution when using Roundup®. It is a non-selective herbicide and will kill both desirable and undesirable plants. For further information about chemical control and timing, refer to the CPM if you are a commercial applicator in Illinois or the HYG if you are a homeowner.



Bull thistle



Bull thistle (*Cirsium vulgare*) is a biennial weed. This is a large erect coarse plant that can reach two to five feet tall. Leaves are arranged in an alternate pattern on the stem. They are dark green, deeply lobed with wooly white hairs on the underside of the leaf. The end of each lobe is armed with a prominent spine. Rosette leaves of its first growing year can reach up to 24 inches long. Flowers are reddish-purple, one to two inches in diameter with large spiny bracts (a modified leaf that is small and grows just below the flower or flower stalk). Bull thistle blooms from June through October. This weed has a long tap root and reproduces by seed.

Control: Mechanically remove or hand pull (you definitely will need good thick gardening gloves for this weed). Apply post emergence herbicide, which are very effective when plants are in the rosette stage, in

mid spring to early summer and mid to late fall. These herbicides are less effective when this weed is flowering. For more information, refer to the CPM if you are a commercial applicator or the HYG if you are a homeowner.

What to Look for in the Next Two Weeks

We will be looking for apple scab, ash flower gall, and boxwood psyllid.

Quote of the week: "Nature does not complete things. She is chaotic. Man must finish, and he does so by making a garden and building a wall."-Robert Frost



The Plant Health Care Report is prepared by Trica Barron, Plant Health Care Technician, and edited by Donna Danielson, Plant Clinic Assistant; Fredric Miller, PhD, research entomologist at The Morton Arboretum and professor at Joliet Junior College; Doris Taylor, Plant Information Specialist, and by Carol Belshaw, Plant Clinic 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.

The *2007 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). You may also purchase them online at <https://pubsplus.uiuc.edu/ICLT-07.html> (commercial handbook) and <https://pubsplus.uiuc.edu/C1391.html> (homeowners' guide). One further source is your local county extension office.

This report is available on-line at The Morton Arboretum website at <http://www.mortonarboretumphc.org/>.

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 Trica Barron at tbarron@mortonarb.org.

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