TPM/IPM Weekly Report for Arborists, Landscape Managers & Nursery Managers

Commercial Horticulture: June 3, 2016

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Disease Information: Karen Rane (Plant Pathologist) and David Clement (Extension Specialist)
Weed of the Week: Chuck Schuster (Extension Educator, Montgomery County)
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Powdery Mildew on Dogwood

Marie Rojas, IPM Scout, is reporting that powdery mildew is starting to show up on susceptible dogwoods such as *Cornus florida* ‘Cherokee Princess’. Severe infections can cause foliage to turn red. Bright, sunny days and cool nights are ideal for powdery mildew infection since the pathogen needs a film of water for the spores to germinate.

Maryland Department of Agriculture: Pesticide Container Recycling Program

MDA has posted its schedule of collection sites for the 2016 Pesticide Container Recycling Program. Triple-rinsed (or equivalent) will be collected on the scheduled days and times at the sites. See the brochure for details.
**Sycamore Anthracnose**

Luke Gustafoson, UME-Charles County, is reporting that he is seeing a lot of anthracnose on sycamore this spring. Anthracnose diseases show up on trees when it is too late to treat. If anthracnose has been a problem on sycamores, dogwoods, or other trees at sites you monitor, then budbreak is the time to treat to reduce the incidence of disease later in the summer. Although disease symptoms can be very noticeable, anthracnose rarely has a negative impact on the health of mature trees. Maintaining the health and vigor of commonly infected trees through cultural practices (irrigation during dry weather, avoiding root injury from construction, etc.) is important in managing the disease.

Dead twigs can be pruned during the winter or dry summer months. Mature trees can be thinned for better air circulation throughout the canopy, decreasing leaf wetness and thereby reducing fungal infection. Rake and remove infected leaves in the fall and plant resistant varieties when available. Oriental plane and certain cultivars of London plane (such as ‘Liberty’ and ‘Columbia’) are more resistant to anthracnose than American sycamore. Young trees in nurseries or small, newly planted trees may benefit from fungicide sprays to prevent excessive leaf loss. Sprays must be applied at or before bud break, before infection has occurred, and repeated according to label directions. Some fungicides registered for anthracnose control include chlorothalonil, certain copper products, and mancozeb. Check product labels tree species and rate information. For managing anthracnose in large, high-value sycamore trees, products labeled for trunk injection include Arbotect 20S and Alamo (late summer/early fall injection for managing disease the following year), and Fungisol (spring application only). Consult label for specific instructions.

**Spittlebugs**

It’s looking like another year with higher spittlebug populations that usual. Marie Rojas, IPM Scout, reported that she found “a whole new young crop at a client’s property in Laytonsville on Leyland Cypress and River Birch in high numbers!”

**Only nymphs produce spittle which provides them some protection from predators**

*Photo: Marie Rojas, IPM Scout*
Potato Leafhoppers
Marie Rojas, IPM Scout, reported that potato leafhoppers have arrived and are feeding on Maple ‘Red Sunset’ and Cercis canadensis ‘Rising Sun’ in central Maryland. Look for leafhoppers on plants such as redbud, zelkova, river birch, maple, goldenrain tree, elm, honeylocust, sycamores and London plane trees. Potato leafhoppers are not as likely to be found in high numbers on landscape trees.

Potato leafhopper feeding causes the tip growth on maples to curl over and harden which is typically referred to as ‘hopperburn’. The multiple generations keep damaging the new tip growth that flushes out on the maples. The leafhoppers migrate from the south and feed on new growth. When they arrive in an area, females will lay eggs on tip growth and the nymphs will begin feeding a few weeks later.

Control: We conducted trials with thiamethoxam (Flagship) and imidacloprid as soil drenches and foliar applications. Both materials worked well. If you choose to use these neonicotinoids, follow the labels closely regarding pollinators. Mainspring lists sucking insects on the label, but we have not done any trials with it for potato leafhoppers.

Hemlock Woolly Adelgid
John Ford, Thrive, Inc., found hemlock woolly adelgid on hemlocks in Vienna, VA. Usually, the reddish brown crawlers are active in April and May is this area. There is a second generation in late summer.

Dog Vomit Fungus
Luke Gustafson, UME-Charles County, found dog vomit fungus in La Plata. Dog vomit fungus is a slime mold that shows up in mulched areas in spring and summer usually after soaking rains.
Scale Update:

**Oak Lecanium Scale, *Parthenolecanium quercifex* (soft scale)**
Monitoring oak lecanium scale on *Quercus phellos* (willow oak) on Wednesday, June 1 in College Park found active CRAWLERS under the female wax coverings, on branches and settled crawlers (1st instar) that have migrated to the underside of the foliage where they have settled along the midrib and veins of the leaves. Later in the summer, 2nd instars will move back to the twigs to spend the winter and hibernate. The accumulated degree days in College Park on June 1 were 682 DD.

**Monitoring:** Check the degree day accumulations in your area, if they are close or above 682DD, you should look (using a hand lens) for active crawlers and settled first instars on the leaves. If crawlers are present and the populations are high, it is time to apply a control.

**Control:** Apply pyriproxyfen (Distance) or buprofezin (Talus) mixed with 0.5 - 1% horticultural oil for control.

**Cottony Camellia Taxus Scale and Japanese Maple Scale**
Marie Rojas, IPM Scout, checked holly for cottony camellia taxus scale and reports that there are still eggs under the waxy covering, but no crawlers yet. There are also eggs present of Japanese maple scale under the female covers on plants she is monitoring.

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**Update on Clearwing Moth Borer Activity**
The following adult male clearwing moths (Lepidoptera: Sesiidae) were found early this week in pheromone baited wing traps set in College Park.

**Lesser peachtree borer - *Synanthedon pictipes***
Monitor the following trees for lesser peachtree borer: peach, plum, cherry, and other *Prunus* species, including both fruit and ornamental varieties. The lesser peachtree borer prefers older trees, infesting the upper trunk and main branches, often around wounds, cankers, or other damaged areas. These areas are the target if any control measures are warranted. Infestation sites are marked by accumulations of brown frass mixed with sap and gum around borer holes.
**Red oak borer – *Paranthrene simulans***

The red oak borer closely resembles a hornet. Monitor oak trees (*Quercus*). Larvae start excavating under bark, then tunnel some 2 inches deep into the solid wood.

![Adult male red oak borer](https://www.pesticideinfo.org/images/RedOakBorer.png)

**Ash/Lilac Borer – *Podosesia syringae***

The ash/lilac borer resembles a paper wasp. Larvae bore into the living wood of branches and trunks of trees and shrubs. Nearly mature larvae overwinter in tunnels in the wood. Pupation occurs in early spring. Monitor the following trees for the ash/lilac clearwing moth borer: lilac (*Syringa*), ash (*Fraxinus*), privet (*Ligustrum*).

**Clearwing Moth Monitoring:** Use baited sticky traps with lures containing synthetic sex pheromones. Male moths are attracted to the bait and caught. If populations and/or damages are high, apply control measures within 10 – 14 days after first moth is caught.

**Control:** Contact insecticides sprayed on the trunk and/or branches of the susceptible trees and shrubs can help prevent infestations. Acelepryn is an effective, bee-friendly option.

**Bagworms**

If you have sites with bagworm infestations, check for egg hatch over the next few weeks. Marie Rojas, IPM Scout, checked bagworms on *Picea pungens* ‘Fat Albert’ in western Montgomery County this week and found that the eggs had just hatched, but the caterpillars had not emerged from the overwintering bags. Monitor your customers’ sites for bagworms on susceptible plants such as arborvitae, spruce, and Leyland cypress. Bagworms also infest deciduous trees, but the damage is usually less evident.

**Control:** Check to make sure eggs have hatched before making any treatments. Bt (Dipel, Caterpillar Attack), Spinosad (Conserve) or Acelepyrn will all give good control of young larvae.

![A bag was cut open and there was a larva that had just hatched](https://www.pesticideinfo.org/images/Bagworm.jpg)
Leaf Blotch on Horsechestnut
Marie Rojas, IPM Scout, is reporting that horsechestnut leaf blotch is just starting to show up on the horsechestnut leaves in Frederick County. Horsechestnuts have a spectacular flower display in spring, but in wet spring seasons, the foliage can become infected by the fungus, *Gunignardia aesculi*. Since much of the annual growth is completed before symptoms become severe, damage to the plant is minimal. The foliar symptoms start as water-soaked areas which turn reddish-brown to brown with yellow borders. These lesions coalesce, causing large blotches which curl the leaves. By midsummer, the whole plant can appear scorched. The fungus overwinters in fallen leaves, producing spores for new infections in spring, so removal of leaves should be thorough. As with other leaf spot diseases, infection is enhanced by moist conditions. Improve air circulation to hasten leaf drying.

To prevent this disease a fungicide would have to be applied at bud break and repeated through the wet period in spring which is not too practical large trees. It requires reapplying at intervals specified on the label until conditions are no longer moist. For new plantings, select plants with resistance to *Guignardia* blotch such as bottlebrush buckeye (*Aesculus parvifolia)*.

Impatiens Downy Mildew
By: Karen Rane

We received a sample last week of garden impatiens (*Impatiens walleriana*) with impatiens downy mildew (IDM), caused by *Plasmopara obduscens*. It is a bit early to see this disease in our part of the country and appears to be an isolated case, but there are reports of current outbreaks in some southern states. Look for chlorotic, curling leaves with white growth of the pathogen on the undersides of the leaves. It is important to remember that this disease survives throughout the year in the southern US, and weather patterns and movement of infected plant material can spread the disease northward. Commercial growers in our region seem to have increased their impatiens production this year after years of avoiding the crop, but anyone producing garden impatiens must maintain a rigorous IDM fungicide schedule throughout the production cycle to prevent IDM infection. Once the disease develops, the plants must be discarded. AmericanHort has posted a research update on IDM at the following link: [http://americanhort.org/app_themes/americanhort/pdf/americanhort-downymildewresearchfindings.pdf](http://americanhort.org/app_themes/americanhort/pdf/americanhort-downymildewresearchfindings.pdf)
Spider Mites on Roses
David Kinderdine, Velvet Touch Rose Care, is reporting heavy spider mite infestations on roses in Potomac. He noted that it is unusually early in the season for this activity. Look for fine, yellow stippling damage on foliage. The mites are usually found on the undersides of the leaves. Spider mites also produce webbing on foliage, especially with heavy infestations. Monitor by placing a piece of light colored paper on a clip board and tap the branches over the paper. Look for the mites using a 10 – 12X hand lens.
Control options include: 1% horticultural oil, insecticidal soap, Abamectin (Avid), Sanmite, Floramite, Hexagon, and Tetrasan.

Melampsora Rust
Marty Adams, Bartlett Tree Experts, found Melampsora cone rust on hemlocks on June 2 in Clarksville. This rust attacks cones, needles, and twigs. The recent cool, wet weather favors the development of this disease. This pathogen does not have an alternate host like many other rust fungi. Infected cones do not produce seed and the aborted cones often persist on trees. If used, chemical controls need to be applied at bud break and then twice at 7-14 day intervals.

Ambrosia Beetle Activity
Richard Chaffin, The Brickman Group, found frass tubes indicating activity from ambrosia beetles (Xylosandrus) this week. This late in the spring, we don’t expect to see much more activity, but please let Stanton know at sgill@umd.edu if you are seeing frass tubes and the extent of the activity and damage.
Green Tiger Beetle
We have received several reports of green tiger beetles this week. This predaceous beetle is active in spring and summer. They are often found along open wooded paths. Learn more in the April 1, 2016 IPM Report.

Beneficial of the Week
By: Paula Shrewsbury

Dustywings – relatives of lacewings and antlions

Dustywings are predatory insects that are in the order Neuroptera, which are known as net-winged insects due to the abundant venation in their wings. Dustywings are in the family Coniopterygidae and related to lacewings and antlions. Dustywing adults are small and range from 2.5 - 5 mm in length. Their wings and body are covered with a white wax produced by pores on their bodies giving the appearance of being covered in dust. They have long thin antennae, beak-like mouthparts, and their wings are held tent-like over the body. At first glance, dustywings look like whiteflies, but dustywing legs and antennae are longer, mouthparts differ, and wings are more strongly “roof-like” in position. Dustywing larvae are ~3.5mm long and similar in appearance to green or brown lacewing larvae but their mouthparts are not as pronounced. They have 2 needle-like mandibles that work like straws to suck the contents out of their prey’s body.
There are over 400 known species of dustywings and they occur worldwide. They are thought to be very primitive insects with fossils going back about 150 million years ago to the Jurassic period. Dustywings are arboreal so their main habitat is trees and shrubs. Most species are active in the spring and fall. They are crepuscular so are active during dawn and dusk. Adults are attracted to lights at night. The life cycle of dustywings consist of two generations per year and most overwinter as larvae. Cocoons are found on the underside of leaves or on bark. Adults fly slowly around plants and lay single yellowish–pink eggs on leaves or bark. Both adults and larvae are generalist predators and feed on soft-bodied arthropods such as aphids, mealybugs, spider mites, whiteflies, and scale insects. The larvae also will feed on eggs of various arthropods. This past week dustywing adults were spotted on boxwood that were infested with psyllids, likely having a little snack. Dustywings are one of many beneficial insects that contribute to biological control of plant feeding insects in ornamental landscapes and nurseries.

Weed of the Week
By: Chuck Schuster

From spring right into summer! Everything is enjoying the moist soil and warm temperatures now. Weeds are going crazy! With only one inch of rain in the last week one can expect to see plants soaking in the sunlight and growing quickly. Thistles are taking off quickly now, and it is time for control for most of these plants right now.

This week tall thistle, *Cirsium altissimum*, started to be noticed in many areas. This biennial weed has pink flowers, hairy stems and densely hairy leaves on the underside (these will be white). Tall thistle gets it name from its tall growing height, up to 9.5 feet. Flowers are found in this region from mid July through the end of September. The leaf margin is entire with some spines. The leaves are usually attached directly to the stem without a petiole and may be up to 12 inches long and 4 inches wide.

Tall thistle has a taproot and flower heads that are single on tall flower stems. The flower has a bulbous-like base below the flower and can be distinguished from Canada thistle as it has entire leaf margins with spines, and white pubescence on the leaf underside (tomentose).

Biocontrols for this thistle is not currently approved. Mechanical removal is extremely difficult. Covering with plastic mulch can be effective over time.

Control can be accomplished by using many broadleaf post emergent herbicides. In turf areas 2,4-D with chlorsulfuron and dicamba are effective. In beds and nursery rows apply a 2% solution of glyphosate (e.g., Roundup) or triclopyr (e.g., Garlon) and water wetting all leaves and stems. Fall application after repeated mowing gives the best control. Burnout can be used, but it will need to be repeated every ten to fourteen days to keep this weed under control. Over time it does weaken the weed and it will die. Cultural controls include fertility management and maintaining a dense turf. Be mindful of nitrogen applications, as excess nitrogen will increase weed growth. In turfgrass, a high mowing height to allow shading of newly germinating seeds is an effective management tool. If new seedlings are found in fresh mulch, spring herbicide treatments can provide fair to good control. Once established, fall control is best.
Plant of the Week
By: Ginny Rosenkranz

*Baptisia sphaerocarpa*, yellow wild indigo, is a native herbaceous perennial that can grow 3-4 feet tall and wide. They grow best in full sun and rich moist, but well drained soils in USDA zone 3-9. Once established, plants are very drought tolerant due to their deep tap roots, but those deep roots also prevent them from being transplanted after a few years. If grown in partial shade the plants may need to be staked and will never produce the abundance of flowers they are capable of in full sun. They are very long-lived perennials with flower spikes 12 – 24 inches tall that extend above the foliage. In early spring the plants seem to burst through the soil, growing fast to their height then flowering shortly after.

There are a number of yellow cultivars and hybrids including ‘Carolina Moonlight’, ‘Lemon Meringue’, Solar Flare’ and ‘Screaming Yellow’, which all give soft butter yellow to brilliant bright yellow pea-shaped flowers which may last 3-6 weeks in spring. The more mature the plant, the more flower spikes bloom on the plants. The bright green leaves are composed of 3 leaflets and are arranged alternately along the stem. Some varieties can have blue green leaves, yellow green leaves and some have gray green leaves. Baptisias can be used in herbaceous borders, cottage gardens, meadow gardens or native plant gardens. The dried seed pods make them a good cut stem for arrangements. They attract butterflies in the garden and are also the host plant for the caterpillars of several butterfly species including wild indigo duskywing, eastern tailed blue, orange Sulphur, clouded Sulphur and frosted elfin. There are no serious pests.
Degree Days (As of June 1)

Annapolis Naval Academy (KNAK) 683 Baltimore, MD (KBWI) 689
College Park (KCGS) 682 Dulles Airport (KIAD) 702
Ellicott City (E3247) 670 Fairfax, VA (D4092) 810
Frederick (KFDK) 566 Greater Cumberland Reg (KCBE) 654
Gaithersburg (KGAI) 582 Martinsburg, WV (C1672) 633
Natl Arboretum.Reagan Natl (KDCA) 885 Rockville (C2057) 841
Salisbury/Ocean City (KSBY) 710 St. Mary’s City (St. Inigoes, MD-KNUI) 831
Westminster (KDMW) 693

Important Note: We are now using the Online Phenology and Degree-Day Models site.

Use the following information to calculate GDD for your site at the Online Phenology and Degree-Day Models site: Select your location from the map
Model Category: All models Select Degree-day calculator
Thresholds in: Fahrenheit F Lower: 50 Upper: 95
Calculation type: simple average/growing dds Start: Jan 1

Once you know the GDD and / or plant phenological indicators (PPI, what plants are blooming) in your location, you can go to the Pest Predictive Calendar to determine what pests you can expect to be active soon in that location.

Biocontrol Conference for Nursery and Greenhouse Growers
By: Stanton Gill

We are organizing a Biocontrol conference for August 18, 2016, so mark your calendar. We will put out a complete schedule of topics and speakers in June. The location will be Brookside Gardens in Wheaton, Maryland.

We will be bringing in speakers from the Ontario Experiment Station, the Connecticut Experiment Station, BioWorks from Florida, local growers who have adopted biocontrol options, and several University of Maryland Extension faculty. Each will talk about their latest research in biological control options in the nursery, greenhouse and landscape. This program is co-sponsored with MNLGA and they will handle registration for this conference.

A New Biofungicide: Olympic Horticulture Products announced last week that they are marketing a biofungicide/bactericide under the name Triathlon. It is an aqueous solution material, which colonizes plant surfaces and prevents the establishment of disease causing fungi and bacteria. With the active ingredient, Bacillus amyloliquefaciens, Triathlon BA provides preventive control of many foliar and soil-borne diseases such as botrytis, powdery mildew, downy mildew, rusts, leaf spots, alternaria, pythium, phytophthora, rhizoctonia, fusarium and bacterial spot. Chris Hayes, BioWorks, will cover this product and others for biocontrol of fungal diseases at the August 18th Biocontrol Conference.
Commercial Horticulture Conferences

US DOT Forum
June 8, 2016: 8:00 a.m. to noon
Location: 6772 Rockawalkin RD, Hebron, MD
Contact Ginny Rosenkranz, Extension Educator, 410-749-6141 to sign up for this free US DOT Forum

Pesticide Recertification Conference
June 10, 2016
Location: Montgomery County Extension Office, Derwood, MD
Brochure is posted online

MNLGA Nursery Field Day
June 23, 2016
Location: Angelica Nurseries 11129 Locust Grove Road Kennedyville, Maryland 21645
Contact: 410-823-8684, office@mnlga.org

Hops and Drones
June 29, 2016, 4:00 PM - 8:00 PM
Location: Milkhouse Brewery at Stillpoint Farm 8253 Dollyhyde Road Mt. Airy, MD 21771
Contact: 410-823-8684, office@mnlga.org

Maryland Christmas Tree Association Summer Meeting
Saturday June 25, 2016 at Thomas Tree Farm, 3501 Hanover Pike, Manchester, MD
For info: wayne@thomastreefarm.com

Hands-on Perennials Diagnostic Workshop
July 20, 2016
Location: Perennial Farm 12017 Glen Arm Road Glen Arm, MD 21057
Contact: 410-823-8684, office@mnlga.org

Biological Control for Greenhouses and Nurseries
August 18, 2016
Location: Brookside Gardens, 1800 Glenallan Avenue, Wheaton, MD 20902
Contact: 410-823-8684, office@mnlga.org
IPMnet Has a New On-line Tool: The Pest Predictive Calendar

This Pest Predictive Calendar is intended to assist landscape managers, growers, IPM professionals and others in predicting the appearance of pest insects and mites in order to make more timely management decisions. By using the Plant Phenology Indicators (PPI) and Growing Degree Days (GDD) on this table you can anticipate when the susceptible life stage(s) (stage you want to target for control measures of pest insects and mites are active.

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