UNIVERSITY OF MARYLAND EXTENSION

TPM/IPM Weekly Report

for Arborists, Landscape Managers & Nursery Managers

Commercial Horticulture — April 19, 2019

In This Issue...

If you work for a commercial horticultural business in the area, you can report insect, disease, weed or cultural plant problems **(include location and insect stage)** found in the landscape or nursery to sklick@umd.edu

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Regular Contributors:
Pest and Beneficial Insect Information: Stanton Gill and Paula Shrewsbury (Extension Specialists) and Nancy Harding, Faculty Research Assistant
Disease Information: Karen Rane (Plant Pathologist), David Clement (Extension Specialist), and Joe Roberts (Plant Pathologist for Turf)
Weed of the Week: Chuck Schuster (Extension Educator, Montgomery County)
Cultural Information: Ginny Rosenkranz (Extension Educator, Wicomico/Worcester/Somerset Counties)
Fertility Management: Andrew Ristvey (Extension Specialist, Wye Research & Education Center)
Design, Layout and Editing: Suzanne Klick (Technician, CMREC)

Nailed by the Weather

By: Stanton Gill

Sassafras is in bloom on the Eastern Shore
Photo: Ginny Rosenkranz, UME

What a change in weather. On Sunday, the rains came in great abundance, flooding the streets of downtown Frederick, Maryland and destroying several bridges. Rains created rivers running down streets in downtown Baltimore. Trees were blown over onto buildings in Silver Spring and toppled onto cars in Carroll County.

On Monday, April 15th, the winds blew at high speeds knocking over trees in the rain soaked soils. We saw many small leaves that had just emerged being blown off the trees and scattered over lawns. The sun came back out on Tuesday and the temperatures moved back into spring-like weather.

Ambrosia Beetles

By: Stanton Gill

The rains on April 14 followed by the winds and rapid drop in temperature really impacted the counts of ambrosia beetles in our traps at CMREC. On Monday, we had only two *Xylosansdrus crassiusculus* and one *Xylosanbdrus germanus*. The interesting thing is *Monarthrum fasciaum* started showing up in the traps in large numbers later in the week as the weather warmed up again. Marie Rojas, IPM Scout, found ambrosia beetles were just beginning to hit *Styrax obassia* in Adamstown and *Cercis canadensis* 'Heart of Gold' in Gaithersburg.

The wet areas on the trunk of this *Styrax obassia* indicate an ambrosia beetle infestation
Photo: Marie Rojas, IPM Scout

Pine Sawfly

By: Stanton Gill

Heather Zindash, IPM Scout, found overwintering pine sawfly cocoons. These sawfly were feeding in the fall and overwinteed in a diapause stage in which they spin silk cocoons to overwinter. In the spring, the larva cuts out of this silken cocoon and continues to feed on the foliage in spring. It then drops to the soil to actually pupate.

Pine sawflies overwinter as larvae in cocoons
Photos: Heather Zindash, IPM Scout

Deer Deterrents

By: Stanton Gill

Thanks to each of you who came up with suggestions for deer deterrent plant material for the landscape and nursery industry. One of the most popular answers was involving lead poisoning from shooting deer. Not a real good option in high density neighborhoods. One plant I had not thought about is the hardy orange. An alert reader said they had a large 14 ft. tree growing between their neighbor's house and their yard. It worked in keeping out the neighbor and annoying deer. I stopped by and shot pictures of the wicked thorns on this hardy orange. It was in full bloom on Monday and looked beautiful. The owner said that if the thorns pricked you, it made your skin hurt for several hours. They said that deer avoid it. I would think it would be an ideal choice, except I am not sure how a nursery manager would work around such a plant much less harvest and handle the tree for transplant with those wicked thorns.

Consider planting hardy orange as a deer deterrant Photo: Stanton Gill

Last year I purchased a version of hardy orange called Hardy orange 'Flying Dragon'. It has curved thorns that are not as likely to prick you in handling. This one may be a better choice for handling. The latin name of hardy orange is *Poncirus trifoliata*. On the good side, this orange plant is hardy down to 0 °F. This plant might sound like a modern innovation, however the hardy citrus, has been cultivated along its native range from Northern China to Korea for thousands of years. This ancient plant has been employed for everything from livestock fencing to medicinal panacea. It was first introduced to the U.S in Colonial times. The flowers are highly aromatic making it a top choice as a scented hedge and popular with pollinators. The fruits are described as a cross between lemon and grapefruit, making an impeccable marmalade. Trees will reach from 8-20 feet tall, but are easily kept short and tidy with pruning. For innovative nursery owners: come-up with good way to grow this in the nursery, harvest and handle it. If you have a brilliant idea send it along to me at Sgill@umd.edu

A perennial grower sent an email suggesting using *Rhodea japonica*, the sacred lily, to plant in landscapes. It is not only deer resistant, but it is also very shade tolerant. In searching on the web, I found several variegated foliage culitvars and both short and tall versions of this plant. Good suggestion – Thanks.

Dave Freeman. Oaktree Property Care, noted that they have been using Natura Deer Repellent Systemic 150 Tablets PlantSaver Step 2. Dave reports they have had good results with use on sedum and daylilies on properties where they have had deer problems. He notes that the deer usually try and eat once, then not again. It takes time to get into the plant.

Fireblight, Rust Alert, and Apple Scab

The pathologists tell us the weather on Friday will be hot, humid, and rainy which is perfect for infection of fireblight. If your customers have crabapples, pears, or apples in bloom they may be susceptible. Hopefully, you have your fixed canopy applications in place. Also, rust spores are very prevalent this week. Apply Manzate as a protectant spray to susceptible species of apple, crabapples, pears, quince, hawthorns, and amlenchier for rust.

See the Penn State update to find out what to do now for apple scab.

Artillery Fungus

By: David Clement

Marty Adams, Bartlett Tree Experts, brought a couple of leaves into CMREC with what he thought was scale on magnolia leaves. Stanton Gill looked at them under the scope and announced they were not scales. Dave Clement took over and identified them as artillery fungus. The fungus lives on mulch and shoots spores into the air which adhere to the foliage. Here is what is know about this fungus: *Sphaerobolus stellatus*, artillery fungal spores (glebal mass), is very active after the rains in mid-April. This fungus forcibly shoots its spores toward the light and the spores will stick to any surface they hit. The spores start out brown and turn black with age. When cut open, the center is off-white, finely granular, and gummy. This fungus lives on all organic mulch products and is worse in rainy seasons. Since older mulch is better for fungal growth, refreshing the mulch frequently will help lower fungal populations.

Artillery fungus lives on mulch and shoots its spores into the air which can adhere to foliage
Photo: Stanton Gill

Yellow-bellied Sapsucker Damage

By: Stanton Gill

Bernie Mihm, Fine Earth Landscape, earns the shot of the week with pictures of severe bark injury from yellow-bellied sapsucker feeding on one of his customer's deciduous magnolias. They apparently really liked this tree – too much. Try the snakes stapled to the trunk. Not much else you can do to prevent this damage.

Yellow-bellied sapsuckers severely damaged this magnolia
Photo: Bernie Mihm, Fine Earth Landscape

Porcupine Damage to Tree

By: Stanton Gill

At a Pesticide Recertification Conference in Cumberland on April 18, one of the particpants reported an interesting injury on landscape trees. He had damage on birch and maple from porcupine activity. This site is in Allegany County. It is the first time I have heard of porcupines injuring trees. He is supposedly sending pictures which we will post next week.

Rose Rosette Disease

By: Karen Rane

New growth is developing on roses, and with it comes new symptoms of rose rosette. These two photos were taken last week, and show the clumpy, reddish shoot growth associated with this disease. Rose rosette is caused by a virus that is vectored by an eriophyid mite. There is currently no cure for infected roses. Because the virus becomes systemic in the plant, pruning affected shoots does not manage the disease – removal of entire symptomatic plants is recommended. Researchers from several universities and industry partners have received a USDA grant to study this disease, and they have put together a website (https://roserosette.org/) which contains the latest information, including videos, fact sheets, best management practices and research articles.

Figure 1. Landscape rose infected with rose rosette – note reddish clusters of shoots.
Photo: K. Rane, UMD

Figure 2. Symptomatic branch with cluster of shoots.
Photo: K. Rane, UMD

Spiny Witchhazel Gall Aphids

Marie Rojas, IPM Scout, found spiny witchhazel gall aphids out on the newly expanding leaves of birch in both Adamstown and Gaithersburg. Witchhazel is the alternate host for this aphid where it causes a spindle gall on the top side of foliage. This aphid causes red puckering damage to the foliage of birch and the woolly aphids can be found on the undersides of the leaves.

Control: Most often, control is not necessary. Many natural enemies such as lady bird beetles, syrphid flies, soldier beetles, and parasitic wasps are active this time of year and usually move into the area to reduce the aphid populations. If populations are high, use a low impact material like horticultural oil to minimize the impact on the beneficial insects that are present.

The puckering and red foliage on birch is caused by spiny witchhazel gall aphids
Photo: Marie Rojas, IPM Scout

Quince Rust

By: Stanton Gill

Harry Kenney, Nutrien Company, sent in a picture of quince rust fungus turning bright orange on juniper in Baltimore County. The spores should be floating into the air to infect shadbush, quince, and hawthorn trees over the next couple of weeks. Protectant fungicides should be applied to susceptible trees now and repeated if the rainy weather continues into May.

The rust spores on this juniper will spread to alternate hosts in the Rosaceae family
Photo: Harry Kenney, Nutrien Company

Scale Update

Marie Rojas, IPM Scout, found the following scale this week:

Maskell Scale on *Chamaecyparis nootkatensis* 'Pendula' in Adamstown. Look for first generation crawlers in early to mid May.

Japanese maple scale on *Malus sargentia* 'Select A' in Adamstown and *Liriodendron tulipifera* and *Cornus alternifolia* in Gaithersburg. Look for first generation crawlers in early June.

Cryptomeria scale on *Picea pungens* 'Fat Albert' in Adamstown. Look for first generation crawlers in June.

Cottony camellia scale on Nellie R. Stevens holly in Chevy Chase on April 16: scales are overwintering immatures, hunkered down at the base of leaves and midrib. Look for first generation crawlers in late May to early June.

Wait for crawlers to apply control materials. We will report crawler activity as we receive reports this spring.

Look closely on hollies for the overwintering stages of cottony camellia/taxus scale.
Photo: Marie Rojas, IPM Scout

White Prunicola Scale

By: Stanton Gill

A landscape designer from central Maryland reported cherry laurel with a fanatically heavy population of white prunicola scale. Check you customers' cherry laurels for this scale in April and May. We should see crawlers by mid to late May in central Maryland.

Wet Weather = Psocids

By: Stanton Gill

Three different landscape companies either sent in pictures or samples of clusters of small insects being noticed on the trunks of trees. These are psoocids, commonly called booklice. Psocids generally occur in shades of brown, black, or pale colors; some have distinctive mottled or striped markings. Most psocids have thin legs and antennae, a somewhat bulbous head with prominent eyes, and the thorax may appear "humpbacked". Adults often have have membranous wings that are held over the body in a tented position, but in some species the adults remain wingless or have very small wings.

Barklice often appear during rainy periods; they do not damage the trees
Photo: Dawn Dailey O'Brien, Cornell University, Bugwood.org

They are not are parasitic and do not cause harm to plants or people. They graze on mold, yeasts, algae, fungi, and decaying plant matter with their chewing mouthparts. Psocids flourish during rainy periods and thrive in high humidity. Nothing needs to be done for them.

Hemlock Woolly Adelgid

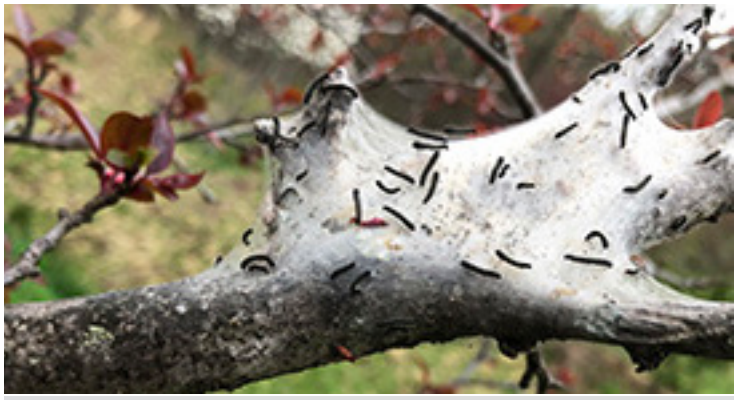
Marie Rojas, IPM Scout, found hemlock woolly adelgid adelgid eggs under fluff on hemlock in a landscape on April 16 in Chevy Chase. Native to Asia, hemlock woolly adelgid can infest all species of hemlocks, but it is a major pest of eastern and Carolina hemlocks, often killing them. Females are producing a lot of white wax in late April as they lay their eggs into this white mass. There are two generations a year.

Control: Spray trees with 2% horticultural oil or insecticidal soap to target crawlers or newly settled crawlers. Other insecticides that can be applied as sprays include Dinotefuran (Safari) and Acetamiprid (Tristar) as a foliar spray.

Hemlock woolly adelgids are producing eggs at this time
Photo: Marie Rojas, IPM Scout

Eastern Tent Caterpillars

Elaine Menegon, Good's Tree and Lawn Care, found active early instar Eastern tent caterpillars in Harrisburg, PA. The caterpillars are farther along in central Maryland. High populations of ETC should be treated when early instars are present with products that contains *Bacillus thuringiensis* (biorational insecticide) or Confirm (an IGR); both target young caterpillars. As caterpillars build tents that become visible, ETC populations and their damage can be reduced by physically destroying the tents.



Look for eastern tent caterpillars and their silk tents in the crotches of tree branches
Photo: Elaine Menegon, Good's Tree and Lawn Care

Beneficial of the Week

By: Paula Shrewsbury

Oh my! What big eyes you have!

Note the characteristic bulging eyes of the big-eyed bug adult and nymph
Photo: by B. Higbee, forestryimages.org

Big-eyed bug adult has its sucking mouthpart inserted into this hopper insect resulting in death of the plant feeding insect. Note the two prominent eyes that are characteristic of this predator.
Photo by: Russ Ottens, University of Georgia, Bugwood.org

Big-eyed bugs are true bugs in the sub-order Heteroptera and belong to the family Lygaeidae. This family of true bugs are known as seed bugs since many species of Lygaeids feed on seeds and foliage. For example chinch bugs, which are a key pest of turfgrass, belong to this family. However, some species of lygaeids have evolved to be predacious such as the big-eyed bugs (*Geocoris* spp.). Big-eyed bugs get their name because they have a pair of large bulging eyes which are a distinct character for this species. They are only about 1/6" in size and usually are tan with brown coloration. Big-eyed bugs are known to be predators of caterpillars, spider mites, aphids, plant bugs, and many other insects, in addition to eggs of insects. Both nymphs and adults are predacious. Females lay oblong, pale colored eggs singly on leaf surfaces. Big-eyed bugs are found in many types of plant systems such as ornamentals, turf, and agricultural crops. Most commonly I see big-eyed bug in turfgrass where they are important predators of chinch bugs. In addition, to feeding on insects, big-eyed bugs also feed on seeds and sometimes foliage of various plants. Omnivores are often good predators because when prey items become scarce they can find other sources of food such as plants. Therefore, they are likely to stay in their habitat where they are ready to pounce on incoming prey items. Studies have shown that planting sunflowers can increase big-eyed bug activity. Other plants that produce seed may have a similar effect. So consider enhancing populations of this, and other omnivorous, biological control agent by planting seed producing flowering plants.

Weed of the Week

By: Chuck Schuster, UME

Soil temperatures are holding in the low to mid 50° F range during this week. The cool winds of Monday really helped to reduce soil temperature over what was recorded on Sunday. Temperatures are predicted to slowly rise again for the next several days, and there is the potential of heavy rains on Friday. This is the time of year when the weather can change dramatically. Rain over the weekend was widely variable. Some soils are actually drying out. Other areas did received heavy rains on Sunday night.

Weeds across the area are really taking off. It is hard to choose what weed to address first. Three weeds are in cue for the next several weeks.


Photo 1

Annual bluegrass, *Poa annua*, is a common weed in this region and the United States, and is noticeable with anyone looking out over a turf site with its off color. Annual bluegrass is an annual, usually classified as a winter annual, though the location of the site can change this status in some regions. As can be noted in photo 3, it stands out in a lawn. Its different color and texture make it moticable. Most winter annuals will die soon after seed production in the spring, but on warmer protected sites it may continue to grow much like a perennial. (photo 1) Annual bluegrass is noticed as it grows in an erect or small clump. (Photo 2) It does tolerate close mowing heights, but can reach heights of nearly one foot in landscapes and unmanaged turf. Its ability to adapt to close mowing takes away one method of cultural control. One distinctive characteristic is the "boat-shaped" tip that the leaf blades form. The blades of this grass will present without hairs and are narrow but long. Blade dimensions can reach four inches in length, and one eighth inch in width. Annual bluegrass prefers a moist to wet soil, and while we have not had an overabundance of moisture this spring, we had a mild winter and some dampness last fall.


PHOTO 2

Photos 1 and 2:
Chuck Schuster

No single method of control works on annual bluegrass. Annual bluegrass control starts with moisture control as one of the cultural methods used to prevent this weed. Preventing areas of the turf from being overly wet is the objective. Moving downspout splash blocks to prevent puddling is useful, but sometimes difficult. Using irrigation water carefully can help manage this grass, especially in shady areas. Compaction is another condition that creates the ideal site for annual bluegrass. It is recommended not to aerate during the germination period for annual bluegrass (fall germinating). While collecting clippings is not usually recommended, if you have an area with a substantial stand of annual bluegrass, consider collecting the clippings during seed production periods to reduce the seed bank for the following fall.


Photo 3
Mark Schlossberg

Prevention is always the best method of control. Mulches in landscape settings using a weed barrier beneath, and in turf settings, prevention of seed movement to a site on mowers by cleaning are very useful. Early detection and elimination is the next line of defense. Rouge out when possible. Chemical control in landscape settings includes prodiamine (Factor, Barricade), oxadiazon (Ronstar), benefin/oryzalin (XL), benefin/trifluralin (Team), and Surflan as pre-emergent products.

In turf, monitor soil temperatures and when the daytime high drops to 75° F for four consecutive days, consider applying a pre-emergent product. Pre-emergence herbicides that are noted to provide good control of annual bluegrass are benefin (Balan), dithiopyr (Dimension), oryzalin, pendimethalin, and prodiamine (Barricade). Post emergent control can be obtained using ethofumesate products (Prograss). Non selective post emergent control can be easily obtained using glufosinate (Finale) and glyphosate products. Remember that pre-emergent failures are often the fault of improper application timing (late). Last year with the great deal of moisture may caused materials to break down earlier than expected. Additionally, we find that the nitrogen added to turf with the additional moisture may have allowed the microbial degradation to be faster than normal. Since this weed is a winter annual, pre-emergent products should have been applied in the August and September timeframe.

Plant of the Week

By: Ginny Rosenkranz, UME

Acer palmatum 'Sango-kaku' is a small, slow growing, vase-shaped deciduous tree that can reach 20-25 feet tall and 18-22 feet wide. It prefers to grow in full sun to partial afternoon shade, especially in Maryland. The more sun the plants get, the brighter the pinkish-coral-red bark becomes, so siting the tree to receive as much sun as it needs with the protection of the dappled shade of the late afternoon can be a challenge. The colorful bark and the colorful fall foliage is worth the challenge! The name translates into sea coral tower which does describe the growth habit of the *A. palmatum* 'Sango-kaku'. The reddish purple flowers that bloom in early spring are attractive but very small and often go un-noticed. The flowers mature into samaras in the late summer into fall. The foliage starts out a light yellow green with a reddish tinge on the margins, then opens to medium green that in the autumn turns yellow gold with red overtones. Leaves are palmate, deeply cut with 5-7 lobes and double serrated edges. The brightly colored bark is usually why the *A. palmatum* 'Sango-kaku' is chosen for the landscape. Only the first and second year bark holds that bright pinkish coral to reddish color, but in the winter, the color intensifies and becomes a bright flame in the garden. In the summer against the green foliage, the pinkish coral bark warms the garden with contrasting color. Plants prefer to grow in moist, well-drained, slightly acidic soil, but are tolerant of sandy loam and clay soils. Watering weekly helps promote a healthy tree, and a layer of mulch will deter weeds, help maintain the soil moisture, and keep the roots cool in the heat of summer. Fertilize in the early spring before the foliage emerges to prevent stem cankers. Although there are few serious pests, it is always a good idea to keep an eye out for stem cankers, leaf spots, fusarium and verticillium wilt, anthracnose, and root rots. Insect pests that could potentially be problematic include aphids, scale, borers, mites, and root weevils.

The first and second year bark of *Acer palmatum* 'Sango-kaku' holds the bright pink to coral color
Photo: Ginny Rosenkranz, UME

Degree Days (as of April 17)

Aberdeen, MD (KAPG)	157
Annapolis Naval Academy (KNAK)	220
Baltimore, MD (KBWI)	182
College Park (KCGS)	173
Dulles Airport (KIAD)	183
Frederick (KFDK)	158
Ft. Belvoir, VA (KDA)	210
Gaithersburg (KGAI)	168
Greater Cumberland Reg (KCBE)	129
Martinsburg, WV (KMRB)	148
Natl Arboretum.Reagan Natl (KDCA)	260
Salisbury/Ocean City (KSBY)	198
St. Mary's City (Patuxent NRB KNHK)	226
Westminster (KDMW)	185

Important Note: We are using the Online Phenology and Degree-Day Models site. Use the following information to calculate GDD for your site: Select your location from the mapModel Category: All models Select Degree-day calculatorThresholds in: Fahrenheit °F Lower: 50 Upper: 95Calculation type: simple average/growing dds Start: Jan 1

CONFERENCES

MAA Pest Diagnostic Clinic for Arborists
May 22, 2019
Location: Woodmont Country Club in Rockville
Schedule and registration information will be posted on the Maryland Arborist Association (MAA) website.

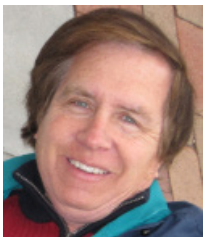
Eastern Shore IPM Pest Walk
May 15, 2018
Location: Salisbury University, Salisbury, MD
https://2019esipmpestwalk.eventbrite.com

Eastern Shore Pesticide Conference
June 7, 2019
Location: Wye Research and Education Center, Queenstown, MD
https://2019esprocrastinators.eventbrite.com

Procrastinators' Pesticide Recertification Conference
June 14, 2019
Details in a future report

All Day Session on Herbaceous Perennials
July 25, 2019
Location: The Perennial Farm in Glen Arm, MD.

CONTRIBUTORS:



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Photos are by Suzanne Klick or Stanton Gill unless stated otherwise.