UNIVERSITY OF MARYLAND EXTENSION

TPM/IPM Weekly Report

for Arborists, Landscape Managers & Nursery Managers

Commercial Horticulture **October 11, 2019**

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IPMnet
Integrated Pest Management for Commercial Horticulture

extension.umd.edu/ipm

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

Coordinator Weekly IPM Report:
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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) and David Clement (Extension Specialist)
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)

Dying Trees

By: Stanton Gill

Over the last couple of weeks, David Clement, Karen Rane, and I have been visiting several sites in Maryland with dying oaks. We have summarized what we have found so far in an article, **Browning White Oaks in 2019**, posted on the IPMnet website.

We will update this article as we find out additional information.

We have received many reports late this summer and fall of white oaks browning and dying in high numbers

Other Dying Plant Material

By: Stanton Gill

We are receiving 3 – 5 emails each day with pictures of struggling, browning, and dying plant material that was transplanted in 2019. Each landscape manager is telling us their customers swear they are watering the plants. We visited several of the sites over the last two weeks. We are not finding biotic diseases or insects active.

NOAA is reporting that we were 4" below normal rainfall for the month of September. NOAA also reports we have had low humidity, bright sunshine, and some of the highest photo-drying conditions during late summer into early fall in several decades. We have had almost California weather occurring over the last 10 weeks. This weather pattern makes it hard to keep plants adequately hydrated.

Many nurseries have trickle irrigation so their plants look pretty good in the nursery rows. It is difficult to dig for transplanting when the ground is bone dry. So, trees to be dug have to be heavily irrigated before they are dug in October.

A couple of nursery managers said they use a technique in the nursery before summer digging. They take a 30 gallon plastic trash can and drill a ¼" to 3/8" hole on the side bottom. They place two of these trash cans on either side of a tree to be dug and fill it with water and let the water soak in for a day or so. This slow dribbling of water soaks a wide area around the root ball. This same technique could be used in your customers' landscapes. Deciduous trees could also use one of the slow watering bags like the Gator bag or other such slow water release system available on the market.

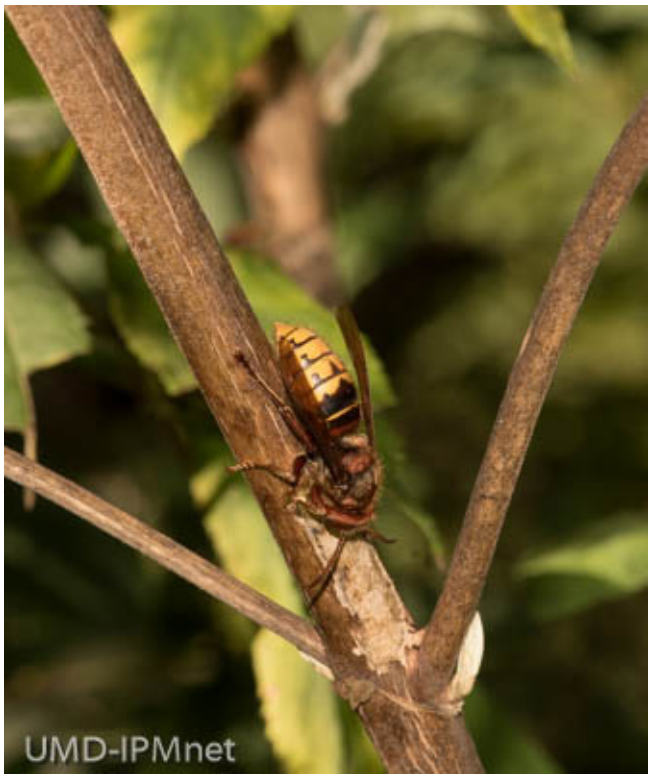
Keep in mind if the plant has already been allowed to dry out, the root system may already be severely compromised, and the plant will continue to fail. For the plant just under drought stress, it may help until the REAL rains blow in, hopefully sometime this fall.

European Hornets – Super Active in October

By: Stanton Gill

We continue to get calls and e-mails reporting heavy activity of European hornets harvesting bark off lilac and birch trees. They are active harvesting the bark strips for their nests. One landscaper reported multiple stings. So, let them do their thing and leave them alone at this time of year.

Regular renewal pruning of lilac keeps young stems dominating the plant, which are not at as actively harvested by the hornets as the older stems. I rarely have seen birch stems damaged long-term from this fall harvesting by the hornets.



This European hornet was stripping the bark off buddleia; lilac is a plant that is often reported damaged by these hornets

Cherry Trees and Honeylocust Defoliating

By: Stanton Gill

On Monday, I received three calls asking why cherry trees in landscapes are defoliating. It is hard to think back to spring, but it rained regularly from March until mid-July. This weather was perfect for foliar leaf spot diseases of cherries. Karen Rane and Dave Clement wrote a couple of articles mentioning this situation. The foliage was infected back in the spring. The disease is causing the cherries to defoliate in late September and early October. We received a couple of pictures of cherries that are best described as looking like a "nuclear induced winter". Kwanzan cherry seems to be hit the worst, but other cultivars are showing the same defoliation. The trees will survive. It is not great for their overall health, but they will come back in spring.

The other tree being reported with problems is honeylocust. It is one tough tree and usually weathers dry periods pretty well. Unfortunately, they did suffer with the excessive rain of 2018 and spring of 2019. Now that it has turned dry, they are defoliating early and several are showing bark splitting and cracking on the trunks.

Kwanzan cherries are dropping leaves early (left) and bark splitting and trunk cracking are showing up on some honeylocust trees (right)

Woolly Alder Aphids

Aaron Cook, DNR, found woolly alder aphids found on hazel alder in Clear Spring, MD. He found the aphids while examining reported bark damage (which he noted was likely caused by European hornets). These aphids infest leaves, twigs or bark. Feeding causes leaves to shrivel and drop early. Predators of this aphid include lacewings, lady bird beetles, hover flies and parasitic wasps. This aphid requires silver maple to complete its life cycle. Other control measures are usually not necessary.

These woolly alder aphids were found on hazel alder; they migrate back to silver maples in the fall Photo: Aaron Cook, DNR

Spotted Lanternfly (SLF)

By: Stanton Gill

Thanks to each of you who have been reporting finding adult spotted lanternfly. We direct you to an email (DontBug.MD@maryland.gov) for reporting sightings in Maryland to MDA if you find an adult. We have had several people report finding adults in Baltimore and Harford counties. You need to register these finds at the above email so MDA can ground truth the find and see if egg masses are in the area. It is MDA's responsibility for early detection and trying to keep this pest contained.

We are finishing up our field testing of new materials for controlling this pest in a Pennsylvania nursery. Brian Kunkel, University of Delaware Extension, Nancy Rechcigl, Syngenta, and I have been conducting trials this summer. Dave Anderson, Rainbow Tree Company, sent me an information sheet for review last week. Rainbow Tree Company is developing this information sheet on control options for spotted lanternfly that they will be distributing to arborists. It looks pretty complete and is based on information from Penn State Extension trials in PA and trials that Rainbow Tree Company conducted in 2019.

Kim Rice, MDA, reports that USDA has treated *Ailanthus* trees with dinotefuran (Transtect) for trees 6" DBH or greater in diameter and the herbicide Pathfinder for trees under 6" DBH in the infested area in Cecil and Harford counties. USDA treated a total of 2,698 *Ailanthus* trees. These treatments were done within a ¼ mile radius of an SLF infestation.

Elaine Menegon is reporting they they are still seeing active SLF. She found egg masses on maple trees in Lititz, PA.
Photo: Elaine Menegon, Good's Tree and Lawn Care

Ichneumon Wasp

Elaine Menegon, Good's Tree and Lawn Care, found giant ichneumon wasps on a maple tree in Lititz, PA on October 8. Adult females feed on nectar and lay eggs on their prey under the bark of trees.

Ichneumon wasps oviposit their eggs under the bark
Photo: Elaine Menegon, Good's Tree and Lawn Care

Beneficial of the Week

By: Paula Shrewsbury

Not all flies are annoying: Tachinid flies are parasitoids of pest insects

I am teaching an IPM for ornamentals and turf course this semester and the students are working on their insect collections. One of the exciting things that have been found by a few students are insects with tachinid fly eggs on them. One student had a beautiful royal walnut moth caterpillar and another had a leaf footed bug, both with tachinid fly eggs. We know that tachinids are not uncommon to find on Japanese beetle adults. There is also a tachinid that attacks brown marmorated stink bug. This fly kills the stink bug, but unfortunately the tachinid does not successfully develop in this exotic brown marmorated stink bug.

A tachinid fly feeding on the floral resources provided by buckwheat flowers, demonstrating that "if you grow the right plants, natural enemies will come". Note the bristly hairs on the abdomen that are characteristic of tachinid fly adults. Photo: Kerry Costlow, UMD

Tachinid flies are true flies (Diptera) in the family Tachinidae. There are over 1,500 known species of tachinid flies and they can vary in size (3-14 mm) and color (black, grey, and orange). In general, most tachinid flies are robust and have stout hairs on their abdomen (see image). At first glance, some species look similar to the common house fly (minus the stout hairs), but they are very different insects. Although there are other flies that are also parasitoids, Tachinid flies are one of the most important families of parasitic flies providing biological control of numerous insects that are pests in ornamental, turfgrass, and agricultural systems. Tachinids are parasitoids of many caterpillars, sawfly larvae, beetle adults and larvae, earwigs, grasshoppers, and some true bugs. Unfortunately, some tachinid fly species attack monarch caterpillars.

Feather-legged tachinid fly adult. This tachinid species usually attacks true bugs (Hemiptera: Heteroptera), including squash bugs, leaf-footed bugs, plant bugs, shield-backed bugs, and stink bugs. Note the orange abdomen and large yellow-orange halteres (pair of structures in place of hind wings of true flies).
Photo: Aaron Schusteff; From BugGuide.net

Tachinid flies have interesting and variable egg laying strategies. In some species, eggs are laid on foliage near a host insect, the eggs hatch and the very tiny maggots (larvae) are consumed, unknowingly, by the host insect when it feeds on the foliage, then the maggots feed on and develop inside the host insect – of course killing the insect. In other species, tachinid females have long ovipositors that they use to pierce the skin of the host insect and insert their eggs into the host's body. In yet other species, the adult tachinid glues her eggs somewhere on the outside body of the host, eggs hatch, and the maggots penetrate into the host's body where it then consumes and kills the insect. This strategy is the

most common strategy we see for tachinids that attack Japanese beetle adults (see the image). Click here to see a video on Tachinid flies. When monitoring for pest insects and damage, we should always look for signs of natural enemies, which includes the white eggs (<1mm) of tachinids attached to the outside of the body of Japanese beetle adults or other insects.

Note the 3 white tachinid fly eggs that were glued to the beetle by an adult tachinid female. Eggs will hatch and larvae will bore into the Japanese beetle and feed on its insides resulting in its death. Photo: J. Davidson, UMD

Regardless of the egg laying strategy, all tachinid flies are internal parasitoids of their hosts as larva and they exit the host body to pupate. If you ever see a Japanese beetle adult that looks like it abdomen has been "blown out", it was likely killed by a tachinid fly. Tachinids can have one to multiple generations a year. Some tachinid species have been introduced in classical biological control programs to control exotic pest species such as Japanese beetles. At this time, there are no commercially available Tachinids for use in Augmentative biological control. Adult tachinid flies have sponging-lapping mouthparts that they use to feed on sweet liquid such as nectar from flowers and honeydew from aphids and soft scales. This adult food resource (nectar) suggest Conservation biological control efforts can be used to build Tachinid populations. In our studies on using conservation strips of flowering plants to conserve beneficial arthropods, we frequently observe tachinid fly adult activity on flowers (see image). Keep working toward conserving natural enemies to help the beneficial populations suppress Japanese beetle and other pest densities.

Plant of the Week

By: Ginny Rosenkranz

Heptacodium miconioides, seven-son flower, is a deciduous small tree or a large shrub growing 15 – 20 feet tall and 8 – 10 feet wide and prefers to grow in full sun or part shade. It is a plant that provides flowers for butterflies, pollinators, and people in the late summer when most every other plant has finished blooming. It is cold tolerant from USDA zone 5-9 and tolerates various soil conditions, although it prefers to grow in acidic, moist, well drained soils. The flower buds appear as terminal clusters in the early summer, but don't begin to bloom until August and will continue to bloom into September. Fragrant, creamy white flowers are held in a flattened cluster. The flowers mature into small, dry capsules which are held by very showy rose purple sepals that will last 2- 3 weeks, giving the plant the illusion that it is blooming for a second time. The narrow leaves are a shiny dark green with 3 distinct central veins and a wavy margin which are arranged in an opposite fashion on the stems. They emerge in early spring and expand to 3-6 inches long, staying on the tree until late November with no real fall coloration. The tan bark exfoliates to reveal a lighter colored bark underneath, similar to the crape myrtle trees. Plants can be used as a specimen or accent plant by a patio or in a multi shrub border or in a naturalized area. There are no pests listed although dieback has been noted and could be due to a canker.

***Heptacodium miconioides* (seven-son flower) blooms late in the season Photo: Ginny Rosenkranz, UME**

Degree Days (as of October 9)

Abingdon (C1620)	3994
Annapolis Naval Academy (KNAK)	4835
Baltimore, MD (KBWI)	4380
College Park (KCGS)	4031
Dulles Airport (KIAD)	4144
Frederick (KFDK)	4151
Ft. Belvoir, VA (KDA)	4331
Gaithersburg (KGAI)	3963
Greater Cumberland Reg (KCBE)	3642
Martinsburg, WV (KMRB)	3817
Natl Arboretum/Reagan Natl (KDCA)	4799
Salisbury/Ocean City (KSBY)	4284
St. Mary's City (Patuxent NRB KNHK)	4603
Westminster (KDMW)	4424

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 map Model Category: All models Select Degree-day calculatorThresholds in: Fahrenheit °F Lower: 50 Upper: 95 Calculation type: simple average/growing dds Start: Jan 1

CONFERENCES

October 30, 2019
FALCAN Truck and Trailer Safety Seminar
Location: Urbana Volunteer Fire Hall
4.5 MD LTE Credits
To Register

December 4, 2019
Trees Matter Presents: Green Cities Summit
Location: Kellog Conference Center, 800 Florida Ave NE
For more information

December 6, 2019
Pest Management Conference
Location: Carroll Community College, Westminster,

December 17, 2019
Biocontrol Conference
Location: Maritime Insitute, Linthicum Heights, MD

Advanced IPM PHC Short Course
Monday, January 6 - Thursday, January 9, 2020
Location: University of Maryland, College Park, MD
Contact: Amy Yaich, Admin. Assist. II, 301-405-3911, umdentomology@umd.edu.
Registration Information:
https://landscapeipmphc.weebly.com/
Recertification credits will be posted on the website

January 17, 2020
FALCAN Pest Management Conference
Location: Frederick Community College, Frederick, MD

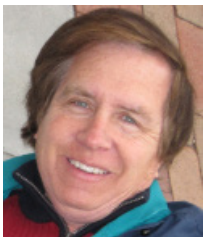
January 20 and 21, 2020
MAA Safety and Pesticide Recertification Seminar
Location: Turf Valley, Ellicott City, MD

February 13, 2020
2020 Pesticide and Fertilizer Recertification Conference
Location: Rockville, Maryland
Organized by and registration through LCA

February 19 and 20, 2020
Chesapeake Green: A Horticulture Symposium
Location: Maritime Institute, Linthicum Heights, MD
Organized by and registration through MNLGA

February 28, 2020
Manor View Farm & Perennial Farm 21st Annual Education Seminar
Location: Shepard Pratt Conference Center, Timonium, MD

CONTRIBUTORS:



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Thank you to the Maryland Arborist Association, the Landscape Contractors Association of MD, D.C. and VA, the Maryland Nursery and Landscape Association, Professional Grounds Management Society, and FALCAN for your financial support in making these weekly reports possible.

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