UNIVERSITY OF MARYLAND EXTENSION

TPM/IPM Weekly Report

for Arborists, Landscape Managers & Nursery Managers

Commercial Horticulture — November 1, 2019

In This Issue...

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:
Stanton Gill, Extension Specialist, IPM and Entomlogy for Nursery, Greenhouse and Managed Landscapes, sgill@umd.edu. 410-868-9400 (cell)

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)

Impact of Heavy Rains on October 27

By: Stanton Gill

The 3" of rain that fell on Octobert 27 in Maryland caused many of the trees to drop their leaves rapidly. So much for good fall color this year. It filled rain gutters with leaves rapidly. The good news is now we have those pesky leaves off many deciduous plants. As the foliage drops on the deciduous plants, it is a good opportunity to apply dormant rates of horticultural oil. When the temperature remains above 50 – 55 °F during the day and does not reach freezing at night, dormant rate horticultural oil appears to work fairly well in controlling overwintering arthropod pest such as scale, mites and eggs of overwintering aphids.

After recent rains, it became necessary to rake leaves off of this roof

ASH TREES WITH EAB NEEDED FOR RESEARCH:

The Shrewsbury and Gruner labs (Dept. of Entomology, UMD) are looking for:
Parks or park-like land that have ash trees that are attacked by emerald ash borer (EAB) to do releases of natural enemies and monitor the impact on EAB and ash tree health. These locations must have an abundance of ash that are still alive or mostly alive.

Ash trees that are infested with EAB (but not dead yet). If you have ash trees that you will be cutting we would like to coordinate getting the wood from those trees to bring back to UMD to monitor for natural enemies of EAB.

If you think you might have park-like sites or ash trees that fit the descriptions above please contact Stokes Aker at: saker@umd.edu

Advanced IPM Conference and Re-Certification

By: Stanton Gill

We will hold the IPM and Pesticide Recertification conference on December 6 at Carroll Community College in Westminster, MD. Seating is limited so if you are interested register soon. Go to the Eventbrite site to register online. A brochure with program details and to register by check is on the IPMnet conference page.

Biological Control Conference

By: Stanton Gill

We have developed a biological control conference with MNLGA with the date of December 17, 2019. This will be conducted at the Maritime Institute in near BWI Airport. The topics on biological control will apply to nurseries, greenhouses and landscape. The conference will also count for re-certification credits.
Go to the MNLGA website to register for this conference.

Turfgrass Biocontrol Conference on February 27, 2020

By: Stanton Gill

Mark your calendar for February 27. We will be working with the professional associations in setting up a session at the Universities at Shady Grove to hold a session on how to develop a turfgrass insect, disease, and weed control program that will work in Montgomery County, MD. Most of you are aware at this point that Montgomery County will be restricting what pesticides can be used on lawns. Prince Georges' County and Howard County are also looking at similar restrictions for turfgrass pesticide applications. We will be bringing in speakers on the new law and will invite in companies from Canada that have adapted to similar laws in Canada. Details will be sent out when available.

Last Regular IPM Alert of the Season

By: Stanton Gill

It has been an up and down season with excessive rain followed by drought and ending in rain. The good news is that everyone in the nursery industry tells me there is a shortage of good plant material. The rains finally resulted in pansy sales shooting up. Not many landscapers wanted to install them during the drought period.

One humorous note. We had a greenhouse operation reported leaving their door open on a warm night and in the morning they found deer inside browsing on the pansy crop. Needless to say, the grower was not too happy.

See you this winter at our educational conferences.

Spotted Lanternfly (SLF) Quarantine – Two Counties in Maryland – Cecil and Harford

From: Kim Rice, Program Manager, Plant Protection & Weed Management, Maryland Department of Agriculture

The SLF quarantine was signed this week for Cecil County and Harford County. It closely mimics PA, DE, and NJ quarantines, requiring a permit for all businesses moving within and through the quarantine. All of the quarantine information can be found on our website and here is a copy of the press release that went out today. We continue to work with Penn State to develop a permit training module, but until that is completed businesses may take the permit training and quiz on the Penn State site. Please get your permit if you are moving in or through the quarantine.

Spotted lanternfly activity was reported in Ephrata, PA this week
Photo: Elaine Menegon, Good's Tree and Lawn Care

Pear Trellis Rust

By: Stanton Gill and Karen Rane

Pear Trellis Rust (*Gymnosporangium sabinae*) is a relative newcomer to the group of Gymnosporangium rusts in the US. Although first reported in the Pacific Northwest in the 1990's, the first Maryland case was observed by David Clement on ornamental pear leaves submitted to the Home and Garden Information Center in 2013. The disease has been reported from numerous states throughout the country and is documented on both ornamental pear (*Pyrus calleryana*) and fruiting pear (*Pyrus communis)*. This week, the disease was confirmed on an Asian pear (*Pyrus pyrifolia*) leaf sample from Baltimore.

Pear trellis rust on the upper (left) and lower (right) leaf surfaces of Asian pear
Photo: Karen Rane, UMD

Like other Gymnosporangium rusts, pear trellis rust needs two different hosts to complete its life cycle – in this case, pears and several species of juniper. In the spring, twig galls on junipers produce jelly-like spore masses. Spores are carried through wind-driven rain to developing pear leaves and young fruit. Symptoms on the pear host are first visible in mid to late summer (somewhat later than cedar-apple rust and other Gymnosporangium rusts), and start out as yellow or

orange leaf spots. Brown gall-like swellings develop on the undersides of the leaf spots, and these structures produce spores that infect junipers.

We did have a very wet spring and this probably contributed to the occurrence of this disease. We are interested in learning which cultivars may be affected, particularly among fruit bearing pears. If you or your customers see this disease on pear leaves, contact Stanton at Sgill@umd.edu with pictures of the symptoms along with cultivar information.

Beneficial of the Week

By: Paula Shrewsbury

Spiders are jumping for food.

This past Sunday afternoon, the rain stopped and the sun came out to present a beautiful fall day. So, I had to go for a walk to enjoy the day… which also means looking at insects and plants for me. Even though it is getting late in the season, I still saw plenty of arthropod activity that included several debris carrying lacewings (see the June 2019 Newsletter), stink bugs, leaf footed bugs, a Carolina mantid, and numerous species of jumping spiders. The diversity and number of jumping spiders (family Salticidae) that were active was quite impressive and made me appreciate that they continue to provide biological control late into the season.

Close up of a jumping spider showing its diagnostic front row of eyes with two large eyes in the middle and a smaller eye on either side of the large. Also note the metallic green colored chelicerae or fangs!
Photo: M. Raupp, UMD

There are over 4000 species of jumping spiders (family Salticidae) with more than 300 found in the U.S. These spiders gain their name because not only do they crawl or run quickly but they often move by making short jumps from one location to another, jumping as far as 10 – 50 times their body length. Jumping spiders are recognized by their somewhat rectangular or box-like cephalothorax (front part of the body) which has 1 row of 4 very distinct dark eyes along the front edge of the cephalothorax with the center 2 eyes being quite large, and 2 more pairs of eyes along the top (=8 eyes total). These spiders range in size from 3 to 12 mm, and vary in colors that camouflage against tree bark to bright metallic colors.

A jumping spider enjoying its newly captured caterpillar meal.
Photo: M. Raupp, UMD

Jumping spiders have some very interesting behaviors. In many species the male performs complex courtship displays or “dances” in which he moves his body up and down and waves his front legs in a highly specific manner to impress a female. There are also specific sound effects (ex. drumming on the substrate) that the male makes associated with this courtship behavior. If the female “likes” or accepts the male they will

then mate. To see an entertaining video of some of these interesting mating behaviors go to: https://youtu.be/HPh_Gi7PCqs. After mating, the female lays her eggs in shelters (under stones or bark) lined with silk or on the surface of plants. The female will often guard the eggs and the newly hatched spiderlings until they are old enough to forage for food on their own.

Jumping spiders are not web builders. They actively hunt for their prey by foraging on the leaves and branches of plants. They usually hunt during daylight. Jumping spiders sneak up to within a few body lengths of their prey, crouch, crawl slowly forward, and then lift their front legs and pounce on their prey to capture it. Once captured the spider releases proteolytic enzymes into or onto the prey which liquefies the tissue allowing the spider to suck up its food (Mmmm). To see a salticid spider capturing prey go to: https://youtu.be/py_V2lqWpb4. Most jumping spiders are considered to be generalist predators, meaning they will feed on a broad diet of different types of insects. Jumping spiders have been seen eating stink bugs, lace bugs, flies, caterpillars, beetles, moths, and other mobile insects. Spiders make up a significant part of the natural enemy assemblage in our ornamental and turfgrass systems helping to prevent plant feeding insects from reaching population levels that cause economic or aesthetic damage. Be sure to look for these jumping spiders in your landscapes and nurseries and appreciate the benefit they provide.

Weed of the Week

By: Chuck Schuster

A local agriculture producer stopped in this week to discuss perilla mint. It has been found in the margins along the edge of his fields. It was of concern as it can be poisonous to livestock. Beefsteak plant, *Perilla frutescens*, also called common perilla, purple perilla, purple mint, shiso, Chinese basil, wild basil, blueweed, Joseph's coat, wild coleus, and rattlesnake weed, is a native of Asia and is a member of the Mint family. It is a traditional Asian crop used in cooking. It is an herbaceous **annua**l invasive found in Maryland and some surrounding states in turf edges near wooded areas or in landscapes. Beefsteak plant leaves are opposite, green to purple in color, oval (ovate) in shape with a toothed margin, two to five inches in length, and one and one half to four inches in width. The stem is square (photo 1). It has a distinct mint-like odor when handled. The flowers are white and purple, bell-shaped with fine hairs. The upper portion of the flower is three-toothed, and the lower portion is two toothed. The flowers occur in terminal clusters between July and October. Beefsteak plant has a fibrous root system (photo 2), and its seeds spread by wind or water movement. Very similar to basil and coleus, but the distinctive odor will help identify it (photo 3). Beefsteak plant will grow to twenty-four inches in height.

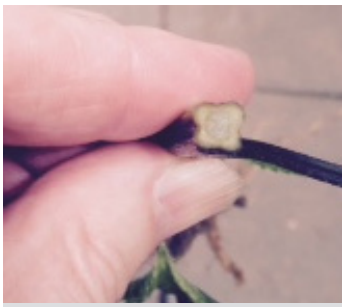


Photo 1: Square stem of beefsteak plant
Photo: Chris Sargent, UMD

Photo 2: Beefsteak plant has a diffuse root system
Photo: Chris Sargent, UMD

Control of beefsteak plant can be done using manual removal and mowing to prevent seed production. Preventing seed production will be a start, but seeds can remain viable for several years in the soil. In areas where herbicides

Photo 3: Beefsteak plant foliage is green to purple and has a distinct mint-like odor when handled

can be used, a non selective translocated herbicide that includes glyphosate products can be considered. Non translocated products including Prizefighter can be used on the young plant successfully. Dicamba is a selective herbicide that can be used in combination with other products to control both annual and perennial broadleaf weeds. Dicamba does have the potential of volatilization so caution must be used when using near desired plant species. Early season identification and control is very useful.

Plant of the Week

By: Ginny Rosenkranz

Ilex verticillata 'Winter Red', also called winterberry, is a lovely native deciduous shrub that grows best in full sun to part shade in medium to wet acidic soils. Like all hollies, 'Winter Red' is dioecious, with plants either all male or all female. In the late spring, the white male flowers bloom in clusters of 6 or more in the leaf axils while the white female flowers are either single or in groups of 3. The female flowers of 'Winter Red' need at least 1 male pollinator which could be *Ilex verticillata* 'Jim Dandy' or 'Southern Gentleman' for those flowers to turn into the brilliant red berries in late August to September. The ¼ to ½ inch berries of 'Winter Red' persist on the plants through the fall and into winter, depending on the number of birds that like to feast on them. The berries are more numerous and larger on plants grown in full sun.

For the bright red berries on *Ilex verticillata* 'Winter Red', be sure to have at least one male pollinator plant nearby; options include 'Southern Gentleman' or 'Jim Dandy'.
Photo: Ginny Rosenkranz

'Winter Red' is a slow growing plant that can grow 6-8 feet tall and wide and are cold tolerant from USDA zones 3-9. Plants are usually multi-stemmed, often suckering, and growing into an upright rounded shape. The 3-5 inch long leaves are a lustrous dark green in the summer and frame the bright red berries until the leaves fall off, leaving the branches covered with the brilliant red berries to brighten up the landscape. Plants show off best if planted in a group in a shrub boarder, a rain garden, at the edge of a pond or stream bank, or in a native plant garden. Pests can include tar spots, leaf spots, and powdery mildew.

Degree Days (as of October 30)

Abingdon (C1620)	4144
Annapolis Naval Academy (KNAK)	5037
Baltimore, MD (KBWI)	4569
College Park (KCGS)	4183
Dulles Airport (KIAD)	4292
Frederick (KFDK)	4295
Ft. Belvoir, VA (KDA)	4509
Gaithersburg (KGAI)	4101
Greater Cumberland Reg (KCBE)	3731
Martinsburg, WV (KMRB)	3906
Natl Arboretum/Reagan Natl (KDCA)	5034
Salisbury/Ocean City (KSBY)	4488
St. Mary's City (Patuxent NRB KNHK)	4832
Westminster (KDMW)	4604

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

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 5, 2020
Eastern Shore Pest Management Conference
Location: The Fountains, Salisbury, MD

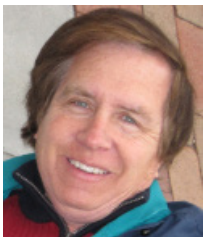
February 13, 2020
2020 Pesticide and Fertilizer Recertification Conference
Location: Rockville, Maryland
Organized by and registration through LCA

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

February 27, 2020
Turf Biocontrol Conference
Location: UMD Campus at Shady Grove

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

CONTRIBUTORS:



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