UNIVERSITY OF MARYLAND EXTENSION

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

Commercial Horticulture **June 21, 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

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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)
Cultural Information: Ginny Rosenkranz (Extension Educator, Wicomico/Worcester/Somerset Counties)
Fertility Management: Andrew Ristvey (Extension Specialist, Wye Research & Education Center)
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Main Peachtree Borer

By: Stanton Gill

I placed a baited pheromone trap for clearwing moth borer in Westminster last week. Early in the week, no males had been trapped in Westminster. By June 21, there was a dramatic increase in numbers with a count of 14 males in the trap. Here at our research center in Ellicott City, we picked up the first male (only one) on Wednesday in the baited trap.

Traps with pheromone lures are a monitoring method for adult male clearwing borers Photo: Stanton Gill

It is still early to spray protective sprays. Usually, when males emerge, then it is the start of mating season, but it takes two weeks for a mated female to begin laying viable eggs on cherry laurel, peach, plum, and cherry tree hosts.

Something Weird on Lawns and Landscapes

By: Stanton Gill

At this time of year a weird thing will occasionally happen where a group of insect larvae band together and move across lawns and sidewalks. The Home and Garden Information Center is receiving reports of activity from these larvae in Cecil County and Baltimore County. Mark Fisher, Howard County Recreation and Parks, found them in Elkridge on June 20. They are sciarid fungus gnats and commonly trek across turf when it is time to pupate. Nothing to worry about, but they look like a small snake moving across the landscape. It's a cool part of nature.

Most often these larvae are found in a straight line as they look for a place to pupate; it is uncommon to see them form a circle
Photo: Mark Fisher, Howard County Recreation and Parks

Pine Tip Moth (Nantucket or Pitch)

Kevin Nickle, Scientific Plant Service, brought in a sample of mugo pine with a larva and pupa of a pine tip moth. Pine tip moths, both Nantucket pine tip moth and European pine tip moth, look similar and hit a wide range of pine species. Their generations are different by about two weeks. Monitor the growing tips of pines for discoloration (reddish to brown), signs of frass (massed together around stems and base of needles and usually quite noticeable), resin, and if you cut open the tips, you should find larvae (tan caterpillar) or pupae (brown). The second generation adults start flying in early July.

Control: For small areas, prune out dying buds and dead shoots if the larvae and pupae are still in the tips. For large areas, use a pheromone trap and apply insecticide 10 days after first moths are trapped. Spinosad and Dimilin are effective against pine tip moths.

Look closely at discolored growing tips of pine for larva and pupa (shown) of pine tip moths
Photos: David Clement

A Local Pesticide Law Update

By: Stanton Gill

Last week, we received an email from Mary Travaglini, Coordinator for the Montgomery County Organic Lawn and Landscape Division. She ask for the following information to be posted:

On May 2, 2019, the Court of Special Appeals of Maryland ruled in favor of the (Montgomery) County and upheld a law restricting the use of pesticides on private lawns and childcare facility grounds. The Department is working with the County Attorney to understand the implications of this ruling and understand additional legal actions that may take place. This website (www.montgomerycountymd.gov/lawns) will provide additional information as soon as it is available. The Department is advising all property owners and lawn care businesses, as well as retailers of pesticides for use on lawns, to be prepared for the law to take effect immediately by transitioning to organic lawn care. For more information please email AskDEP@MontgomeryCountyMD.gov

Rose Tip Midge

By: Stanton Gill

With all of the roses that are being planted into landscapes, we are seeing an increase in rose tip midge activity. The insect overwinters in the soil as a pupa, and adults emerge in spring and are active most of the summer. When rose midge attacks a rose plant, the rose buds, or the ends of the foliage where the buds would normally form, will be deformed or will not open properly. After having been attacked, rose buds and new growth areas will turn brown, shrivel and fall apart, with the buds typically falling off of the bush. A symptom of a rose bed infested with rose midges is very healthy rose bushes with a lot of foliage, but no blooms to be found.

We are working with Nancy Rechcigl of Syngenta Company and Brian Kunkel, University of Delaware Extension, to set up field trials in Olney area. Heather Zindash and Suzanne Klick will be working closely with us on this field trial. We are evaluating use of systemic insecticides as soil drenches for potential control. We will share the results this fall.

Damage from rose tip midge produces blind shoots

A later instar rose midge larva was found in a rose tip

Spotted Lanternfly Update

By: Stanton Gill

I spoke with Nancy Rechcigl, Syngenta Company, who was in the southeast part of PA this week looking at two sites infested with spotted lanternfly (SLF). First and second instars are active in the area. The hatch out was very uneven with hatching occurring two weeks ago, and yet still other egg masses are just hatching this week. At this stage, they feed on just about anything herbaceous. On trees they tend to move to the tip growth to feed. If your nursery or landscape company travels up to the quarantine counties, you need to go online with the PA Department of Agriculture and take the online SLF test and be issued parking permits when visiting the areas. You need to inspect all vehicles for hitchhiking SLF when you visit these quarantine counties in PA.

Brian Kunkel, University of Delaware, and I will meet in mid-July with Rainbow Tree Company to set up trials in southeast PA for large trees to evaluate late season control options on walnut and tree-of-heaven.

Fruit Thinning

By: Stanton Gill

Several landscape managers are maintaining fruit trees for their customers. If you have not thinned their fruit yet, get going now. Peaches are thinned to one fist distance between peaches. Apples set fruit in clusters of 4 – 6. Thin them to one to two apples at max. If you do not do this pruning now, then the fruit will be small in the summer for peaches and nectarines and for apples in the late summer and fall.

Apples before thinning (left) and after being thinned to two next to each other (right)
Photos: Stanton Gill

Peaches (left) and apples (right) sizing up after being properly pruned
Photos: Stanton Gill

Gypsy Moth on Spruce

David Driver, Arbor-X Inc., found a heavy infestation of gypsy moths on blue spruce in Fallston on June 14. The larvae were in the later instar stages so it is too late in the season to control them. Monitor the trunks of trees later in the season for egg masses which should be removed and destroyed if accessible.

Heavy damage to blue spruce has been reported consistently over the years
Photos: David Driver, Arbor-X, Inc.

Japanese Beetles

We continue to get reports of the start of Japanese beetle adult activity. Richard Uva found them in Federalsburg this week. Jon Schach, Good's Tree and Lawn Care, found his first sighting of Japanese beetles in Harrisburg on June 20.

Bagworms

Reports of bagworms also continue this week. Dave Keane, Howard County Recreation and Parks, found early instars of bagworms feeding on Arborvitae in Frederick on June 16. Elaine Menegon, Good's Tree and Lawn Care, reports that bagworms are now active in Harrisburg, PA.
Control: It is best to control them while they are still small. 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.

Early instar bagworms are active throughout the area
Photo: Dave Keane, Howard County Recreation and Parks

Linden Lace Bugs and Lady Bird Beetles

Mark Schlossberg, ProLawn Plus, Inc., found lady bird beetle larvae feeding on linden lace bug nymphs in Owings Mills on June 20. Lace bugs cause white stippling on the upper side of the foliage and leave black fecal spots on the undersides. There are several generations a year. **Control:** Plants should be monitored regularly for signs of a lace bug infestation. Generally, infestations on deciduous trees do not require treatment. However, if damage is heavy and lace bugs are actively feeding, treatment may be necessary. Get good coverage of horticultural oil on the underside of foliage to reduce populations. Systemic insecticides will give control. Many products are labeled for lace bugs

A lady bird beetle larva is feeding on linden lace bug nymphs
Photo: Mark Schlossberg, ProLawn Plus, Inc.

Praying Mantid Egg Hatch

Andy Ross, RTEC Tree Care, found recently hatched praying mantids in Falls Churck on June 14. Praying mantids are generalist feeders that will feed on a variety of prey, including other predators.

Early instar praying mantids feed on small insects such as aphids and fliies
Photo: Andy Ross, RTEC Tree Care

Beneficial of the Week
By: Paula Shrewsbury

Dragonflies are predators.

Although dragonflies are not predators that directly impact pests of ornamentals and turf, an abundance of dragonflies are active in ornamental environments and they are very fascinating natural enemies. Dragonflies (and their cousins the damselflies) belong to a group of insects called Anisoptera. The Latin root of this name means unequal (aniso) and wing (-ptera). When you look at a dragonfly adult, the hindwings are much wider than the forewings. Dragonflies of today descend from a very agent group. Dragonflies that cruised the sky about 250 million years ago had wingspans about two and half feet – yes feet not inches! Yikes! Even at their present-day size, dragonflies are impressive predators.

Dragonflies have huge eyes, powerful legs, and are great fliers. All of which make them amazing predators.
Photo: M.J. Raupp, UMD

Dragonflies have evolved efficient features that lead to their success as predators. For example, adults have large eyes that provide almost 360-degree vision which aid in spotting and catching prey. They are fast fliers with some species reaching 18 mph. One dragonfly species, the globe skimmer, *Pantala flavescens*, flies across an ocean during a migration that totals about 11,000 miles. They can even catch their prey in flight. They have long legs with spines that allow them to hold their prey under their bodies and very sharp, serrated mandibles to aid in tearing their prey apart. Dragonfly adults will snack on small insects like mosquitoes (Yay!) or craneflies, or capture and consume larger insects like bees, butterflies, or even other dragonflies. Male dragonflies are territorial and patrol the edges of ponds or streams where they are looking for food and potential mates. Any other males that enter the territory are chased away. Males will court females and mating pairs of dragonflies often fly in tandem forming what is called the "mating wheel". The wheel is formed when the male grasps the female behind the head and the female raises the tip of her abdomen to come in contact with the male. Males sometimes guard females to "keep the competition away" until she is done laying eggs in the water or on aquatic vegetation.

Late instar nymphs emerge from the water and attach to a piece of vegetation where they then molt into adults. Here is the empty shed skin left behind by the nymph.
Photo: M.J. Raupp, UMD

Eggs hatch into nymphs (or naiads) that are aquatic living in ponds or streams, and are predacious. Some nymphs live up to 2 years. Strangely (to us anyway) nymphs obtain oxygen from the water through gills found inside their anus. Using muscular contractions, nymphs pump water in and out of their rear ends to breath. Nymphs capture and consume larvae of aquatic beetles, midges, biting flies and mosquitoes (Yay!), and even small fish. Nymphs are also excellent hunters and known to feed on crustaceans, worms, tadpoles and even small fish. Nymphs are "sit and wait" predators. Nymphs have a hinged jaw that snaps forward (like a frogs tongue) when a prey item comes close (click here and scroll down to the video of nymphs feeding on prey). Nymphs usually crawl around slowly but when startled or attacked they can push out a blast flush of air from their rear end that propels them to safety (hopefully). Nymphs molt several times in the water. When they are ready to become adults, the nymphs crawl up out of the water and attach themselves to a piece of vegetation or stone. The nymphal skin splits open and the adult dragonfly emerges. Once the adult skin "hardens off" it will then go on in life to fly, eat, and mate and reproduce. Next time you see these beautiful creatures flying through the air pay them respect. The more dragonflies there are the less mosquitoes and flies potentially biting me.

Weed of the Week

By: Chuck Schuster, UME

Reports of problems with roughstalk bluegrass, *Poa trivialis*, continue to come in. It thrives in the recent damp conditions. Velocity (bispyribac-sodium) is labeled for control, and according to research, as temperature increases, the efficacy improves but it will take multiple applications. The rate that seems to bring success is 6 ounces per acre every 14 to 21 days. Primo (trinexapac-ethyl) also has shown some efficacy with seedling roughstalk bluegrass, but only slightly. Be aware that core aeration at this time is not recommended.

Bramble family plants seem to be coming in from several people this week. One of interest is wineberry, *Rubus phoenicolasius*. A member of the bramble family, it is still used for some breeding purposes. While this plant is desired by some, it is a weed to others when it appears in the incorrect place, i.e the landscape. It is considered an invasive plant in Maryland. Wineberry is a vigorous growing plant, forming a large dense thicket. It spreads by seeds, root buds and where the canes come in constant contact with the soil. The stems, or canes, will have reddish to purple hairs and a small spine (photo 1). These canes grow quickly and can reach heights of nine feet. Leaves appear in groups of three (photo 2), are heart-shaped, and have purple veins and white dense flattened wool-like hairs (tomentose) on the underside. The leaves are serrated (photo 3). Flowers are small, with white petals and red hairs will occur in the spring. The berry is edible, appears similar to a raspberry, and is a bright red color. The fruit is held within a calyx as it is developing and will emerge as it ripens.

Control includes manual removal when possible. Non selective products including glyphosate and triclopyr will work well on regrowth after mowing or pruning.

Photo 1: Wineberry stems have reddish to purple hairs

Photo 2: Wineberry leaves appear in groups of three

Photo 3: Wineberry leaves are serrated

Photos: Chuck Schuster

Plant of the Week

By: Ginny Rosenkranz, UME

Vitex negundo, chaste tree, is either grown as a shrub or a small tree that can grow 3-10 feet tall, taller in warmer zones, and almost as wide. *Vitex agnus-castus* also has the same common name of chaste tree but grows 8-10 feet tall, is a bit less cold hardy but is more often pruned to a single stem tree. They are cold hardy from USDA zones 9-5, but it may die back to the ground in zone 5. Plants prefer to grow in full sun with moist but well drained soils. The leaves are palmate with each of the 3-5 leaflets about and a medium green top, gray green underneath and slightly aromatic. Folk lore has the leaves scattered over the bed to cool the sheets, so the lady would stay chaste or virtuous while her husband was off to war. The tiny blue lavender slightly fragrant flowers are crowed in clusters on a 5-8 inch long panicle, blooming from the bottom to the top for a long period of bloom. Typically the plants will bloom from June to late July or August. The light and airy appearance adds color and texture to the garden and flowers attract many butterflies. Plants can be used in pollinator gardens, in the shrub borders or cottage gardens. Leaf spot and root rot are occasional problems.

Chaste tree is grown as a shrub or small tree
Photo: Ginny Rosenkranz

Pest Predictive Calendar "Predictions"

(Nancy Harding and Paula Shrewsbury, UMD)

In the Maryland area, the accumulated growing degree days (DD) this week range from about 1097 DD (Cumberland) to 1574 DD (Reagan National Airport). The Pest Predictive Calendar tells us when susceptible stages of pest insects are active based on their DD. Therefore, this week you should be monitoring for the following pests:

- Japanese beetle adult emergence
- Fletcher scale crawlers
- Indian wax scale crawlers
- Cryptomeria scale (1st generation) crawlers
- Cottony maple scale crawlers
- Fall webworm (1st generation) early to late instars
- Pine needle scale (2nd generation) crawlers
- Green June beetle adult emergence
- White prunicola scale (2nd generation) crawlers

See the Pest Predictive Calendar for more information on DD and plant phenological indicators (PPI) to help you better monitor and manage these pests.

Degree Days (as of June 19)

Abingdon (C1620)	1218
Annapolis Naval Academy (KNAK)	1548
Baltimore, MD (KBWI)	1364
College Park (KCGS)	1263
Dulles Airport (KIAD)	1297
Frederick (KFDK)	1308
Ft. Belvoir, VA (KDA)	1401
Gaithersburg (KGAI)	1239
Greater Cumberland Reg (KCBE)	1097
Martinsburg, WV (KMRB)	1170
Natl Arboretum.Reagan Natl (KDCA)	1574
Salisbury/Ocean City (KSBY)	1372
St. Mary's City (Patuxent NRB KNHK)	1492
Westminster (KDMW)	1405

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: 95Calculation type: simple average/growing dds Start: Jan 1

LIFE CYCLE INFORMATION NEEDED for the PEST PREDICTIVE CALENDAR - PLEASE HELP!

We need information on the timing of activity of the susceptible life stages for key pest insects (ex. first crawler activity of gloomy scale, obscure scale, and magnolia scale; egg hatch of caterpillars; or first activity of two-spotted spider mite). With this information, we can increase the usefulness of our UME Pest Predictive Calendar **When reporting insects for the IPM report, please be sure to also include the following: Date, Location (city, state), insect stage (if known), and plant host.** If you are unsure of the stage or species identification, please get a sample to us. You can mail it to: Stanton Gill, CMREC, 11975 Homewood Road, Ellicott City, MD, 21042 OR Nancy Harding, 4291 Fieldhouse Drive, 4112 Plant Sciences Building, Dept. of Entomology, University of Maryland, College Park, MD, 20742.

MDA Container Recycling Program

See the MDA brochure for locations and dates for the 2019 MDA Container Recycling Program

CONFERENCES

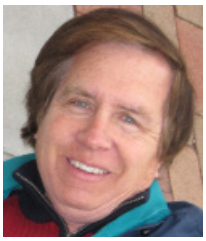
Maryland Christmas Tree Association Summer Meeting
Saturday, June 22, 2019
Location: Taylor Sines Woodlake Tree Farm, Oakland, MD
For more info contact: Joncie Underwood@410.398.1882

All Day Session on Herbaceous Perennials
July 25, 2019
Location: The Perennial Farm in Glen Arm, MD
Registration info will be posted at the MNLGA calendar site when available

Green Industry Professional Field Day and Trade Show
July 18, 2019, 7:30 a.m. – 2:30 p.m.
Location: American University | 4400 Massachusetts Avenue, NW, Washington, DC 20016
Presented by PGMS DC Branch, NVNLA, VA Cooperative Extension, and in cooperation with the MAC-ISA

LCA Plant Diagnostic Program
August 14, 2019
Location: Ag Farm Park, Derwood, MD

CONTRIBUTORS:



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