UNIVERSITY OF MARYLAND EXTENSION

TPM/IPM Weekly Report

for Arborists, Landscape Managers & Nursery Managers

Commercial Horticulture **March 24, 2023**

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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 sgill@umd.edu

Coordinator Weekly IPM Report:
Stanton Gill, Extension Specialist, IPM and Entomology 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 (Retired Extension Educator) and Kelly Nichols (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)

Interesting Impact of Warm Weather Followed by Cool Weather

By: Stanton Gill

With the warm weather front that blew in for early March, some of the early flowering daffodil cultivars came into full bloom by March 8. With the cold front that followed, the blooms have remained in full flower for several weeks now, the longest I have seen them retain their flowers in an open state and looking good. The interesting weather situation this spring has its bright spots after all.

With the cool weather, daffodils that started blooming on March 8 are still looking good on March 20. Photo: Stanton Gill, UME

Plums and peaches started coming into bloom in central Maryland this week, and this is not good. On Sunday March 19, the nighttime temperatures dipped to 20 – 21 °F. On Monday, March 20, they again dipped to 21 °F. Unfortunately, your customers are going to see a greatly reduced fruit set on peaches,

nectarines, and plums this summer. Most will forget about this cold spell and will be trying to figure out why their fruit trees are not bearing fruit in June and July.

Recent below freezing temperatures will impact fruit set on customers' trees such as plum (left) and peach (right).
Photo: Stanton Gill, UME

Peachleaf Curl

By: Stanton Gill

Hopefully, if your customer has a problem with peach leaf curl, you applied fixed copper back in February during the short warm period we experienced. I asked Kari Peter, Fruit Pathologist Specialist with Penn State Experiment Station, to comment on whether with the recent cool weather in mid-March to the end of March if it was still ok to apply fixed copper to stone fruit such as peaches, nectarines and plums.

Here is her answer:
"It's probably already too late to do anything, considering how mild the 2022-2023 winter has been – I suspect buds have swelled enough to cover the fungal spores in the buds rendering any fungicide at this point ineffective. Folks should have treated their trees in the fall after the leaves have fallen. I would make a note to alert growers to peach leaf curl management during November-early December of this year (after the leaves have fallen)."

Damage to Seedless Grapes

By: Stanton Gill

While pruning our seedless grapes plants last week in the orchard, we saw that several cultivars of seedless grapes had severe winter damage to vines and even to the trunks. I grow over 20 cultivars of seedless grape, so we are seeing varying levels of damage across this mix of cultivars. The warm fall followed by the dramatic drop in temperatures shortly after Christmas when temperatures dropped to signal digit (7-8 °F in Westminster, MD) with the low temperatures hovering around for 3 days. This sudden drop in temperatures did a fair amount of damage to seedless grape vines.

Yellow-bellied Sapsuckers

Marie Rojas, IPM Scout, reports that yellow-bellied sapsuckers are back and hitting both sugar maples and a hickory in Montgomery County this week. She has seen fresh holes and sap oozing out of trees. Marie has seen them damaging both Nellie R Stevens hollies and viburnums in nurseries in the past. She noted that it is "time to wrap any plants that have been hit in the past, since they do tend to come back to the same ones year after year".

On this hickory tree, the oozing sap from these holes is a sign of yellow-bellied sapsucker activity. (left photo)
It's time to wrap trees that have been damaged in previous years like this sugar maple. (right photo)
Photos: Marie Rojas, IPM Scout

New Developments for San Jose Scale

By: Stanton Gill

Trécé is doing research to develop a product for the disruptions of San Jose scale mating. Like other moth pests such as codling moth and oriental fruit moth, this product is a synthetic sex pheromone that confuses the males and inhibits them from finding females for mating. University trials in Georgia and Michigan have shown promising results. More information is available on Trécé website.

Using Bee's Wax for Wrapping Food

By: Stanton Gill

I was tuned into public TV last week, and they put on a program on a use for bees wax. The wax is used to make a sustainable food wrap. They are being sold at farm markets. It looks like a good idea to cut down on the use of plastic bags. It is an option for storing food in the kitchen and packing sandwiches and snacks for on the go.

Spruce Spider Mite and Boxwood Spider Mite

Heather Zindash, The Soulful Gardener, found nymphs and adults of spruce spider mite in D.C. on March 21. Spruce spider mite is one of the mites that is active during the cool periods in early spring. Examine foliage of spruce, Leyland cypress, hemlock, Alberta spruce, and other species of spruces and junipers.
Control: A 2 – 3% rate of horticultural oil is a good material to use on all but blue spruce. Horticultural oil dissolves the wax on the blue spruce and changes them from blue to green foliage plants.

Heather Zindash, The Soulful Gardener, reported that boxwood mite adults and nymphs were active in D.C. on March 21. Boxwood mites overwinter as clear-colored eggs. Just before they hatch, the eggs turn red.
Control: Hexygon (a mite growth regulator) will work well at this early stage and will give long term control. Another option is using 2-3 % horticultural oil. Early control measures will reduce damage later in the season.

Spruce spider mites are starting activity in the area now.
Photo: Heather Zindash, The Soulful Gardener

Look on boxwood foliage for boxwood spider mites.
Photo: Heather Zindash, The Soulful Gardener

Spotted Lanternfly

By: Stanton Gill

Each week, Paula Shrewsbury and I will take turns keeping you up-to-date on the spotted lanternfly situation in Maryland. In last week's IPM Alert, Paula Shrewsbury showed you the eighteen counties that have been listed for 2023 to the spotted lanternfly quarantine area in Maryland. She also showed you egg masses that can be treated with horticultural oil when the temperatures finally warm up to above 50 -55 °F during the day. This temperature increases the eggs respiration rate and increase the impact of the oil application.

We asked Kenton Sumpter, MDA, to lay out the details of what is expected of horticulture operations selling plant material and equipment from an area that is under quarantine.

Here is Kenton's summary:

The spotted lanternfly quarantine has been expanded. As of March 6, 2023, eighteen counties are now a part of the quarantine. They include Allegany, Washington, Frederick, Howard, Carroll, Montgomery, Baltimore, Anne Arundel, Prince George's, Calvert, Harford, Cecil, Kent, Queen Anne's, Caroline, Talbot, Wicomico, and Baltimore City. The quarantine order has several important rules to keep in mind.

First, the order states that any person doing business who moves a regulated article from or within the quarantine, must be permitted. The permit can be acquired from the MDA's website. Only a single business representative needs to undertake the training. Then, it is incumbent upon the business to see that every employee who handles a regulated article or drives a conveyance receives training on the identification and management of spotted lanternfly. Permits need to be placed in at each business location and within each vehicle or conveyance operated by the business. Records need to be maintained for two years. Records must detail quantity of regulated article shipped, shipper name, date of shipment, source or destination information, and corresponding inspection and mitigation records.

Inspection and mitigation records must include the date(s) that each task was performed, the life stages encountered, and the outcome(s). Further detail can be found in section eight of the secretary's quarantine order. Second, regulated articles that are shipped within or from the quarantine need to be inspected and cleared of all spotted lanternfly. Shipped goods need to be secured and protected from possible infestation. This can take the form of tarping, shrink-wrapping, or other covering. Regulated articles must be shipped within five days of inspection. If an article cannot be cleared of spotted lanternfly, then it may not be shipped. It must be removed from its conveyance, thoroughly inspected, and all spotted lanternfly eliminated. It is permissible to transport regulated articles through the quarantine if the origin and destination are outside of the quarantine. This should be indicated on a waybill. In such instances, short stops are permitted to refuel and use the restroom. Shipped contents must be covered, and they must be loaded outside of the quarantine.

The intention of the spotted lanternfly quarantine is to slow the spread of the insect by increasing Maryland business' awareness of the problem and the need to combat it. It is not intended to paint a target on the back of participating businesses. If a regulatory violation occurs, the MDA will contact the offender and work with them to create a spotted lanternfly management plan. To date, the MDA has not issued a civil penalty in relation to spotted lanternfly. If employers can prepare their employees to recognize and destroy spotted lanternfly, then hopefully we can increase the amount of time that it will take for the insects to spread to new areas. Please visit our website to learn more about spotted lanternfly. Email questions to dontbug.md@maryland.gov. Report lanternfly sightings to our online survey.

Crapemyrtle Bark Scale

By: Stanton Gill

Crapemyrtle bark scale has increased in detection frequency in many areas of the Eastern Shore, Southern Maryland, and Central Maryland counties this fall and winter.

Here is a report from May of 2022:

Deborah of MDA called in to report that they found crapemyrtle bark scale on crape myrtle on the Eastern Shore. Gaye Williams of MDA, examined the sample at her lab and found mature females and males present as of May 3rd. No crawlers were seen.

Now in 2023, after a warm February and early March, please be on the lookout for crapemyrtle bark scale crawlers, possibly in April this year. Adam Colgan, On The Green, Inc., found this scale in Severna Park on March 22.

Overwintering crapemyrtle bark scale in Severna Park on March 22.
Photo: Adam Colgan, On the Green, Inc.

Beneficial of the Week

By: Paula Shrewsbury

Beneficial insects are diverse and some are busy early in the season

When the topic of beneficial insects and their relatives comes up we often think of natural enemies (predators, parasitoids, and pathogens) that provide biological control services, and pollinators (bees and wasps, flies, beetles, and butterflies and moths) that provide pollination services. But don't forget the decomposers and detritivores (beetles, termites, flies, millipedes) that break down organic matter and dead things and recycle nutrients back into the food web. Throughout the season, *Beneficial of the Week* will discuss these various beneficial insects. **If you come across any beneficial insects and would like to learn about them, please let me know and send pictures if possible (pshrewsbury@umd.edu).**

This past week, I have been outside looking for insects. I came across a few different beneficial insects that start their activity early in the season. For example, this past Tuesday (March 21, 2023) the **mason bees (Family Megachilidae)** began emerging from their overwintering bee tubes and galleries in logs that I keep in my carport (Columbia, MD). Now there are numerous solitary bees buzzing around looking for pollen. Mid-late March is usually the time of year certain species of solitary bees emerge from their overwintering galleries to begin the next stages of their life. Some solitary bee species build nests in the ground (Colletidae, usually active a little later in April) and others nest in "tubes" such as hollow stems of plants or old borer galleries left

by beetles or other insects (Megachilidae). They collect pollen from early blooming plants such as maple and spring wildflowers. They bring the pollen back to their nesting site, create pollen "cakes" that they insert into their tube or gallery, lay an egg on the pollen cake (the pollen provides food for the larva when it hatches), and then bee goes out and starts the pollen collecting process all over again. It is important to provide early season flowering trees, shrubs, and herbaceous plants in your landscapes for these early pollinators. A great resource (one of many; see last week's Beneficial of the Week article) that contains lists of plants that are good for pollinators and their bloom time is Protecting and Enhancing Pollinators in Urban Landscapes. To learn more about mason bees and how to conserve them, go to the Beneficial of the Week "Solitary mason bees are buzzing!" that I wrote in the March 25, 2022 IPM Newsletter.

Commercially purchased bee tubes and fire wood with galleries drilled into the logs (~1/4 – 5/16" in diameter and 4-8" deep) provide suitable nesting sites for a diversity of solitary bees. Different diameter holes attract different species of mason bees.
Photo: P.M. Shrewsbury, UMD

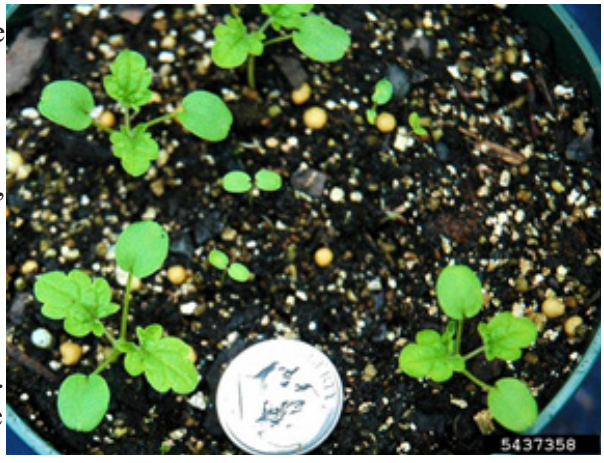
Male horned face mason bees emerge from galleries in wood where they overwintered. The bee chews through the mud seal that the mother bee closed the gallery with last year to emerge this spring.
Photo: by P.M. Shrewsbury, UMD

Weed of the Week

By: Kelly Nichols, Extension Educator, Montgomery County

This week's weed has begun showing off its pink flowers over the last couple of weeks. Henbit (*Lamium amplexicaule)* is a winter annual and a member of the mint family.

Henbit is a sparsely hairy winter annual with greenish to purplish, tender, square stems. (Those square stems are indicative of plants in the mint family.) The leaves are round to heart-shaped with a rounded tooth leaf margin. The leaves on the upper part of the plant are sessile (directly attached to the stem) and lower leaves have petioles (small stems that connect the leaf to the main stem). Leaves have hairs on the upper surface and along the veins on the underside and are also on opposite sides of the stem. Henbit can develop stems up to sixteen inches in length. Flowers occur in whorls on the upper leaves, will be without petioles, and typically



Henbit seedlings.
Photo: Bruce Ackley, The Ohio State University, Bugwood.org.

point upwards. (Deadnettle, a similar looking weed also in the mint family, has purple flowers that point downwards.) Henbit has a fibrous root system and can develop roots at nodes on the square stems.

While those purple flowers may look pretty, they are an impending sign that the plant will soon set seeds. If seed production is not prevented, then you'll have more plants to deal with in the next few years. At this stage, preventing seed production can be as simple as mowing or using a string trimmer. Broadleaf herbicides such as 2,4-D or dicamba can be used. Based on trials, Virginia Tech rates dicamba alone as slightly better than 2,4-D alone. Contact herbicides such as iron (e.g. Fiesta) in turf, and ammonium nonanoate (e.g. Prizefigher) or caprylic + capric acid (e.g. Burnout) in landscape settings can be used. Contact herbicides may require more than one application.

Since henbit seeds germinate in the fall, take note of the areas that have henbit this spring, then go back to those same areas this fall and do herbicide applications and/or mowing to control seedlings and younger plants as needed.

Henbit leaves and flowers.
Photo: Rebekah D. Wallace, University of Georgia, Bugwood.org

A henbit population.
Photo: Robert Vidéki, Doronicum Kft., Bugwood.org

Plant of the Week

By: Ginny Rosenkranz

Acer rubrum or red maple is a beautiful native tree that grows 40-60 feet tall and wide, and is considered a medium sized deciduous tree. Plants prefer moist soils and full sun, but will tolerate dry soils and shade. The growth when young is pyramidal but as it matures, the silhouette becomes round to oval in shape. Very early in March, the red and sometimes yellow flowers appear in dense clusters. There are male, female, and monoecious flowers (flowers with both male and female parts) produced. In late March, the flowers begin to mature into red samara (seeds) that develop 2 wings and are fully mature by May. The foliage emerges in various shades of red, and then matures into dark green on the top of the leaves and a gray green on the underside. The leaves grow 2-5 inches long and have 3 principal triangular lobes that have toothed margins and pointed tips. In the

autumn, the foliage turns various shades of bright red, yellow or greenish yellow. There are a lot of cultivars produced but some of the best include Red Sunset™ which has bright red foliage and excellent winter cold hardiness, October Glory® which produces brilliant orange to red foliage even in the southern parts of Maryland, and Autumn Blaze®, that is more drought tolerant and has excellent orange-red fall coloring that lasts longer than other cultivars. The root system of most maples is shallow and can break up walkways and building foundations, so plant red maples away from both to produce a lovely shade tree. Insect pests include leafhoppers, which can cause substantial damage, aphids, borers, caterpillars, and scale. Diseases include cankers, fungal leaf spot, root rots and Verticillium wilt. Abiotic problems include branch breaks from winds and ice.

Red maples provide multiple seasons of interest.
Photos: Ginny Rosenkranz, UME

Phenology

PLANT	PLANT STAGE (Bud with color, First bloom, Full bloom, First leaf)	LOCATION
Ficaria verna (lesser celandine)	First bloom (March 21)	Clarksville, Ellicott City
Jeffersonia diphylla (twinleaf)	First bloom (March 22)	Columbia
Lindera benzoin (spicebush)	First bloom (March 21) First bloom (March 23)	Clarksville Ellicott City
Sanguinaria canadensis (bloodroot)	First bloom (March 21)	Clarksville

Degree Days (as of March 22)

Abingdon (C1620)	25
Annapolis Naval Academy (KNAK)	53
Baltimore, MD (KBWI)	79
College Park (KCGS)	67
Dulles Airport (KIAD)	77
Ft. Belvoir, VA (KDA)	72
Frederick (KFDK)	46
Gaithersburg (KGAI)	56
Gambrils (F2488, near Bowie)	78
Greater Cumberland Reg (KCBE)	32
Perry Hall (C0608)	28
Martinsburg, WV (KMRB)	25
Natl Arboretum/Reagan Natl (KDCA)	102
Salisbury/Ocean City (KSBY)	91
St. Mary's City (Patuxent NRB KNHK)	145
Westminster (KDMW)	74

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

Pest Predictive Calendar "Predictions"

By: Nancy Harding and Paula Shrewsbury, UMD

In the Maryland area, the accumulated growing degree days (**DD**) this week range from about **25 DD** (Abingdon) to **145 DD** (St. Mary's City). 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. The estimated start degree days of the targeted life stage are in parentheses.

Euonymus leaf-notcher caterpillar – egg hatch **(37 DD)**
White pine weevil – adult first activity **(84 DD)**
Eastern tent caterpillar – egg hatch **(86 DD)**
Boxwood spider mite – egg hatch **(141 DD)**
European pine sawfly – larva, early instar **(154 DD)**

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

Conferences: Go to the IPMnet Conference Page for links and details on these programs.

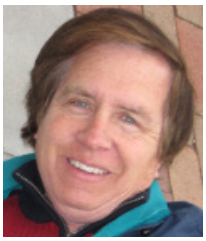
May 10, 2023
MAA Arborist Walk
Contact: Danielle Bauer Farace

June 16, 2023
Montgomery County Procrastinator's Conference
Location: Montgomery County Extension Office

June 20, 2023
Cut Flower Program
Location: Castlebridge Farm, Ellicott City, MD

Commercial Ornamental IPM Information
extension.umd.edu/ipm

CONTRIBUTORS:



Stanton Gill
Extension Specialist
sgill@umd.edu
410-868-9400 (cell)

Paula Shrewsbury
Extension Specialist
pshrewsb@umd.edu

Karen Rane
Plant Pathologist
rane@umd.edu

Chuck Schuster
Retired, Extension Educator
cfs@umd.edu

David Clement
Plant Pathologist
clement@umd.edu

Andrew Ristvey
Extension Specialist
aristvey@umd.edu

Ginny Rosenkranz
Extension Educator
rosnkrnz@umd.edu

Nancy Harding
Faculty Research
Assistant

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