UNIVERSITY OF MARYLAND EXTENSION

TPM/IPM Weekly Report

for Arborists, Landscape Managers & Nursery Managers

Commercial Horticulture **April 29, 2022**

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 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)

Cold Morning of April 29th

By: Stanton Gill

Maryland suffered through one more cold spell this morning. Dave Clement and Kirk Floyd were conducting drone trials in Laytonsville this morning, and they had to delay applications until frost came off the foliage. I examined paw paws and plums in Brookville this morning, and the foliage was the dark green color you get when plant cells are frozen. On the night of April 28, it was cold, going down to freezing, but we had winds blowing most of the night so damage was limited. The winds slowed down to almost nothing on from 5:00 a.m. to 9:00 a.m. on April 29. In this sort of not much wind conditions, we likely suffered cold injury to plants. Look for damage to new growth on plants and damage to fruit trees and fruiting shrubs. I have already seen damage on fruit trees by this afternoon. In Westminster, new growth that is less than one inch in length on Oriental persimmon trees is showing cold damage, and pawpaw blossoms are blackening.

Pollen Counts and Fungi Spore Counts High This Week

By: Stanton Gill

I drove my car from the garage to work and within one hour it was covered in a thin layer of yellow pollen. Pollen counts are "out the roof ", as the saying goes. Grass pollen is still low, but tree pollen is ridiculously high this week.

On the disease ends of things, Kari Peter is reporting from Biglersville, PA that scab disease peaked this week. We are seeing high rust spores on our monitoring plants at CMREC and at a local nursery in Laytonsville.

Boxwood Mites, Boxwood Leafminers, and Spruce Mites

By: Stanton Gill

After checking boxwood foliage at CMREC on April 24, I found that the mites were in the protonymph stage and feeding.

Boxwood leafminer usually starts adult flight around 249 degree days. Sam Fisher, Bartlett Tree Experts, saw boxwood leafminer adults flying in D.C. on April 25.

Foliage from the Olney area and Westminster was examined from Alberta spruce, and the eggs had hatched. You will find spruce spider mites on Alberta and Norway spruce, but other spruce species are also susceptible. This mite is also found on Leyland cypress and several juniper species, so monitor these plants for spruce spider mite hatch. The eggs have turned an amber to reddish color and they have a single hair (called a stipe) protruding out of the center of the egg. The length of the egg hatch is impacted by the weather. It is supposed to be relatively warm for the next 7 days, so we should continue to see hatch of spruce spider mites.

Mite Control: Horticultural oil at 1 – 2% rate can be used. The mite growth regulator (MGR) Hexygon (Gowan Company) is very effective at this early stage of development.

Spotted Lanternfly

By: Stanton Gill

Each week, Paula Shrewsbury and I plan to give you an update on the "new kid on the block" insect – the spotted lanternfly. Since we reached the 241 degree day mark in most parts of the state that are in the quarantine area this week, you should be looking out for the 1st instar nymphs. The nymphs will continue to hatch out of the egg masses for several weeks, usually up to a little over 1000 degree days.

First/early instar spotted lanternfly nymph Photo: Lawrence Barringer, Pennsylvania Department of Agriculture, Bugwood.org

When they hatch, the nymphs are like an insect on a caffeine high. They run everywhere, and if you try to touch them they often leap. When Brian Kunkel and I worked with a nursery in central PA 3 years ago, we saw the nymphs climb up red maple trees, *Ailanthus*, walnut trees, and several other species of woody trees. The nymphs would migrate to the tip growth of the trees to feed on newly emerged leaves. Often, they would fall to the ground and would migrate over to another tree.

We found that many labeled contact materials such as insecticidal soap or synthetic pyrethroids gave good kill of early instar nymphs.

Honeylocust Plant Bug

By: Stanton Gill

We reached over 230 degree days so it is time to check honeylocusts for hatching nymphs of honeylocust plant bug, *Diaphnocoris chlorionis*.The feeding of the nymphs will cause stippling damage to the foliage and newly emerging leaves will curl into slightly distorted shapes.

Now is the time to look for nymphs of honeylocust plant bugs

White Shield – Osage Orange, *Maclura pomifera*

By: Stanton Gill

Special thanks to Tom Monroe of Monroe Associates and Robinson Nursery. They supplied me and Raemelton Farm Nursery with liners of the relatively new 'White Shield' male clone, osage orange trees to try out in Maryland. This tree has been growing in nurseries in the west and mid-west for the last several years. 'White Shield' is a male, thornless Osage orange tree, so it does not produce the large green, brain-shaped fruit, that turns yellow in fall and drops to the ground in September making a bit of a mess. The fall color on the tree is reported to be a bright yellow color.

Osage orange is a fast-growing tree and tolerates some pretty bad soil types, making it a good candidate for urban planting areas where soil quality is minimal, at best. Steve Black is lining out a couple of the trees at his nursery in Frederick County. I planted 10 of the trees in rocky, poor quality soils to see how well they perform in tougher soil conditions. The whips, supplied by Robinson Nursery, were very vigorous in their growth, and the bare root system was well branched and the typical yellow-orange color of Osage orange. Later this fall, we will report on how well they established in the nursery rows and in the rocky soil site.

Azalea Lace Bugs

By: Stanton Gill

Azalea lace bug eggs started hatching at approximately 214 degree days. Look on the undersides of the leaves for clusters of nymphs, covered in spines over their body. Just after they hatch, the nymphs cluster together to feed. By the 2nd instar, they start to spread out on the underside of leaf surfaces.

Control: Several good systemic insecticides will control this first generation of lace bug. Altus is a relatively new systemic that will work on azalea lace bug. Endeavor is another control option. Two more generations will occur over the summer.

Look for hatching of azalea lace bugs
Photo: Tracy Wootten, University of Delaware, Bugwood.org

Hemlock Woolly Adelgid

By: Stanton Gill

Paul Wolfe, Integrated Plant Care, is reporting a lot of white wax is being produced by female hemlock woolly adelgids on hemlocks in the areas of Bethesda and Chevy Chase. If anyone else is seeing heavy infestations, please let us know where by sending an email to sgill@umd.edu.

Mealybugs on Viburnum

Heather Zindash, The Soulful Gardener, noticed that some flowers on viburnums were black and hard. Upon closer inspection, she found that they were covered in sooty mold. When she clipped a sample, the undersides were covered in mealybugs. We are waiting for samples to confirm which species of mealybug is causing the damage.

Mealybugs are causing hardened growth on viburnum flowers
Photos: Heather Zindash, The Soulful Gardener

Viburnum Leaf Beetle Hatch This Week

By: Stanton Gill

We reached the number of degree days (210 degree days) in central Maryland for hatch of viburnum leaf beetle. So far, this pest has been mainly reported in the western part of Maryland in Washington and Frederick Counties. If you find small larvae feeding on viburnum in your nursery, shoot a close-up picture and send it to me at Sgill@umd.edu.

Viburnum leaf beetle eggs are inserted along the stem
Photo: Dawn Dailey O'Brien, Cornell University, Bugwood.org

Viburnum leaf beetle larvae feeding on foliage
Photo: Milan Zubrik, Forest Research Institute - Slovakia, Bugwood.org

Boxwood Psyllids

Brian Scheck, Maxalea, Inc., Marie Rojas, IPM Scout, and John Hochmuth, Jr., have all reported that boxwood psyllids are producing wax this week. Boxwood psyllids cause a distinctive cupping of leaves as the immature stages (nymphs) remove sap from tender expanding foliage. The amount of damage in a landscape is usually not considered significant. If you are nursery owner with boxwood psyllid, then this insect reduces growth and can increase the time to get plants moved into the marketplace. Horticultural oil at a 1% rate knocks them down easily.

A lot of wax on boxwood foliage produced by psyllids
Photo: Brian Scheck, Maxalea, Inc.

Boxwood psyllid nymphs produce the wax
Photo: John Hochmuth, Jr.

Crapemyrtle Aphids

Emily Mueller, Architect of the Capitol, reports the first activity of crapemrytle bark aphids. The aphids are active in D.C. where it is warmer and trees have already started to leaf out. It seems as soon as they start to leaf out, aphids are found. Endeavor can be used for control.

Where crape myrtles have already started to leaf out, aphids are already causing damage to the foliage. The aphid in the photo is a winged (alate) adult.
Photos: Emily Mueller, Architect of the Capitol

Aphids on Hellebores

Darlene Nicholson, MD Master Gardener, is finding aphids on hellebores this week. We have been receiving more reports of aphids on hellebores in recent years.

There a many cast skins left by the aphids feeding on this hellebore.
Photo: Darlene Nicholson, MD Master Gardener

Harlequin Bug Adults

John Hochmuth, Jr. found overwintering harlequin bug adults feeding on mignonette flowers this week.

Harlequin bugs overwinter as adults and we are getting reports that they are feeding on plants now.
Photo: John Hochmuth, Jr.

Indian Wax Scale

Jamie Wiesner, UME-HGIC, found Indian wax scale on buttonbush this week. Also look for this large white scale on holly, Japanese maple, winterberry, pyracantha, and camellia.
Control: Systemic insecticides applied to the soil should give good control. If you plan to use insect growth regulators such as distance or Talus, wait until crawlers are active in mid-June to July.

Look for crawlers of this wax scale in June to July
Photo: Jamie Wiesner, UME-HGIC

Allium Leafminer

Todd Armstrong, Davey Tree Experts, found Allium leafminer oviposition marks on onions on April 25 in Jarrettsville in Harford County.

See the May 14, 2021 IPM Report for more information on allium leafminers.

The white dots along the stem are made by the adult female leafminers
Photo: Todd Armstrong, Davey Tree Experts

Vole Damage

Marty Adams, Bartlett Tree Experts, found a dead cherry laurel that had been damaged by voles over the winter. During the winter months, voles will often feed on the stems and girdle the plants. The dieback shows up in the warmer weather. More information is available on the University of Maryland's Extension Forest Threats - Wildlife page.

Vole damage on cherry laurel that occurred over the winter
Photo: Marty Adams, Bartlett Tree Experts

Beneficial of the Week

By: Paula Shrewsbury

Ants on peony flower buds! What should be done?

Peonies (Family: Paeoniaceae) are herbaceous perennials that present beautiful flowers in the spring and glossy dark green foliage from spring through most of the summer. This week, the peonies have started forming their flower buds (Howard County, MD). Those of you who have observed peony flower buds likely know that ants are frequently found on the buds, which is what I am seeing on the peonies in my yard. This week there were field ants (*Formica* spp.; Family Formicidae) but there can also be other ant species present too. Field ants will feed on a variety of foods but they prefer sweet substances such as honeydew from phloem feeding insects (ex. aphids, soft scales, etc.) or nectar from plants, both of which are high sugar food resources.

A field ant, *Formica* spp., feeding on extrafloral nectar, a nutritious food resource, on the buds of peony. Photo: P.M. Shrewsbury, UMD

Nectar from plants can be floral nectar which comes from within the flower, or extrafloral nectar which comes from extrafloral nectaries. Extrafloral nectaries consist of glands that secrete nectar and they are usually found on leaves or stems and stipules (ex. *Prunus* spp. have a pair of extrafloral nectary glands on the leaf petiole just below the leaf – petiole point of attachment; see image). Both floral and extrafloral nectar are high in sugars and amino acids, although they vary somewhat in their content. Floral nectar attracts pollinators and is associated with plant reproduction, whereas extrafloral nectar is believed to be used as a tool by plants to attract other insects or arthropods to help in plant defense against herbivores. Arthropods that are known to feed on extrafloral nectar include parasitoids, predatory mites, lacewings, lady beetles, and spiders. Although, ecologists believe extrafloral nectaries have evolved mainly to attract ants since ant life history characteristics allow them to be good defenders of plants. Note that once the peony blooms, the extrafloral nectar is no longer produced and the ants move on to other food sources.

Extrafloral nectar secreted from extrafloral nectaries at the base of a leaf on Kwanzan cherry (*Prunus* sp). Photo: J. Boggs, OSU Extension

So where do peonies and ants fit into this story? Peonies and ants have a mutualistic relationship, which means both parties benefit from the relationship. It is well studied that peonies provide a high value food resource, extrafloral nectar from nectaries on the flower buds, for ants (ant's benefit). If you look closely at the buds of peonies, you will see the clear shiny and somewhat sticky nectar on the buds. However, historically there

has been some confusion about the benefit the ant gives the plant. For example, there is an urban myth that the sticky nectar on the bud prevents the bud from flowering (i.e. the buds are stuck closed), and the ants are required to feed on the extrafloral nectar to remove it so the buds can open and flower. This is only a myth! There have been lots of examples of peonies, without ants to eat the nectar, that flower. However, there is a real mutualistic relationship between ants and peonies. Ants benefit the plant by protecting it against aphids, thrips, or other insects that might feed on the peonies which could threaten the floral food resource of the ants. When an insect settles on a peony, the ants initiate a group response in that they gang up on the insect and remove it from the peony (i.e. threaten it, eat it, push it off the plant), thereby protecting the plant from plant damage.

Mutualist relationships between plants and ants has been found in numerous other plant – ant systems and have been underway for 100 million years. Studies have shown that extrafloral nectaries increase biological control of some pests. Many IPM and conservation biological control programs recommend planting plants with extrafloral nectaries to support beneficial insects and enhance biological control.

Weed of the Week: Crabgrass

By: Kelly Nichols

To say that we've had temperature swings is an understatement, with highs near 80°F last weekend and lows in the 30s last night and forecasted for tonight here in Central Maryland. Conditions for crabgrass germination have certainly been met.

Turf sites that have not received the first application of a pre-emergent for crabgrass will need to consider switching to a product that has at least some capacity to provide early post-emergent abilities.

Crabgrass seedlings are emerging. Photo taken on April 13 near Rockville, MD. Photo: Kelly Nichols, UME

Dithiopyr (Dimension) is an early post-emergent product that inhibits certain steps in plant cell division. This product can be used on established turf, but not sites that will be seeded with new seed. (If dealing with Japanese stiltgrass, though, dithiopyr is not the product of choice.) Pre-emergent products can still be applied but will not catch those seeds that have already emerged.

Control of crabgrass is not only achieved through herbicide applications; good soil fertility, proper mowing height, and proper pH are other components in a crabgrass management plan that should not be overlooked. Build a strong turf that is dense. This prevents sunlight from reaching the soil to allow germination of crabgrass. For crabgrass, the use of products containing dithiopyr (Dimension) prodiamine (Barricade), and pendimethalin (Pre-M) prevent shoot and root development. All of these products can be used on established turf, but not sites that will be seeded with new seed. (As pre-emergent herbicides, they will prevent turf seeds from germinating, too.) Siduron (Tupersan) is the only product that can be used in a turf setting when overseeding after application is considered. As stated, dithiopyr also provides early post-emergent control of crabgrass and some other annual grasses (not Japanese stiltgrass). Consider utilizing dithiopyr (not at full season rate) if no other applications have occurred this year. A follow-

up with a second application can either be another application of dithiopyr or prodiamine. Utilizing prodiamine will catch the Japanese stiltgrass that has yet to germinate. This allows for applications to be done over a longer period of time and keep crabgrass under control for the better part of the season.

Other options for crabgrass control do include use of Drive (quinclorac), Tenacity (mesotrione), SquareOne (quinclorac + carfentrazone), and Solitare (quinclorac + sulfentrazone). These are post-emergent only products that can be used into late May and June when temperatures are warmer. The benefit with some of these products is that it can be used on a seedling lawn, one that has been seeded and has is becoming established. Read the label carefully. Always remember that pre-emergent products will limit root development of the desired species of turf also. Watch the weather for dry spells, as pre-emergent herbicides need rain for incorporation.

Plant of the Week: *Salvia nemorosa* 'New Dimension Rose'

By: Ginny Rosenkranz

Salvia nemorosa 'New Dimension Rose' is a perennial woodland sage with a compact, erect, clump forming shape and grows 10 – 12 inches high and 12 – 18 inches wide. 'New Dimension Rose' prefers to grow in full sun and medium to dry, well-drained soils. Like many perennials, 'New Dimension Rose' has a 2-week window of full bloom in late spring, but if given regular watering the plants will continue to bloom through the summer. This cultivar has the richest deep rose-pink flowers that grow above the gray-green fragrant foliage. The flowers are held in tiny reddish purple bracts on spike-like stems. The shape and position of the flowers encourage many pollinators including butterflies and bees. Cold hardy from USDA zones 5-8; 'New Dimension Rose' is drought tolerant and resistant to deer browsing. These lovely long-lived perennials can be planted in pollinator's gardens, cottage gardens, along borders where the vibrant colors can be enjoyed almost all summer long. *Salvia nemorsa* can be bothered by aphids, whitefly and scale insects, powdery mildew, leaf spot and rust disease.

***Salvia nemorosa* 'New Dimension Rose' attracts many pollinators**
Photo: Ginny Rosenkranz, UME

Degree Days (as of April 27)

Aberdeen (KAPG)	161
Annapolis Naval Academy (KNAK)	255
Baltimore, MD (KBWI)	292
College Park (KCGS)	243
Dulles Airport (KIAD)	280
Ft. Belvoir, VA (KDA)	320
Frederick (KFDK)	205
Gaithersburg (KGAI)	231
Gambrils (F2488, near Bowie)	258
Greater Cumberland Reg (KCBE)	207
Martinsburg, WV (KMRB)	195
Natl Arboretum/Reagan Natl (KDCA)	389
Salisbury/Ocean City (KSBY)	370
St. Mary's City (Patuxent NRB KNHK)	400
Westminster (KDMW)	282

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

May 17, 2022
MAA and UMD Extension Pest Walk
Location: Brookside Gardens, Wheaton, MD

June 10, 2022
Montgomery County Annual Procrastinator's Conference
The 27th Annual Procrastinator's Pesticide and Urban Nutrient Management Conference will be held on Friday, June 10. This in person meeting will take place at the Montgomery County Extension Office in Derwood.
Registration
Contact: Kelly Nichols, 301-590-2807, kellyn@umd.edu

June 17, 2022 (Virtual)
Contact: Ginny Rosenkranz, rosenkrnz@umd.edu
Schedule and Registration

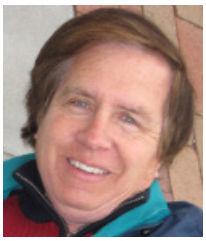
June 24, 2022 (Virtual)
Turf Program
Contact: Mark Carroll, University of Maryland

June 30, 2022
Greenhouse Biological Control Conference
Location: Maritime Institute, Linthicum Heights, MD
Details are coming soon. Contact MNLGA at 410-823-8684 with any questions.

July 28, August 4, and August 11, 2022
Drone Training Program

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

Thank you to the Maryland Arborist Association, the Landscape Contractors Association of MD, D.C. and VA, the Maryland Nursery, Landscape, and Greenhouse 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.