UNIVERSITY OF MARYLAND EXTENSION

TPM/IPM Weekly Report

for Arborists, Landscape Managers & Nursery Managers

Commercial Horticulture **July 26, 2019**

In This Issue...

Pest Predictive Calendar

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 for Nursery, Greenhouse and Managed Landscapes, sgill@umd.edu. 301-596-9413 (office) or 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)

Perennial Program Highlight

The drone demonstration in the nursery was a big hit at the program held at The Perennial Farm yesterday. Kirk Floyd, Kdrone, showed the use of a sprayer drone and camera drone during his session.

This program on perennials was organized by University of Maryland Extension and MNLGA.

Thank you to The Perennial Farm for hosting this event.

The drone in the foreground has a spray tank filled with water that was used in the demostration. The drone behind it is carrying a camera to test how the images can be used in detection of plant problems.

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

Southern Blight Active Now

By: Alex Delacotte and Karen Rane, UMD Plant Diagnostic Lab

The signs and symptoms of Southern Blight are evident now, after the recent heat wave. The disease is caused by the fungus *Athelia rolfsii* (formerly *Sclerotium rolfsii*), and symptoms include wilting and collapse of leaves and stems (Figure 1), followed by rotting of the plant at the soil line. When inspecting plants, look for white mycelium and tan sclerotia that resemble millet seeds on the lower stems or the soil and mulch around the base of the affected plant (Figure 2). The disease can spread through movement of contaminated soil and sclerotia, and the sclerotia can survive overwinter in our region. Southern Blight can occur on a wide range of plants, but is commonly found on hosta, ajuga and peony.

Strict sanitation is critical for disease management. Check new plants for symptoms or sclerotia to avoid introducing the pathogen. Carefully remove diseased plants and the soil and mulch around the plants, and discard – do not compost this material. Clean tools to avoid moving the pathogen in contaminated soil. Fungicides available to commercial applicators such as azoxystrobin, PCNB or thiophanate methyl may help reduce disease spread.

Figure 1. Hosta collapsed from southern blight
Photo: K. Rane, UMD

Figure 2. White mycelium and sclerotium (arrow) of southern blight fungus at base of rotted hosta petioles.
Photo: K. Rane, UMD

Hercules Beetle

Ron Miller, Super Lawns, reported that he found this female hercules beetle lying on the ground dead. The variable color is due to moisture level - the dark areas are wet and the lighter areas are dry. Larvae feed on decaying heartwood of many trees. Adults feed on fermenting sap and fruits and can be found flying around lights at night.

The female Hercules beetle does not have horns (pinchers) like the male does
Photo: Ron Miller, Super Lawns

Antlion

Nancy Woods found this spotted winged antlion, *Dendroleon obsoletus*, at her house on July 23. Antlion nymphs are predators that create funnel-shaped pits to catch ants crawling along the ground. They are most common in areas where soil remains on the dry side. Depending on the species, adults eat pollen and nectar or feed on other insects.

Adult spotted winged antlions visit lights at night
Photo: Nancy Woods

Chinch Bugs in Turf

Eric Wenger, Complete Lawn Care, Inc., found chinch bugs damaging tall fescue turf in Bethesda. Chinch bugs are found in the thatch area of turf. They feed on the crown of the plant and on the lower sheath of the grass. Look for patches of yellowing or dead grass, especially near areas where temperatures are higher such as by sidewalks and roads. Reseeding is usually necessary for damaged areas. Insecticides can be applied to supress chinch bugs when they are feeding during the summer. For more information, go to the article by Lee Hellman and J. Kevin Mathias, Institute of Applied Agriculture, University of Maryland, College Park, MD.

Feeding by chinch bugs causes yellowing or dead areas in turf
Photo: Eric Wenger, Complete Lawn Care

Dodder

Eric Wenger, Complete Lawn Care, sent in a photo of Coreopsis 'Zagreb' that was covered by the parasitic plant, dodder. Since it is an annual plant, it is important to remove dodder from the site before the plant sets seed. Pre-emergent herbicides can be used before seeds germinate in the spring.

See more information in Chuck's Weed of the Week today.

Dodder can be very difficult to remove from a site
Photo: Eric Wenger

Caterpillars

It is the season for caterpillars at this point.

Kevin Nickle, Scientific Plant Service, found a **tussock moth caterpillar** this week. We have received several reports of **orangestriped oakworms**. Marie Rojas, IPM Scout, found them on *Quercus phellos* and *Quercus palustris*. Bob Mead, Mead Tree and Turf, found them on an oak on July 24. Heather Zindash, IPM Scout, also found them on oaks. Marie Rojas, found **yellownecked caterpillars** feeding gregariously on *Quercus palustris*. Matt Seewald, Good's Tree and Lawn Care, found them feeding on crabapples in Hershey PA. Heather Zindash, IPM Scout, found these caterpillars on red oak in Germantown and on *Fagus sylvatica* 'Dawyck Purple' in Baltimore. Heather also found them on *Betula nigra* "Little King" and noted that they have completely defoliated one of the trees. Heather also found a **cecropia moth caterpillar**.The second generation of **fall webworms** will continue to be active through the season. Marie Rojas found them on *Malus* 'Adams'. In gardens, **black swallowtail caterpillars** are feeding. Elaine Menegon Goo's Tree and Lawn Care, found them feeding on her dill plants in PA. Here at the research center in Ellicott City, they are feeding on bronze fennel. **Caterpillar Control:** It is best to treat when caterpillars are in the early instar stages. Bt, Spinosad, Acelepryn, or Mainspring can be used for control.

Tussock moth caterpillar
Photo: Kevin Nickle, Scientific Plant Service

Cecropia moth caterpillar
Photo: Heather Zindash, IPM Scout

Black swallowtail caterpillar
Photo: Elaine Menegon, Good's Tree and Lawn Care

Orangestriped oakworm caterpillars
Photo: Marie Rojas, IPM Scout

Yellownecked Caterpillars

By: Stanton Gill

Several people are reporting mass feeding of yellownecked caterpillars this week. *Datana ministra*, the yellownecked caterpillar, is a moth of the family Notodontidae and is very active in late July to early August. They are general feeders and can be found on oaks, honeylocusts, walnuts, chestnuts, fruit trees, crabapples, and many other species of trees. The head is jet black; the segment behind the head is bright yellow, hence its name. Larvae are black with four yellow stripes on each side. Since they feed in clusters, they are easy enough to physically remove. If you need to treat, try using Spinosad to have the least impact on beneficial organisms.

Yellownecked caterpillars are devouring these oak leaves
Photo: Marie Rojas, IPM Scout

Ambrosia Beetles

Brendon Brown, Davey Tree Experts, reported that over the last two weeks he has found the following two situations with ambrosia beetles. He reported, “I have found ambrosia beetle on numerous chestnut oaks in the Original Northwood neighbourhood of Baltimore and on a white oak in Catonsville. All frass tubes were on the root flare of the trees. The chestnut oaks are likely all goners, but I am hoping we caught the white oak in the nick of time.

About a month ago, I also had two Norway maples on the same property with severe infestations, but I was hoping they were an anomaly. Again the frass tubes were ALL over the root flare, as well as the surface roots.”

Tarnished Plant Bugs

Heather Zindash, IPM Scout, found low numbers of tarnished plant bugs on dahlias in Montgomery County on July 17. They feed on the developing leaves, fruits, and flowers of woody and herbaceous plants. If populations are high enough, tarnished plant bugs can damage plants. With their piercing sucking mouthparts, they cause stippling and necrotic spots on foliage and deformed foliage, flowers, and fruit. Tarnished plant bug has a wide host range. Herbaceous plant hosts include helichrysum, rudbeckia, asters, zinnia, chrysanthemum, snapdragon, sunflower, cleome, and gomphrena.

When present in high numbers, tarnished plants can be a problem

Lace Bugs

Marie Rojas, IPM Scout, found lace bugs feeding on *Tilia tomentosa* 'Sterling Silver' on July 25. Lace bugs pierce the leaf with long, slender mouthparts and suck out the cellular contents. Feeding damage first appears as white stippling or tiny white spots. These spots later merge and leaves turn yellow. Also look for black or brown fecal spots they deposit on the undersides of leaves.

Various stages of lace bugs are infesting this silver linden leaf Photo: Marie Rojas, IPM Scout

Control: Monitor plants regularly for signs of lace bugs. 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. See more on lace bugs at: http://extension.umd.edu/learn/lace-bug-hg95#sthash.fI07cYzP.dpuf.

Labor Inspections

Sarah Everhart with ALEI sent the information below. Please distribute it to producers in your county/city/region. The expectation is these inspections will intensify soon and producers need to be prepared.

Farm Employers-

In the past 12 months, inspectors from the U.S. Dept. of Labor, Wage and Hour Division have been conducting inspections on farms and nurseries in Maryland. These inspections have focused on employers with H-2A workers and have required employers to produce years of required records. Following the inspections, severe fines and penalties have been issued to employers. After hearing about these inspections, ALEI partnered with the Maryland Department of Labor and Licensing Regulation and created some resources to help better prepare farm employers for these inspections. The first is a self-audit worksheet to help employers do an internal review of operations and recordkeeping related to both H-2A and non-H2A employees. The second is a recorded webinar on this subject that is available for download.

Remember: If you have migrant or seasonal workers (non H-2A) you are subject to the federal Migrant and Seasonal Worker Protection Act (MSPA). For more information on this law and what is requires check out this publication and for more information, please contact the Agriculture Law Education Initiative (410-706-7377).

It is very likely these inspections will continue to occur throughout Maryland in the near future. If you have H-2A, migrant and/or seasonal laborers at your operation please take advantage of the resources above and make sure your operation is in legal compliance prior to an inspection.

Please contact Sarah if you have questions. Thank you for distributing the farm employment information.

Tough Plants That Flower in August With Few Pests

By: Stanton Gill

I am always on the lookout for tough plants that look good and have very few insect problems. I was conducting a trial at Emory Knoll Farms this week, after the heat wave broke, and noticed some spectacular flowering plants growing in full sun areas. They had just gone through the 100 °F weather of last week and still looked good. One is called *Allium senescens* ssp. *montanum* and was in full flower on July 23. The other one was half the size and appeared to be heading into flower sometime next week. It is *Allium senescens* 'Pink Pepper'. I spoke with Ed Snodgrass about these plants, and he said they were experimenting with late season flowering plants that hold up well in green roofs. These plants would work in the landscape also if your customer has a bright, hot sunny area in the landscape. Alliums are pretty tough plants and deer tend to leave them alone.

***Allium senescens* 'Pink Pepper'**

***Allium senescens* ssp. montanum**

A Comment About Cats

I mentioned cats in a previous issue and here is a comment about how they can be a problem regarding birds:

Andrea Murtha responded:
"I winced up a bit when I read about your tractor situation. I am sure you are aware that domestic cats (feral or otherwise) wreak havoc on bird populations. (https://abcbirds.org/program/cats-indoors/cats-and-birds/ https://www.smithsonianmag.com/science-nature/moral-cost-of-cats-180960505/).

I thought you might be open to another solution. I have a chihuahua mix who is a masterful rodent hunter. Perhaps you might consider Fido over Kitty? The vet bills are the same and dogs actually listen to you. I do like the snake idea!!!

You can find more info at:
https://www.pets4homes.co.uk/pet-advice/four-dog-breeds-with-surprising-skills.html
https://pethelpful.com/dogs/Top-10-Dog-Breeds-Ideal-for-Catching-Rats"

Stanton's Comment: I am not sure if she is renting out this rodent killing chihuahua. This breed of dog was originally bred as a rabbit hunter and I know they like to chase squirrels.

Beneficial of the Week

By: Paula Shrewsbury and Mike Raupp

Not all Longhorn beetles are bad: Flower Longhorn beetles provide beneficial services

When we hear the name longhorn beetle, many of us think of pest insects such as the Asian longhorn beetle, twig girdlers, or others. But there is more to this story. The earliest pollinators of plants were likely beetles. Unlike butterflies or bees whose mouthparts are adapted to sipping nectar from blossoms, beetles have chewing jaws designed for biting and munching food. Early on in the pollination game, beetles learned that pollen was a rich source of protein and for more than a hundred million years, beetles have been pollinating flowering plants. Recently and over the years, we have seen a number of long horned beetles in the subfamily Lepturinae, commonly known as flower longhorn beetles, on flowers feeding on pollen.

Note the dusting of yellow pollen on the back, legs, and mouthparts of this pretty flower longhorn beetle on cone-flower
Photo: PM Shrewsbury

One look at their antennae which often exceed the length of their body lets you know why they are called longhorns. The fact that they are regularly found foraging in flowers for pollen gives you the other part of their common name. While adults visit gorgeous blossoms in broad daylight and consume pollen as a primary food source, the immature stages, the larvae, live a boring life quite literally. You see, immature stages of these interesting pollen eaters are equipped with powerful jaws capable of cutting galleries in hardwoods including oaks and maples. As they bore beneath the bark of dead and dying trees (not live trees) potent enzymes in their gut digest refractory polymers, including cellulose which is a major component of wood. Studies have found that this remarkable ability is due in part to the microbiome found in the gut of longhorn beetle larvae. It seems that certain fungi found in decaying wood are ingested along with the wood consumed by the larvae. These fungi breakdown cellulose thereby making the nutrients available to the developing beetle larvae. What an interesting partnership. Next time you visit a coneflower, take a moment to look for curious flower longhorn beetles and enjoy a six-legged wonder that delivers double duty providing ecosystem services as both pollinator of flowering plants and recycler of dead and dying trees.

Weed of the Week

By: Chuck Schuster, UME

Heat! Last week, and especially the weekend, brought some real challenges for the plant material with temperatures in the upper 90 °F range. It was the start of the dormant period for some turf and set off the summer annual weed race to the finish line. These temperatures moderated a great deal this week. Rainfall has been measured in different areas to up to 5 inches just for this week.

A sample was brought in for review that I rarely actually see. As soon as I touched it I knew what I was dealing with. The crape myrtle plant had a vine that was very entangled or entwined around the main stem. I was told that it did not go completely to the ground which is the first big hint. Upon careful examination, I found the haustoria (photo 3) which allows the parasitic plant to live off the desired species of plant. Dodder, *Cuscuta* spp., is an unusual weed that can be found in the landscape and vegetable fields. Unlike most other plants, it is

a parasitic vine that is able to derive its nutrients from other plants. The seeds will germinate in the soil and will live five to ten days, growing to about one foot in height. At this point, if they find a suitable host plant to attach to, they will continue to live by wrapping or twining around the host plant and then inserting the haustoria, a modified advantageous root into the stem of the host plant. If the dodder plant does not find a host plant, it will die. The host plant supplies all of the needed water, minerals, and nutrients for survival. Dodder has a weak photosynthetic ability and relies on the host plant. It can only survive a few days away from a host plant. It does not have the ability to penetrate tree bark, but will attach itself to leaves of trees and shrubs. Dodder vines continually attach to the host plant as it grows and will move to new host plants that are in close proximity. This growth pattern will allow the plant to form a dense mat of yellow to reddish- brown vining stems that twine in a counterclockwise direction (photo 5). The plant has small, almost unnoticeable leaves (photos 4 and 5) and produces a white to pink cluster of flowers. The seeds are extremely hard and require some form of scarification before germinating in soils once temperatures reach 60 °F. Seed is often spread by human contact, plant movement, and sometimes water. Seeds are viable in the soil for several years.

Control of dodder starts with proper identification. The dodder plant may have roots for a few days after germination until it can find a host plant. The use of mechanical removal will require several attempts, as seed can germinate over a long period of time. Biological control can be utilized using disease organisms that are known to infect and damage this plant. They include *A. alternata* and *Geotrichum candidum*, which attack field dodder *(C. pentagona)*. Post emergent herbicides are not suggested as they generally will also damage the host plant. Pre-emergent herbicides can be effective if applied in the *early spring* where infestations have been noted in previous years. Trifluralin (Treflan) does provide good control. Watch the site for several years as seeds will remain viable for long periods of time.

Photo 1

Photo 2

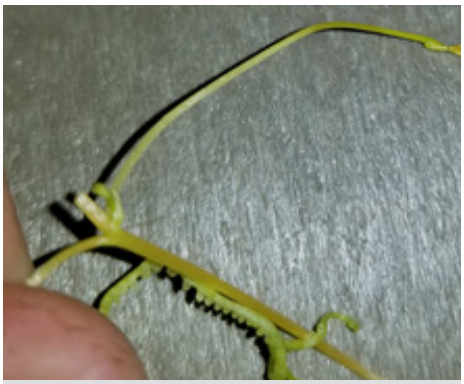


Photo 3

Photo 4

Photo 5

Photos: Chuck Schuster

Plant of the Week

By: Ginny Rosenkranz, UME

Verbascum 'Plum Smokey' is a biennial mullein that produces a rosette of soft, dark green leaves that grow about 8 inches high the first year of growth. The second year the plants send up slender upright 15 - 18 inch spikes that hold smoky plum purple flowers with darker eyes. Although the plants are biennials, it does self-seed and can provide flowers for many years in the garden. *Verbascum* 'Plum Smokey' is a hybrid and many of the seedlings may not be true to type. Plants are drought tolerant and do not thrive in heavy wet soils, but are very tolerant of urban conditions, rabbits, and deer. The flowers can be used for cutting and will bloom from early to mid-summer attracting both butterflies and hummingbirds that brighten up the gardens. *Verbascum* 'Plum Smokey' can be planted for a mass planting, a border, cottage garden, or a naturalized area. Occasional pests include spider mites in hot weather, and wet soils will kill the plants.

***Verbascum* 'Plum Smokey' is a biennial that self seeds**
Photo: Ginny Rosenkranz

Pest Predictive Calendar "Predictions"

By: Nancy Harding and Paula Shrewsbury

In the Maryland area, the accumulated growing degree days (DD) this week range from about 1967 DD (Cumberland) to 2698 DD (Annapolis Naval Academy). 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.

- White prunicola scale (2nd generation) crawlers to settled crawlers (1637 DD)
- Orangestriped oakworm early to late instar (1969 DD)
- Maskell scale (2nd generation) crawlers (2035 DD)
- Euonymus scale (2nd generation) crawlers (2235 DD)
- Japanese maple scale (2nd generation) crawlers (2508 DD)
- Fall webworm (2nd generation) early to late instars (2793 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.

Degree Days (as of July 24)

Abingdon (C1620)	2208
Annapolis Naval Academy (KNAK)	2698
Baltimore, MD (KBWI)	2418
College Park (KCGS)	2239
Dulles Airport (KIAD)	2302
Frederick (KFDK)	2315
Ft. Belvoir, VA (KDA)	2410
Gaithersburg (KGAI)	2203
Greater Cumberland Reg (KCBE)	1967
Martinsburg, WV (KMRB)	2113
Natl Arboretum.Reagan Natl (KDCA)	2676
Salisbury/Ocean City (KSBY)	2415
St. Mary's City (Patuxent NRB KNHK)	2576
Westminster (KDMW)	2473

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

CONFERENCES

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

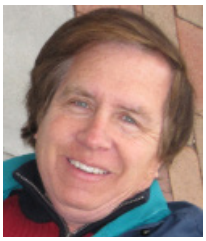
Save the Dates:

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

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

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

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
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 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.